UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☒QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE QUARTERLY PERIOD ENDED SEPTEMBER 30, 2019

or

☐TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _ TO _

Commission file number 000-19319

Vertex Pharmaceuticals Incorporated
(Exact name of registrant as specified in its charter)

Massachusetts	**04-3039129**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
50 Northern Avenue, Boston, Massachusetts	**02210**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code **(617) 341-6100**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $0.01 Par Value Per Share	VRTX	The Nasdaq Global Select Market

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Common Stock, par value $0.01 per share	257,149,588	Outstanding at October 18, 2019

VERTEX PHARMACEUTICALS INCORPORATED
FORM 10-Q
FOR THE QUARTER ENDED SEPTEMBER 30, 2019

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"We," "us," "Vertex" and the "Company" as used in this Quarterly Report on Form 10-Q refer to Vertex Pharmaceuticals Incorporated, a Massachusetts corporation, and its subsidiaries.

"Vertex," "KALYDECO®," "ORKAMBI®," "SYMDEKO®," and "SYMKEVI®" are registered trademarks of Vertex. The trademark for "TRIKAFTA™" is pending in the United States and registered in the European Union. Other brands, names and trademarks contained in this Quarterly Report on Form 10-Q are the property of their respective owners.

We use the brand name for our products when we refer to the product that has been approved and with respect to the indications on the approved label. Otherwise, including in discussions of our cystic fibrosis development programs, we refer to our compounds by their scientific (or generic) name or VX developmental designation.

Part I. Financial Information

Item 1. Financial Statements

VERTEX PHARMACEUTICALS INCORPORATED
Condensed Consolidated Statements of Operations
(unaudited)
(in thousands, except per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Revenues:				
Product revenues, net	$ 949,828	$ 782,511	$ 2,747,461	$ 2,170,152
Collaborative and royalty revenues	—	2,024	2,095	7,339
Total revenues	949,828	784,535	2,749,556	2,177,491
Costs and expenses:				
Cost of sales	131,914	111,255	362,746	287,250
Research and development expenses	555,948	330,510	1,274,529	978,595
Sales, general and administrative expenses	159,674	137,295	463,221	404,406
Change in fair value of contingent consideration	2,959	—	2,959	—
Restructuring income	—	(174)	—	(188)
Total costs and expenses	850,495	578,886	2,103,455	1,670,063
Income from operations	99,333	205,649	646,101	507,428
Interest income	17,628	10,543	51,319	24,381
Interest expense	(14,548)	(18,686)	(44,253)	(53,727)
Other (expense) income, net	(31,747)	(60,995)	64,802	89,662
Income before provision for income taxes	70,666	136,511	717,969	567,744
Provision for income taxes	13,148	8,055	124,393	5,737
Net income	57,518	128,456	593,576	562,007
Loss (income) attributable to noncontrolling interest	—	290	—	(15,638)
Net income attributable to Vertex	$ 57,518	$ 128,746	$ 593,576	$ 546,369
Amounts per share attributable to Vertex common shareholders:				
Net income:				
Basic	$ 0.22	$ 0.51	$ 2.32	$ 2.15
Diluted	$ 0.22	$ 0.50	$ 2.28	$ 2.11
Shares used in per share calculations:				
Basic	256,946	254,905	256,289	254,096
Diluted	260,473	259,788	260,182	258,972

The accompanying notes are an integral part of these condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Condensed Consolidated Statements of Comprehensive Income
(unaudited)
(in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income	$ 57,518	$ 128,456	$ 593,576	$ 562,007
Changes in other comprehensive income:				
Unrealized holding gains on marketable securities, net	64	224	1,111	137
Unrealized gains on foreign currency forward contracts, net of tax of $2.2 million, zero, $5.5 million and $0.5 million, respectively	12,812	4,029	6,814	29,062
Foreign currency translation adjustment	9,172	659	10,263	6,800
Total changes in other comprehensive income	22,048	4,912	18,188	35,999
Comprehensive income	79,566	133,368	611,764	598,006
Comprehensive loss (income) attributable to noncontrolling interest	—	290	—	(15,638)
Comprehensive income attributable to Vertex	$ 79,566	$ 133,658	$ 611,764	$ 582,368

The accompanying notes are an integral part of these condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Condensed Consolidated Balance Sheets
(unaudited)
(in thousands, except per share amounts)

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 3,397,941	$ 2,650,134
Marketable securities	598,390	518,108
Accounts receivable, net	443,315	409,688
Inventories	162,306	124,360
Prepaid expenses and other current assets	175,142	140,819
Total current assets	4,777,094	3,843,109
Property and equipment, net	733,509	812,005
Goodwill	447,525	50,384
Deferred tax assets	1,415,511	1,499,672
Operating lease assets	60,929	—
Other assets	79,985	40,728
Total assets	$ 7,514,553	$ 6,245,898
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 92,528	$ 110,987
Accrued expenses	1,173,783	958,899
Other current liabilities	122,583	50,406
Total current liabilities	1,388,894	1,120,292
Long-term finance lease liabilities	541,561	581,550
Long-term operating lease liabilities	62,978	—
Long-term advance from collaborator	85,084	82,573
Long-term contingent consideration	175,000	—
Other long-term liabilities	7,642	26,280
Total liabilities	2,261,159	1,810,695
Commitments and contingencies	—	—
Shareholders' equity:		
Preferred stock, $0.01 par value; 1,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.01 par value; 500,000 shares authorized, 257,265 and 255,172 shares issued and outstanding, respectively	2,571	2,546
Additional paid-in capital	7,668,188	7,421,476
Accumulated other comprehensive income	18,847	659
Accumulated deficit	(2,436,212)	(2,989,478)
Total shareholders' equity	5,253,394	4,435,203
Total liabilities and shareholders' equity	$ 7,514,553	$ 6,245,898

The accompanying notes are an integral part of these condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Condensed Consolidated Statements of Shareholders' Equity and Noncontrolling Interest
(unaudited)
(in thousands)

	Three Months Ended							
	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Vertex Shareholders' Equity	Noncontrolling Interest	Total Shareholders' Equity
	Shares	Amount						
Balance at June 30, 2018	254,883	$ 2,542	$ 7,357,042	$ (4,605)	$ (4,668,751)	$ 2,686,228	$ 28,655	$ 2,714,883
Other comprehensive income, net of tax	—	—	—	4,912	—	4,912	—	4,912
Net income (loss)	—	—	—	—	128,746	128,746	(290)	128,456
Repurchase of common stock	(515)	(5)	(91,999)	—	—	(92,004)	—	(92,004)
Issuance of common stock under benefit plans	1,243	14	92,779	—	—	92,793	—	92,793
Stock-based compensation expense	—	—	85,441	—	—	85,441	—	85,441
Balance at September 30, 2018	255,611	$ 2,551	$ 7,443,263	$ 307	$ (4,540,005)	$ 2,906,116	$ 28,365	$ 2,934,481
Balance at June 30, 2019	256,671	$ 2,565	$ 7,564,331	$ (3,201)	$ (2,493,730)	$ 5,069,965	$ —	$ 5,069,965
Other comprehensive income, net of tax	—	—	—	22,048	—	22,048	—	22,048
Net income	—	—	—	—	57,518	57,518	—	57,518
Repurchases of common stock	(71)	—	(12,105)	—	—	(12,105)	—	(12,105)
Issuance of common stock under benefit plans	665	6	30,006	—	—	30,012	—	30,012
Stock-based compensation expense	—	—	85,956	—	—	85,956	—	85,956
Balance at September 30, 2019	257,265	$ 2,571	$ 7,668,188	$ 18,847	$ (2,436,212)	$ 5,253,394	$ —	$ 5,253,394

	Nine Months Ended							
	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Vertex Shareholders' Equity	Noncontrolling Interest	Total Shareholders' Equity
	Shares	Amount						
Balance at December 31, 2017	253,253	$ 2,512	$ 7,157,362	$ (11,572)	$ (5,119,723)	$ 2,028,579	$ 13,727	$ 2,042,306
Cumulative effect adjustment for adoption of new accounting guidance	—	—	—	(24,120)	33,349	9,229	—	9,229
Other comprehensive income, net of tax	—	—	—	35,999	—	35,999	—	35,999
Net income	—	—	—	—	546,369	546,369	15,638	562,007
Repurchase of common stock	(1,283)	(13)	(211,025)	—	—	(211,038)	—	(211,038)
Issuance of common stock under benefit plans	3,641	52	250,368	—	—	250,420	—	250,420
Stock-based compensation expense	—	—	246,558	—	—	246,558	—	246,558
Other VIE activity	—	—	—	—	—	—	(1,000)	(1,000)
Balance at September 30, 2018	255,611	$ 2,551	$ 7,443,263	$ 307	$ (4,540,005)	$ 2,906,116	$ 28,365	$ 2,934,481
Balance at December 31, 2018	255,172	$ 2,546	$ 7,421,476	$ 659	$ (2,989,478)	$ 4,435,203	$ —	$ 4,435,203
Cumulative effect adjustment for adoption of new accounting guidance	—	—	—	—	(40,310)	(40,310)	—	(40,310)
Other comprehensive income, net of tax	—	—	—	18,188	—	18,188	—	18,188
Net income	—	—	—	—	593,576	593,576	—	593,576
Repurchases of common stock	(931)	(9)	(167,945)	—	—	(167,954)	—	(167,954)
Issuance of common stock under benefit plans	3,024	34	144,523	—	—	144,557	—	144,557
Stock-based compensation expense	—	—	270,134	—	—	270,134	—	270,134
Balance at September 30, 2019	257,265	$ 2,571	$ 7,668,188	$ 18,847	$ (2,436,212)	$ 5,253,394	$ —	$ 5,253,394

The accompanying notes are an integral part of these condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Condensed Consolidated Statements of Cash Flows
(unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2019	**2018**
Cash flows from operating activities:		
Net income	$ 593,576	$ 562,007
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation expense	268,898	246,104
Depreciation expense	80,685	53,594
Change in fair value of contingent consideration	2,959	—
Write-downs of inventories to net realizable value	8,650	13,089
Deferred income taxes	94,175	3,595
Unrealized gains on equity securities	(68,862)	(88,217)
Other non-cash items, net	(12,674)	10,701
Changes in operating assets and liabilities:		
Accounts receivable, net	(41,444)	(75,167)
Inventories	(45,280)	(24,461)
Prepaid expenses and other assets	(23,709)	31,797
Accounts payable	(12,210)	23,023
Accrued expenses	255,699	167,647
Other liabilities	22,859	31,996
Net cash provided by operating activities	1,123,322	955,708
Cash flows from investing activities:		
Purchases of available-for-sale debt securities	(381,739)	(329,367)
Maturities of available-for-sale debt securities	375,145	308,406
Payment to acquire business, net of cash acquired	(245,824)	—
Expenditures for property and equipment	(58,690)	(79,803)
Investment in equity securities	(27,219)	(60,490)
Net cash used in investing activities	(338,327)	(161,254)
Cash flows from financing activities:		
Issuances of common stock under benefit plans	144,630	245,754
Repurchases of common stock	(155,953)	(207,038)
Payments on finance leases	(28,879)	—
Advance from collaborator	10,000	7,500
Repayments of advanced funding	(4,316)	(3,714)
Proceeds related to capital lease and construction financing lease obligations	1,002	12,983
Payments on capital lease and construction financing lease obligations	—	(24,658)
Other financing activities	(1,132)	(1,000)
Net cash (used in) provided by financing activities	(34,648)	29,827
Effect of changes in exchange rates on cash	(4,009)	(4,756)
Net increase in cash and cash equivalents	746,338	819,525
Cash, cash equivalents and restricted cash—beginning of period	2,658,253	1,667,526
Cash, cash equivalents and restricted cash—end of period	$ 3,404,591	$ 2,487,051
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 41,704	$ 50,017
Cash paid for income taxes	$ 22,838	$ 10,316
Capitalization of costs related to construction financing lease obligation	$ —	$ 3,389
Issuances of common stock from employee benefit plans receivable	$ 13	$ 5,509
Accrued share repurchase liability	$ 12,001	$ 4,000

The accompanying notes are an integral part of these condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(unaudited)

A. Basis of Presentation and Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial statements are unaudited and have been prepared by Vertex Pharmaceuticals Incorporated ("Vertex" or the "Company") in accordance with accounting principles generally accepted in the United States of America ("GAAP").

The condensed consolidated financial statements reflect the operations of the Company and its wholly-owned subsidiaries. The Company's condensed consolidated financial statements for the interim period ended September 30, 2018 also include the financial results of BioAxone Biosciences, Inc. ("BioAxone"), a variable interest entity ("VIE") that the Company consolidated from 2014 through December 31, 2018. All material intercompany balances and transactions have been eliminated. The Company operates in one segment, pharmaceuticals. The Company has reclassified certain items from the prior year's condensed consolidated financial statements to conform to the current year's presentation.

Certain information and footnote disclosures normally included in the Company's 2018 Annual Report on Form 10-K have been condensed or omitted. These interim financial statements, in the opinion of management, reflect all normal recurring adjustments necessary for a fair presentation of the financial position and results of operations for the interim periods ended September 30, 2019 and 2018.

The results of operations for the interim periods are not necessarily indicative of the results of operations to be expected for the full fiscal year. These interim financial statements should be read in conjunction with the audited financial statements for the year ended December 31, 2018, which are contained in the Company's 2018 Annual Report on Form 10-K.

Use of Estimates

The preparation of condensed consolidated financial statements in accordance with GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements, and the amounts of revenues and expenses during the reported periods. Significant estimates in these condensed consolidated financial statements have been made in connection with the calculation of revenues, research and development expenses, goodwill, intangible assets, deferred tax asset valuation allowances, fair value of contingent consideration and the provision for income taxes. The Company bases its estimates on historical experience and various other assumptions, including in certain circumstances future projections that management believes to be reasonable under the circumstances. Actual results could differ from those estimates. Changes in estimates are reflected in reported results in the period in which they become known.

Recently Adopted Accounting Standards

Leases

In 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* ("ASC 842"), which amends a number of aspects of lease accounting and requires entities to recognize right-of-use assets and liabilities on the balance sheet. ASC 842 became effective on January 1, 2019. The Company has finalized its review of its portfolio of existing leases and current accounting policies and has concluded that the amended guidance results in the recognition of additional assets and corresponding liabilities on its balance sheets. The Company also has finalized changes to its controls to address the adoption and ongoing lease accounting and related disclosure requirements of the new standard.

Until December 31, 2018, the Company applied build-to-suit accounting and was the deemed owner of its leased corporate headquarters in Boston and research site in San Diego, for which it was recognizing depreciation expense over the buildings' useful lives and imputed interest on the corresponding construction financing lease obligations. Under the amended guidance that became effective January 1, 2019, the Company accounts for these buildings as finance leases, resulting in increased depreciation expense over the respective lease terms of approximately 15 years, which are significantly shorter than the buildings' useful lives of 40 years. The Company also expects a reduction in its imputed interest expense in the initial years of each finance lease term.

VERTEX PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(unaudited)

In July 2018, the FASB issued ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements* ("ASU 2018-11"), which offered a transition option to entities adopting ASC 842. Under ASU 2018-11, entities could elect to apply ASC 842 using a modified-retrospective adoption approach resulting in a cumulative effect adjustment to accumulated deficit at the beginning of the year in which the new lease standard is adopted, rather than adjustments to the earliest comparative period presented in their financial statements. The Company adopted ASC 842 using the modified-retrospective method. As of January 1, 2019, the Company recorded a cumulative effect adjustment to increase its "Accumulated deficit" by $40.3 million related to the adjustments to its build-to-suit leases described in the previous paragraph.

The Company elected the package of transition practical expedients for leases that commenced prior to January 1, 2019, allowing it not to reassess (i) whether any expired or existing contracts contain leases, (ii) the lease classification for any expired or existing leases and (iii) the initial indirect costs for any existing leases.

Additionally, the Company recorded, upon adoption of ASC 842 on January 1, 2019, operating lease assets of $61.7 million and corresponding liabilities of $71.9 million related to its real estate leases that are not treated as finance leases under ASC 842. The difference between these assets and liabilities is primarily attributable to prepaid or accrued lease payments. The Company also reclassified amounts that were recorded as "Capital lease obligations, current portion" and "Capital lease obligations, excluding current portion" as of December 31, 2018 to "Other current liabilities" and "Long-term finance lease liabilities," respectively, on January 1, 2019. These adjustments had no impact on the Company's condensed consolidated statement of operations and had no impact on the Company's accumulated deficit.

The cumulative effect of applying ASC 842 on the Company's condensed consolidated balance sheet as of January 1, 2019 was as follows:

	Balance as of December 31, 2018 ^	Adjustments	Balance as of January 1, 2019
Assets		**(in thousands)**	
Prepaid expenses and other current assets	$ 140,819	$ (2,930)	$ 137,889
Property and equipment, net	812,005	(53,920)	758,085
Deferred tax assets	1,499,672	11,236	1,510,908
Operating lease assets	—	61,674	61,674
Total assets	$ 6,245,898	$ 16,060	$ 6,261,958
Liabilities and Shareholders' Equity			
Capital lease obligations, current portion	$ 9,817	$ (9,817)	$ —
Other current liabilities	40,589	34,304	74,893
Capital lease obligations, excluding current portion	19,658	(19,658)	—
Construction financing lease obligation, excluding current portion	561,892	(561,892)	—
Long-term finance lease liabilities	—	569,487	569,487
Long-term operating lease liabilities	—	64,849	64,849
Other long-term liabilities	26,280	(20,903)	5,377
Accumulated deficit	(2,989,478)	(40,310)	(3,029,788)
Total liabilities and shareholders' equity	$ 6,245,898	$ 16,060	$ 6,261,958

^ As reported in the Company's 2018 Annual Report on Form 10-K.

Please refer to Note K, "Leases," for further information regarding the Company's leases as well as certain disclosures required by ASC 842.

Derivatives and Hedging

In 2017, the FASB issued ASU 2017-12, *Derivatives and Hedging (Topic 815)* ("ASU 2017-12"), which helps simplify certain aspects of hedge accounting and enables entities to more accurately present their risk management activities in their financial statements. ASU 2017-12 became effective January 1, 2019. The adoption of ASU 2017-12 did not have a significant effect on the Company's condensed consolidated financial statements.

VERTEX PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(unaudited)

Recently Issued Accounting Standards

Internal-Use Software

In 2018, the FASB issued ASU 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15"), which clarifies the accounting for implementation costs in cloud computing arrangements. ASU 2018-15 is effective on January 1, 2020. Early adoption is permitted. The Company currently is evaluating the impact the adoption of ASU 2018-15 may have on its condensed consolidated financial statements.

Fair Value Measurement

In 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which modifies the disclosure requirements for fair value measurements. ASU 2018-13 is effective on January 1, 2020. Early adoption is permitted. The Company currently is evaluating the impact the adoption of ASU 2018-13 may have on its disclosures.

Credit Losses

In 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which requires entities to record expected credit losses for certain financial instruments, including trade receivables, as an allowance that reflects the entity's current estimate of credit losses expected to be incurred. For available-for-sale debt securities in unrealized loss positions, ASU 2016-13 requires allowances to be recorded instead of reducing the amortized cost of the investment. ASU 2016-13 is effective on January 1, 2020. Early adoption is permitted. The Company currently is evaluating the impact the adoption of ASU 2016-13 may have on its condensed consolidated financial statements.

For a discussion of other recent accounting pronouncements please refer to Note A, "Nature of Business and Accounting Policies—Recent Accounting Pronouncements," in the Company's 2018 Annual Report on Form 10-K.

Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note A, "Nature of Business and Accounting Policies," in its 2018 Annual Report on Form 10-K. The Company is disclosing changes in its accounting policies related to guidance that became effective January 1, 2019 in this Quarterly Report on Form 10-Q. Specifically, the Company has included its policy pursuant to its adoption of ASC 842 below.

Leases

At the inception of an arrangement, the Company determines whether the arrangement contains a lease. If a lease is identified in an arrangement, the Company recognizes a right-of-use asset and liability on its balance sheet and determines whether the lease should be classified as a finance or operating lease. The Company does not recognize assets or liabilities for leases with lease terms of less than 12 months.

A lease qualifies as a finance lease if any of the following criteria are met at the inception of the lease: (i) there is a transfer of ownership of the leased asset to the Company by the end of the lease term, (ii) the Company holds an option to purchase the leased asset that it is reasonably certain to exercise, (iii) the lease term is for a major part of the remaining economic life of the leased asset, (iv) the present value of the sum of lease payments equals or exceeds substantially all of the fair value of the leased asset, or (v) the nature of the leased asset is specialized to the point that it is expected to provide the lessor no alternative use at the end of the lease term. All other leases are recorded as operating leases.

Finance and operating lease assets and liabilities are recognized at the lease commencement date based on the present value of the lease payments over the lease term using the discount rate implicit in the lease. If the rate implicit is not readily determinable, the Company utilizes its incremental borrowing rate at the lease commencement date. Operating lease assets are further adjusted for prepaid or accrued lease payments. Operating lease payments are expensed using the straight-line method as an operating expense over the lease term. Finance lease assets are amortized to depreciation expense using the

straight-line method over the shorter of the useful life of the related asset or the lease term. Finance lease payments are bifurcated into (i) a portion that is recorded as imputed interest expense and (ii) a portion that reduces the finance liability associated with the lease.

The Company does not separate lease and non-lease components when determining which lease payments to include in the calculation of its lease assets and liabilities. Variable lease payments are expensed as incurred. If a lease includes an option to extend or terminate the lease, the Company reflects the option in the lease term if it is reasonably certain it will exercise the option.

Finance leases are recorded in “Property and equipment, net,” “Other current liabilities” and “Long-term finance lease liabilities” on the Company’s condensed consolidated balance sheet. Operating leases are recorded in “Operating lease assets,” “Other current liabilities” and “Long-term operating lease liabilities” on the Company’s condensed consolidated balance sheet.

B. Revenue Recognition

Disaggregation of Revenue

Revenues by Product

Product revenues, net consisted of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
SYMDEKO/SYMKEVI	$ 403,714	$ 254,919	$ 1,085,821	$ 474,601
ORKAMBI	296,711	281,859	906,159	947,186
KALYDECO	249,403	245,733	755,481	748,365
Total product revenues, net	$ 949,828	$ 782,511	$ 2,747,461	$ 2,170,152

Revenues by Geographic Location

Net product revenues are attributed to countries based on the location of the customer. Collaborative and royalty revenues are attributed to countries based on the location of the Company’s subsidiary associated with the collaborative arrangement related to such revenues. Total revenues from external customers and collaborators by geographic region consisted of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
United States	$ 710,323	$ 620,485	$ 2,052,044	$ 1,687,963
Outside of the United States				
Europe	184,845	132,876	532,809	400,685
Other	54,660	31,174	164,703	88,843
Total revenues outside of the United States	239,505	164,050	697,512	489,528
Total revenues	$ 949,828	$ 784,535	$ 2,749,556	$ 2,177,491

In the three and nine months ended September 30, 2019 and 2018, revenues attributable to Germany contributed the largest amount to the Company’s European revenues.

French Early Access Programs

In 2015, the Company began distributing ORKAMBI through early access programs in France and it continues to be engaged in ongoing discussions regarding the price for ORKAMBI in France. The Company expects that the difference between the amounts it has collected to date based on the invoiced price and the agreed-upon price for ORKAMBI in France will be returned to the French government.

Pursuant to the revenue recognition accounting guidance that was applicable until December 31, 2017, the Company's ORKAMBI net product revenues for 2015, 2016 and 2017 did not include any net product revenues from sales of ORKAMBI in France because the price was not fixed or determinable at the time of delivery. Upon adopting ASU 2014-09, *Revenues from Contracts with Customers (Topic 606)*, in the first quarter of 2018, the Company began recognizing net product revenues in France based on a transaction price that reflects its estimate of consideration it expects to retain that will not be subject to a significant reversal in amounts recognized. The Company's refund liability representing the difference between the amounts the Company has collected from the French government and the transaction price is classified as "Accrued expenses" on the Company's condensed consolidated balance sheets. If the Company's estimate regarding the amounts it will receive for ORKAMBI supplied pursuant to these early access programs changes, the Company will reflect the effect of the change in estimate in "Product revenues, net" in the period in which the change in estimate occurs.

Contract Liabilities

The Company recorded contract liabilities of $50.2 million and $24.9 million as of September 30, 2019 and December 31, 2018, respectively, related to annual contracts with government-owned and supported customers in international markets that limit the amount of annual reimbursement the Company can receive. Upon exceeding the annual reimbursement amount, products are provided free of charge, which is a material right. These contracts include upfront payments and fees. The Company defers a portion of the consideration received for shipments made up to the annual reimbursement limit as "Other current liabilities." The deferred amount is recognized as revenue when the free products are shipped. The Company's product revenue contracts include performance obligations that are one year or less.

In the majority of international markets in which the Company has a contract with an annual reimbursement limit, the annual period associated with the contract is the same as the Company's fiscal year, resulting in no contract liability balance at the end of the year and no revenues recognized in the current year related to performance obligations satisfied in previous years. Several of the Company's contract liabilities relate to contracts with annual reimbursement limits in international markets in which the annual period associated with the contract is not the same as the Company's fiscal year. In these markets, the Company recognizes revenues related to performance obligations satisfied in previous years; however, these amounts are not material to the Company's financial statements and do not relate to any performance obligations that were satisfied more than 12 months prior to the beginning of the current year.

C. Collaborative Arrangements and Acquisitions

The Company has entered into numerous agreements pursuant to which it collaborates with third parties on research, development and commercialization programs, including in-license and out-license agreements. In addition, the Company periodically engages in acquisitions of entities and/or assets.

The Company's in-license and out-license agreements and acquisitions that had a significant impact on its financial statements for the three and nine months ended September 30, 2019 and 2018, or were new during the three and nine months ended September 30, 2019, are described below. Additional in-license and out-license agreements and acquisitions were described in Note B, "Collaborative Arrangements and Acquisitions," of the Company's 2018 Annual Report on Form 10-K.

In-license Agreements

The Company has entered into a number of license agreements in order to advance and obtain access to technologies and services related to its research and early-development activities. The Company is generally required to make an upfront payment upon execution of the license agreement; development, regulatory and commercialization milestones payments upon the achievement of certain product research, development and commercialization objectives; and royalty payments on future sales, if any, of commercial products resulting from the collaboration.

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Pursuant to the terms of its in-license agreements, the Company's collaborators lead the discovery efforts and the Company leads all preclinical, development and commercialization activities associated with the advancement of any drug candidates and funds all expenses unless otherwise described below.

The Company typically can terminate its in-license agreements by providing advance notice to its collaborators; the required length of notice is dependent on whether any product developed under the license agreement has received marketing approval. The Company's license agreements may be terminated by either party for a material breach by the other, subject to notice and cure provisions. Unless earlier terminated, these license agreements generally remain in effect until the date on which the royalty term and all payment obligations with respect to all products in all countries have expired.

CRISPR Therapeutics AG

In 2015, the Company entered into a strategic collaboration, option and license agreement (the "CRISPR Agreement") with CRISPR Therapeutics AG and its affiliates ("CRISPR") to collaborate on the discovery and development of potential new treatments aimed at the underlying genetic causes of human diseases using CRISPR-Cas9 gene-editing technology. The Company had the exclusive right to license certain CRISPR-Cas9-based targets. In the fourth quarter of 2019, the Company paid an aggregate of $30.0 million in connection with its election to exclusively license three CRISPR-Cas9-based targets, including cystic fibrosis, pursuant to the CRISPR Agreement. For these three targets, the Company leads all development and global commercialization activities and CRISPR has the potential to receive up to an additional $410.0 million in development, regulatory and commercial milestones as well as royalties on net product sales.

In 2017, the Company entered into a co-development and co-commercialization agreement with CRISPR pursuant to the terms of the CRISPR Agreement, under which the Company and CRISPR are co-developing and will co-commercialize CTX001 (the "CTX001 Co-Co Agreement") for the treatment of hemoglobinopathy, including treatments for sickle cell disease and beta thalassemia. As part of the collaboration, the Company and CRISPR share equally all development costs and potential worldwide revenues related to potential hemoglobinopathy treatments, including treatments for beta thalassemia and sickle cell disease. The Company concluded that the CTX001 Co-Co Agreement is a cost-sharing arrangement, which results in the net impact of the arrangement being recorded in "Research and development expenses" in its condensed consolidated statements of operations. During the three and nine months ended September 30, 2019, the net expense related to the CTX001 Co-Co Agreement was $7.7 million and $22.3 million, respectively. During the three and nine months ended September 30, 2018, the net expense related to the CTX001 Co-Co Agreement was $5.2 million and $14.1 million, respectively.

In June 2019, the Company entered into a separate strategic collaboration and license agreement (the "CRISPR DMD/DM1 Agreement") with CRISPR, which became effective in July 2019. Pursuant to this agreement, Vertex received an exclusive worldwide license to CRISPR's existing and future intellectual property for duchenne muscular dystrophy ("DMD") and myotonic dystrophy type 1 ("DM1") and the Company made an upfront payment of $175.0 million to CRISPR. The Company concluded that it did not have any alternative future use for acquired in-process research and development and recorded the upfront payment to "Research and development expenses" in the third quarter of 2019. CRISPR has the potential to receive up to $825.0 million in research, development, regulatory and commercial milestones for the DMD and DM1 programs as well as royalties on net product sales. CRISPR has the option to co-develop and co-commercialize all DM1 products globally and forego the milestones and royalties associated with the DM1 program. The Company will fund all expenses associated with the collaboration except for research costs for specified guide RNA research conducted by CRISPR, which the Company and CRISPR will share equally.

In connection with the CRISPR Agreement, the Company made an upfront payment to CRISPR of $75.0 million and an investment in CRISPR's stock. The Company has made several subsequent investments in CRISPR's common stock. Please refer to Note F, "Marketable Securities and Equity Investments," for further information regarding the Company's investment in CRISPR's common stock.

Kymera Therapeutics Inc.

In May 2019, the Company entered into a strategic research and development collaboration agreement (the "Kymera Agreement") with Kymera Therapeutics Inc. ("Kymera") to advance small molecule protein degraders against multiple targets. Pursuant to the Kymera Agreement, Kymera's proprietary platform technology is being applied in the collaboration

activities in exchange for an upfront payment of $50.0 million. The Company has the exclusive right to license up to six protein targets, for each of which Kymera may receive up to $170.0 million in payments, including development, regulatory and commercial milestones as well as royalties on net product sales.

In addition to the upfront payment, the Company purchased $20.0 million of Kymera's preferred stock. The Company determined that the fair value of its investment in Kymera's preferred stock approximated $20.0 million and classified the investment, which does not have a readily determinable fair value, in "Other assets."

The Company determined that substantially all of the fair value of the Kymera Agreement was attributable to acquired in-process research and development and no substantive processes were acquired that would constitute a business. The Company concluded that it did not have any alternative future use for the acquired in-process research and development and recorded the $50.0 million upfront payment to "Research and development expenses."

BioAxone Biosciences, Inc.

The Company has licensed rights to certain drug candidates from these third-party collaborators, which has resulted in the consolidation of certain third-parties' financial statements into the Company's condensed consolidated financial statements as VIEs for certain periods of time. As of December 31, 2018, and continuing through the third quarter of 2019, the Company had no consolidated VIEs reflected in its financial statements.

In 2014, the Company entered into a license and collaboration agreement (the "BioAxone Agreement") with BioAxone, which resulted in the consolidation of BioAxone as a VIE beginning in October 2014. The Company deconsolidated BioAxone as of December 31, 2018 because it determined that it no longer was the primary beneficiary of BioAxone as it no longer had the power to direct the significant activities of BioAxone. Please refer to Note B, "Collaborative Arrangements and Acquisitions," in the Company's 2018 Annual Report on Form 10-K for further information on the deconsolidation of BioAxone.

In the nine months ended September 30, 2018, the Company recorded net income attributable to noncontrolling interest of $15.6 million, which was primarily related to a $24.0 million increase in the fair value of the contingent payments payable by Vertex to BioAxone in the first quarter of 2018 due to (i) the expiration of an option held by the Company to purchase BioAxone in the first quarter of 2018 that increased the probability of a $10.0 million license continuation fee for VX-210 (which was ultimately paid in the first quarter of 2018) and (ii) the probability that additional milestone and royalty payments related to the BioAxone Agreement would be paid. Net income attributable to noncontrolling interest also included a $6.0 million provision for income taxes during the nine months ended September 30, 2018 that was primarily related to the increase in the fair value of the contingent payments. In the three months ended September 30, 2018, the net loss attributable to noncontrolling interest was $0.3 million.

Acquisitions

Exonics Therapeutics, Inc.

On July 16, 2019, the Company completed its acquisition of Exonics Therapeutics, Inc. ("Exonics"), a privately held biotechnology company focused on creating transformative gene-editing therapies to repair mutations that cause DMD and other severe neuromuscular diseases, including DM1. The Company acquired Exonics for an upfront payment of approximately $245.0 million, customary working capital adjustments and approximately $70.0 million in deferred payments. Exonics' equity holders may receive an additional $728.0 million upon the successful achievement of specified development and regulatory milestones for the DMD and DM1 programs.

The Company concluded that Exonics' intellectual property, assembled workforce and scientific expertise, has the potential to produce therapies for patients with DMD and DM1; therefore, it has accounted for the acquisition as a business combination. The Company determined that the purchase price related to the Exonics business combination was $438.4 million, which consisted of (i) the upfront payment as adjusted for customary working capital adjustments, and (ii) the estimated fair value related to $678.3 million of contingent development and regulatory milestones attributable to the purchase of Exonics' outstanding shares on July 16, 2019. The remaining portion, or $49.7 million, of the development and

regulatory milestones and the $70.0 million in deferred payments were determined to be compensatory, as they relate to post-acquisition services, and will be expensed to “Research and development expenses” as incurred.

The purchase price consisted of the following:

		(in thousands)
Upfront payment (adjusted for customary working capital adjustments)	$	266,315
Fair value of contingent development and regulatory payments		172,041
Total purchase price	$	438,356

The Company’s methodology for determining the fair value of the contingent development and regulatory payments is described in Note E, “Fair Value Measurements.”

The Company preliminarily allocated the purchase price to the following assets acquired and liabilities assumed:

	July 16, 2019	
	(in thousands)	
Cash and cash equivalents	$	19,535
Goodwill		397,141
Intangible asset		13,000
Net other assets (liabilities)		8,680
Total purchase price	$	438,356

The “Goodwill” represents the difference between the fair value of the consideration transferred and the fair value of the assets and liabilities acquired. The goodwill was attributable to Exonics’ technological expertise, assembled workforce, the potential additional therapeutic programs that may be discovered utilizing Exonics’ DMD and DM1 programs and synergies from combining these programs with the Company’s current gene-editing capabilities through its collaboration with CRISPR. None of the goodwill is expected to be deductible for income tax purposes. The “Intangible asset,” which is classified within “Other assets” on the Company’s condensed consolidated balance sheet, is a single in-process research and development asset related to Exonics’ DMD and DM1 programs. The fair value of the intangible asset was determined through a discounted cash flow analysis utilizing Level 3 fair value inputs related to the development and commercialization of therapies for DMD and DM1. The Company may adjust “Goodwill” upon completion of certain items reflected within “Net other assets (liabilities)” in the table above. Such adjustments, if any, are not expected to be material to the Company’s condensed consolidated balance sheet.

The Company has not provided pro forma information because the operations of Exonics did not have a material effect on its consolidated financial statements. The Company’s condensed consolidated financial statements reflect the operations of Exonics as of September 30, 2019 and for the period from July 16, 2019 to September 30, 2019.

Semma Therapeutics, Inc.

In August 2019, the Company entered into an agreement to acquire Semma Therapeutics, Inc. (“Semma”), a privately held biotechnology company primarily focused on the use of stem cell-derived human islets as a potentially curative treatment for type 1 diabetes. In October 2019, the acquisition closed upon, among other things, the satisfaction of customary closing conditions and the expiration of the waiting period under the HSR Act, resulting in no financial statement impact during the three and nine months ended September 30, 2019. At closing, the Company acquired all outstanding shares of Semma in exchange for approximately $950.0 million. The Company will account for the acquisition in the fourth quarter of 2019.

Out-license agreements

The Company has entered into licensing agreements pursuant to which it has out-licensed rights to certain drug candidates to third-party collaborators. Pursuant to these out-license agreements, the Company’s collaborators become responsible for all costs related to the continued development of such drug candidates and obtain development and

commercialization rights to these drug candidates. Depending on the terms of the agreements, the Company's collaborators may be required to make upfront payments, milestone payments upon the achievement of certain product research and development objectives and may also be required to pay royalties on future sales, if any, of commercial products resulting from the collaboration. The termination provisions associated with these collaborations are generally the same as those described above related to the Company's in-license agreements. None of the Company's out-license agreements had a significant impact on the Company's condensed consolidated statement of operations during the three and nine months ended September 30, 2019 and 2018.

Cystic Fibrosis Foundation

The Company has a research, development and commercialization agreement that was originally entered into in 2004 with Cystic Fibrosis Foundation ("CFF"), as successor in interest to the Cystic Fibrosis Foundation Therapeutics, Inc. This agreement was most recently amended in 2016 (the "2016 Amendment"). Pursuant to the agreement, as amended, the Company agreed to pay royalties ranging from low-single digits to mid-single digits on potential sales of certain compounds first synthesized and/or tested between March 1, 2014 and August 31, 2016, including elexacaftor, and tiered royalties ranging from single digits to sub-teens on any approved drugs first synthesized and/or tested during a research term on or before February 28, 2014, including KALYDECO (ivacaftor), ORKAMBI (lumacaftor in combination with ivacaftor) and SYMDEKO/SYMKEVI (tezacaftor in combination with ivacaftor). For combination products, such as ORKAMBI, SYMDEKO and TRIKAFTA (elexacaftor, tezacaftor, and ivacaftor), sales are allocated equally to each of the active pharmaceutical ingredients in the combination product. There are no remaining commercial milestone payments payable by the Company to CFF pursuant to the agreement.

Pursuant to the 2016 Amendment, the Company received an upfront payment of $75.0 million and is receiving development funding from CFF of up to $6.0 million annually. The Company concluded that the upfront payment plus any future development funding represent a form of financing pursuant to ASC 730 and thus records the amounts as a liability on the condensed consolidated balance sheet, primarily reflected in "Long-term advance from collaborator." The Company reduces this liability over the estimated royalty term of the agreement and reflects the reductions as an offset to "Cost of sales" and as "Interest expense."

The Company has royalty obligations to CFF for ivacaftor, lumacaftor and tezacaftor until the expiration of patents covering those compounds. The Company has patents in the United States and European Union covering the composition-of-matter of ivacaftor that expire in 2027 and 2025, respectively, subject to potential patent extension. The Company has patents in the United States and European Union covering the composition-of-matter of lumacaftor that expire in 2030 and 2026, respectively, subject to potential extension. The Company has patents in the United States and European Union covering the composition-of-matter of tezacaftor that expire in 2027 and 2028, respectively, subject to potential extension.

D. Earnings Per Share

Basic net income per share attributable to Vertex common shareholders is based upon the weighted-average number of common shares outstanding during the period, excluding restricted stock, restricted stock units and performance-based restricted stock units, or "PSUs," that have been issued but are not yet vested. Diluted net income per share attributable to Vertex common shareholders is based upon the weighted-average number of common shares outstanding during the period plus additional weighted-average common equivalent shares outstanding during the period when the effect is dilutive.

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The following table sets forth the computation of basic and diluted net income per share for the periods ended:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands, except per share amounts)			
Basic net income attributable to Vertex per common share calculation:				
Net income attributable to Vertex common shareholders	$ 57,518	$ 128,746	$ 593,576	$ 546,369
Less: Undistributed earnings allocated to participating securities	—	(14)	—	(161)
Net income attributable to Vertex common shareholders—basic	$ 57,518	$ 128,732	$ 593,576	$ 546,208
Basic weighted-average common shares outstanding	256,946	254,905	256,289	254,096
Basic net income attributable to Vertex per common share	$ 0.22	$ 0.51	$ 2.32	$ 2.15
Diluted net income attributable to Vertex per common share calculation:				
Net income attributable to Vertex common shareholders	$ 57,518	$ 128,746	$ 593,576	$ 546,369
Less: Undistributed earnings allocated to participating securities	—	(13)	—	(158)
Net income attributable to Vertex common shareholders—diluted	$ 57,518	$ 128,733	$ 593,576	$ 546,211
Weighted-average shares used to compute basic net income per common share	256,946	254,905	256,289	254,096
Effect of potentially dilutive securities:				
Stock options	2,080	2,962	2,297	2,990
Restricted stock and restricted stock units (including PSUs)	1,434	1,896	1,582	1,866
Employee stock purchase program	13	25	14	20
Weighted-average shares used to compute diluted net income per common share	260,473	259,788	260,182	258,972
Diluted net income attributable to Vertex per common share	$ 0.22	$ 0.50	$ 2.28	$ 2.11

The Company did not include the securities in the following table in the computation of the net income per share attributable to Vertex common shareholders calculations because the effect would have been anti-dilutive during each period:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
Stock options	3,303	2,572	3,116	2,152
Unvested restricted stock and restricted stock units (including PSUs)	13	1	7	4

E. Fair Value Measurements

The fair value of the Company's financial assets and liabilities reflects the Company's estimate of amounts that it would have received in connection with the sale of the assets or paid in connection with the transfer of the liabilities in an orderly transaction between market participants at the measurement date. In connection with measuring the fair value of its assets and liabilities, the Company seeks to maximize the use of observable inputs (market data obtained from sources independent from the Company) and to minimize the use of unobservable inputs (the Company's assumptions about how market participants would price assets and liabilities). The following fair value hierarchy is used to classify assets and liabilities based on the observable inputs and unobservable inputs used in order to value the assets and liabilities:

Level 1:	Quoted prices in active markets for identical assets or liabilities. An active market for an asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis.
Level 2:	Observable inputs other than Level 1 inputs. Examples of Level 2 inputs include quoted prices in active markets for similar assets or liabilities and quoted prices for identical assets or liabilities in markets that are not active.
Level 3:	Unobservable inputs based on the Company's assessment of the assumptions that market participants would use in pricing the asset or liability.

The Company's investment strategy is focused on capital preservation. The Company invests in instruments that meet the credit quality standards outlined in the Company's investment policy. This policy also limits the amount of credit exposure to any one issue or type of instrument. The Company maintains strategic investments separately from the investment policy that governs its other cash, cash equivalents and marketable securities as described in "Note F, "Marketable Securities and Equity Investments." As of September 30, 2019, the Company's investments were in money market funds, U.S. Treasury securities, government-sponsored enterprise securities, corporate debt securities, commercial paper and corporate equity securities. Additionally, the Company utilizes foreign currency forward contracts intended to mitigate the effect of changes in foreign exchange rates on its condensed consolidated statement of operations.

As of September 30, 2019, the Company's financial assets and liabilities that were subject to fair value measurements were valued using both observable and unobservable inputs. The Company's financial assets valued based on Level 1 inputs consisted of money market funds, U.S. Treasury securities, government-sponsored enterprise securities and corporate equity securities. The Company's financial assets and liabilities valued based on Level 2 inputs consisted of certain corporate equity securities as described below, corporate debt securities, commercial paper, which consisted of investments in highly-rated investment-grade corporations, and foreign currency forward contracts with reputable and creditworthy counterparties. As discussed further below, the Company's financial liabilities valued based on Level 3 consisted of acquisition-related contingent milestones. During the three and nine months ended September 30, 2019 and 2018, the Company did not record any other-than-temporary impairment charges related to its financial assets.

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The following table sets forth the Company's financial assets and liabilities subject to fair value measurements (and does not include $1.9 billion and $1.4 billion of cash as of September 30, 2019 and December 31, 2018, respectively):

	Fair Value Measurements as of September 30, 2019			
		Fair Value Hierarchy		
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Financial instruments carried at fair value (asset positions):				
Cash equivalents:				
Money market funds	$ 1,476,254	$ 1,476,254	$ —	$ —
U.S. Treasury securities	5,893	5,893	—	—
Government-sponsored enterprise securities	13,370	13,370	—	—
Commercial paper	50,119	—	50,119	—
Marketable securities:				
Corporate equity securities	236,184	220,564	15,620	—
Government-sponsored enterprise securities	14,217	14,217	—	—
Corporate debt securities	265,051	—	265,051	—
Commercial paper	82,938	—	82,938	—
Prepaid expenses and other current assets:				
Foreign currency forward contracts	27,253	—	27,253	—
Other assets:				
Foreign currency forward contracts	1,806	—	1,806	—
Total financial assets	$ 2,173,085	$ 1,730,298	$ 442,787	$ —
Financial instruments carried at fair value (liability positions):				
Other current liabilities:				
Foreign currency forward contracts	$ (85)	$ —	$ (85)	$ —
Long-term contingent consideration	(175,000)	—	—	(175,000)
Other long-term liabilities:				
Foreign currency forward contracts	(10)	—	(10)	—
Total financial liabilities	$ (175,095)	$ —	$ (95)	$ (175,000)

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	Fair Value Measurements as of December 31, 2018			
		Fair Value Hierarchy		
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Financial instruments carried at fair value (asset positions):				
Cash equivalents:				
Money market funds	$ 1,226,603	$ 1,226,603	$ —	$ —
U.S. Treasury securities	5,966	5,966	—	—
Government-sponsored enterprise securities	7,123	7,123	—	—
Commercial paper	58,268	—	58,268	—
Marketable securities:				
Corporate equity securities	167,323	153,733	13,590	—
U.S. Treasury securities	6,026	6,026	—	—
Government-sponsored enterprise securities	10,704	10,704	—	—
Corporate debt securities	233,665	—	233,665	—
Commercial paper	100,390	—	100,390	—
Prepaid expenses and other current assets:				
Foreign currency forward contracts	19,023	—	19,023	—
Other assets:				
Foreign currency forward contracts	1,514	—	1,514	—
Total financial assets	$ 1,836,605	$ 1,410,155	$ 426,450	$ —
Financial instruments carried at fair value (liability positions):				
Other current liabilities:				
Foreign currency forward contracts	$ (340)	$ —	$ (340)	$ —
Other long-term liabilities:				
Foreign currency forward contracts	(108)	—	(108)	—
Total financial liabilities	$ (448)	$ —	$ (448)	$ —

Please refer to Note F, “Marketable Securities and Equity Investments,” for the carrying amount and related unrealized gains (losses) by type of investment.

Fair Value of Moderna Investment

The Company has an investment in the common stock of Moderna, Inc. (“Moderna”), which became a publicly traded company in 2018. The Company has valued its investment in Moderna based on Level 2 inputs due to transfer restrictions subsequent to Moderna’s initial public offering lasting until December 2019. The reduction in fair value recorded on the Company’s condensed consolidated balance sheet related to this transfer restriction is not material to its financial statements.

Fair Value of Contingent Consideration

The Company’s contingent consideration liabilities, which are related to development and regulatory milestones potentially payable to Exonics former shareholders, are classified as Level 3 within the valuation hierarchy. The Company bases its estimates of the probability of achieving the milestones relevant to the fair value of contingent payments on industry data attributable to rare diseases. The discount rates used in the valuation model for contingent payments represent a measure of credit risk and market risk associated with settling the liabilities. Significant judgment is used in determining the appropriateness of these assumptions at each reporting period. Due to the uncertainties associated with development and commercialization of a drug candidate in the pharmaceutical industry, the Company's estimates regarding the fair value of contingent consideration will change in the future, resulting in adjustments to the fair value of the Company’s contingent consideration liabilities, and the effect of any such adjustments could be material.

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The following table represents a rollforward of the fair value of the Company's contingent consideration liabilities:

	Nine Months Ended September 30, 2019
	(in thousands)
Balance at December 31, 2018	$ —
Contingent consideration related to acquisition of Exonics	172,041
Increase in fair value of contingent payments	2,959
Balance at September 30, 2019	$ 175,000

The "Increase in fair value of contingent payments" in the table above was primarily due to changes in market interest rates and the time value of money.

Fair Value of Intangible Asset

As discussed in Note C, "Collaborative Arrangements and Acquisitions," the fair value of the Company's $13.0 million in-process research and development intangible asset related to Exonics' DMD and DM1 programs was determined through a discounted cash flow analysis utilizing Level 3 fair value inputs.

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F. Marketable Securities and Equity Investments

A summary of the Company's cash equivalents and marketable securities, which are recorded at fair value (and do not include $1.9 billion and $1.4 billion of cash as of September 30, 2019 and December 31, 2018, respectively), is shown below:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(in thousands)			
As of September 30, 2019				
Cash equivalents:				
Money market funds	$ 1,476,254	$ —	$ —	$ 1,476,254
U.S. Treasury securities	5,892	1	—	5,893
Government-sponsored enterprise securities	13,370	—	—	13,370
Commercial paper	50,125	1	(7)	50,119
Total cash equivalents	1,545,641	2	(7)	1,545,636
Marketable securities:				
Government-sponsored enterprise securities	14,188	29	—	14,217
Corporate debt securities	264,613	465	(27)	265,051
Commercial paper	82,825	113	—	82,938
Total marketable debt securities	361,626	607	(27)	362,206
Corporate equity securities	133,157	107,450	(4,423)	236,184
Total marketable securities	$ 494,783	$ 108,057	$ (4,450)	$ 598,390
As of December 31, 2018				
Cash equivalents:				
Money market funds	$ 1,226,603	$ —	$ —	$ 1,226,603
U.S. Treasury securities	5,967	—	(1)	5,966
Government-sponsored enterprise securities	7,124	—	(1)	7,123
Commercial paper	58,271	—	(3)	58,268
Total cash equivalents	1,297,965	—	(5)	1,297,960
Marketable securities:				
U.S. Treasury securities	6,026	—	—	6,026
Government-sponsored enterprise securities	10,704	—	—	10,704
Corporate debt securities	234,088	27	(450)	233,665
Commercial paper	100,498	—	(108)	100,390
Total marketable debt securities	351,316	27	(558)	350,785
Corporate equity securities	133,157	40,619	(6,453)	167,323
Total marketable securities	$ 484,473	$ 40,646	$ (7,011)	$ 518,108

Available-for-sale debt securities were recorded in the Company's condensed consolidated balance sheets at fair value as follows:

	As of September 30, 2019	As of December 31, 2018
	(in thousands)	
Cash and cash equivalents	$ 1,545,636	$ 1,297,960
Marketable securities	362,206	350,785
Total	$ 1,907,842	$ 1,648,745

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Available-for-sale debt securities by contractual maturity were as follows:

	As of September 30, 2019	As of December 31, 2018
	(in thousands)	
Matures within one year	$ 1,778,426	$ 1,647,500
Matures after one year through five years	129,416	1,245
Total	$ 1,907,842	$ 1,648,745

The Company has a limited number of available-for-sale debt securities in insignificant loss positions as of September 30, 2019, which it does not intend to sell and has concluded it will not be required to sell before recovery of the amortized costs for the investments at maturity. The Company did not record any charges for other-than-temporary declines in the fair value of available-for-sale debt securities or gross realized gains or losses in the three and nine months ended September 30, 2019 and 2018.

The Company maintains strategic investments separately from the investment policy that governs its other cash, cash equivalents and marketable securities. The Company's investments in the common stock of publicly traded companies, CRISPR and Moderna, as of September 30, 2019 and December 31, 2018, respectively, have readily determinable fair values and are recorded in "Marketable securities" on its condensed consolidated balance sheets. As of September 30, 2019 and December 31, 2018, the total fair value of the Company's strategic investments in the common stock of publicly traded companies, was $236.2 million and $167.3 million, respectively. The Company records unrealized gains or losses related to its strategic investments, which are primarily attributable to its investment in CRISPR, to "Other (expense) income, net" on its condensed consolidated statements of operations. During the three and nine months ended September 30, 2019, the Company recorded an unrealized loss of $31.2 million and unrealized gain of $68.9 million, respectively. During the three and nine months ended September 30, 2018, the Company recorded an unrealized loss of $61.2 million and an unrealized gain of $88.2 million, respectively.

As of September 30, 2019, the carrying value of the Company's equity investments without readily determinable fair values, which are recorded in "Other assets" on its condensed consolidated balance sheets, was $40.8 million.

G. Accumulated Other Comprehensive Income (Loss)

The following table summarizes the changes in accumulated other comprehensive income (loss) by component:

		Unrealized Holding Gains (Losses), Net of Tax		
	Foreign Currency Translation Adjustment	On Available-For-Sale Debt Securities	On Foreign Currency Forward Contracts	Total
		(in thousands)		
Balance at December 31, 2018	$ (11,227)	$ (536)	$ 12,422	$ 659
Other comprehensive income before reclassifications	10,263	1,111	26,663	38,037
Amounts reclassified from accumulated other comprehensive income (loss)	—	—	(19,849)	(19,849)
Net current period other comprehensive income	10,263	1,111	6,814	18,188
Balance at September 30, 2019	$ (964)	$ 575	$ 19,236	$ 18,847

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	Foreign Currency Translation Adjustment	Unrealized Holding Gains (Losses), Net of Tax			Total
		On Available-For-Sale Debt Securities	On Equity Securities	On Foreign Currency Forward Contracts	
	(in thousands)				
Balance at December 31, 2017	$ (21,031)	$ (594)	$ 25,069	$ (15,016)	$ (11,572)
Other comprehensive income before reclassifications	6,800	137	—	21,102	28,039
Amounts reclassified from accumulated other comprehensive income (loss)	—	—	—	7,960	7,960
Net current period other comprehensive income	6,800	137	—	29,062	35,999
Amounts reclassified to accumulated deficit pursuant to adoption of new accounting standard	949	—	(25,069)	—	(24,120)
Balance at September 30, 2018	$ (13,282)	$ (457)	$ —	$ 14,046	$ 307

H. Hedging

Foreign currency forward contracts - Designated as hedging instruments

The Company maintains a hedging program intended to mitigate the effect of changes in foreign exchange rates for a portion of the Company's forecasted product revenues denominated in certain foreign currencies. The program includes foreign currency forward contracts that are designated as cash flow hedges under GAAP having contractual durations from one to eighteen months. The Company recognizes realized gains and losses for the effective portion of such contracts in "Product revenues, net" in its condensed consolidated statements of operations in the same period that it recognizes the product revenues that were impacted by the hedged foreign exchange rate changes.

The Company formally documents the relationship between foreign currency forward contracts (hedging instruments) and forecasted product revenues (hedged items), as well as the Company's risk management objective and strategy for undertaking various hedging activities, which includes matching all foreign currency forward contracts that are designated as cash flow hedges to forecasted transactions. The Company also formally assesses, both at the hedge's inception and on an ongoing basis, whether the foreign currency forward contracts are highly effective in offsetting changes in cash flows of hedged items. If the Company were to determine that a (i) foreign currency forward contract is not highly effective as a cash flow hedge, (ii) foreign currency forward contract has ceased to be a highly effective hedge or (iii) forecasted transaction is no longer probable of occurring, the Company would discontinue hedge accounting treatment prospectively. The Company measures effectiveness based on the change in fair value of the forward contracts and the fair value of the hypothetical foreign currency forward contracts with terms that match the critical terms of the risk being hedged. As of September 30, 2019, all hedges were determined to be highly effective.

The Company considers the impact of its counterparties' credit risk on the fair value of the foreign currency forward contracts. As of September 30, 2019 and December 31, 2018, credit risk did not change the fair value of the Company's foreign currency forward contracts.

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The following table summarizes the notional amount of the Company's outstanding foreign currency forward contracts designated as cash flow hedges under GAAP:

Foreign Currency	As of September 30, 2019	As of December 31, 2018
	(in thousands)	
Euro	$ 460,885	$ 335,179
Australian dollar	87,358	52,820
British pound sterling	76,061	73,460
Canadian dollar	47,863	43,759
Total foreign currency forward contracts	$ 672,167	$ 505,218

Foreign currency forward contracts - Not designated as hedging instruments

The Company also enters into foreign currency forward contracts with contractual maturities of less than one month, which are designed to mitigate the effect of changes in foreign exchange rates on monetary assets and liabilities, including intercompany balances. These contracts are not designated as hedging instruments under GAAP. The Company recognizes realized gains and losses for such contracts in "Other (expense) income, net" in its condensed consolidated statements of operations each period. As of September 30, 2019, the notional amount of the Company's outstanding foreign currency forward contracts where hedge accounting under GAAP is not applied was $413.2 million.

During the three and nine months ended September 30, 2019 and 2018, the Company recognized the following related to foreign currency forward contacts in its condensed consolidated statements of operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
Designated as hedging instruments - Reclassified from AOCI				
Product revenues, net	$ 10,304	$ 1,721	$ 25,381	$ (7,438)
Not designated as hedging instruments				
Other (expense) income, net	$ (8,812)	$ (782)	$ (10,874)	$ 1,832

The following table summarizes the fair value of the Company's outstanding foreign currency forward contracts designated as cash flow hedges under GAAP included on its condensed consolidated balance sheets:

As of September 30, 2019

Assets		Liabilities	
Classification	Fair Value	Classification	Fair Value
	(in thousands)		
Prepaid expenses and other current assets	$ 27,253	Other current liabilities	$ (85)
Other assets	1,806	Other long-term liabilities	(10)
Total assets	$ 29,059	Total liabilities	$ (95)

As of December 31, 2018

Assets		Liabilities	
Classification	Fair Value	Classification	Fair Value
	(in thousands)		
Prepaid expenses and other current assets	$ 19,023	Other current liabilities	$ (340)
Other assets	1,514	Other long-term liabilities	(108)
Total assets	$ 20,537	Total liabilities	$ (448)

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As of September 30, 2019, the Company expects amounts that are related to foreign exchange forward contracts designated as cash flow hedges under GAAP recorded in “Prepaid expenses and other current assets” and “Other current liabilities” to be reclassified to earnings within twelve months.

The following table summarizes the potential effect of offsetting derivatives by type of financial instrument designated as cash flow hedges under GAAP on the Company’s condensed consolidated balance sheets:

	As of September 30, 2019				
	Gross Amounts Recognized	Gross Amounts Offset	Gross Amounts Presented	Gross Amounts Not Offset	Legal Offset
Foreign currency forward contracts			(in thousands)		
Total assets	$ 29,059	$ —	$ 29,059	$ (95)	$ 28,964
Total liabilities	$ (95)	$ —	$ (95)	$ 95	$ —

	As of December 31, 2018				
	Gross Amounts Recognized	Gross Amounts Offset	Gross Amounts Presented	Gross Amounts Not Offset	Legal Offset
Foreign currency forward contracts			(in thousands)		
Total assets	$ 20,537	$ —	$ 20,537	$ (448)	$ 20,089
Total liabilities	$ (448)	$ —	$ (448)	$ 448	$ —

I. Inventories

Inventories consisted of the following:

	As of September 30, 2019	As of December 31, 2018
	(in thousands)	
Raw materials	$ 21,293	$ 9,677
Work-in-process	105,667	87,944
Finished goods	35,346	26,739
Total	$ 162,306	$ 124,360

J. Revolving Credit Facility

In September 2019, the Company and certain of its subsidiaries entered into a Credit Agreement (the “2019 Credit Agreement”) with Bank of America, N.A., as administrative agent and the lenders referred to therein. The 2019 Credit Agreement provides for a $500.0 million unsecured revolving facility, which was not drawn upon at closing. The 2019 Credit Agreement also provides that, subject to satisfaction of certain conditions, the Company may request that the borrowing capacity under the 2019 Credit Agreement be increased by an additional $500.0 million. The 2019 Credit Agreement, which matures on September 17, 2024, supersedes the Company’s credit agreement entered into in 2016 with Bank of America, N.A serving in the same capacity.

Direct costs related to the 2019 Credit Agreement, which were not material to the Company’s financial statements, were deferred and will be recorded over the term of the 2019 Credit Agreement.

Any amounts borrowed under the 2019 Credit Agreement will bear interest, at the Company’s option, at either a base rate or a Eurocurrency rate, in each case plus an applicable margin. Under the 2019 Credit Agreement, the applicable margins on base rate loans range from 0.125% to 0.50% and the applicable margins on Eurocurrency loans range from 1.125% to 1.50%, in each case based on the Company’s consolidated leverage ratio (the ratio of the Company’s total consolidated funded indebtedness to the Company’s consolidated EBITDA for the most recently completed four fiscal quarter period).

Any amounts borrowed pursuant to the 2019 Credit Agreement are guaranteed by certain of the Company’s existing and future domestic subsidiaries, subject to certain exceptions.

The 2019 Credit Agreement contains customary representations and warranties and affirmative and negative covenants, including financial covenants to maintain (i) subject to certain limited exceptions, a consolidated leverage ratio of 3.50 to 1.00, subject to an increase to 4.00 to 1.00 following a material acquisition and (ii) a consolidated interest coverage ratio (the ratio of the Company's consolidated EBITDA to its consolidated interest expenses for the most recently completed four fiscal quarter period) of 2.50 to 1.00, in each case measured on a quarterly basis. The 2019 Credit Agreement also contains customary events of default. In the case of a continuing event of default, the administrative agent would be entitled to exercise various remedies, including the acceleration of amounts due under outstanding loans.

K. Leases

Finance Leases

The Company's finance lease assets and liabilities primarily relate to its corporate headquarters in Boston and research site in San Diego (the "Buildings"). These Buildings are classified as finance leases because the present value of the sum of the lease payments associated with the Buildings exceeds substantially all of the fair value of the Buildings. The Company also has outstanding finance leases for equipment.

Prior to the adoption of ASC 842 on January 1, 2019, the Company was deemed for accounting purposes to be the owner of the Buildings during their construction periods and recorded project construction costs incurred by its landlords. Upon completion of the Buildings, the Company determined that the underlying leases did not meet the criteria for "sale-leaseback" treatment. Accordingly, the Company depreciated the Buildings over 40 years and recorded interest expense associated with the financing obligations for the Buildings. The Company bifurcated the lease payments pursuant to the Buildings into (i) a portion that was allocated to the buildings and (ii) a portion that is allocated to the land on which the buildings were constructed. The portion of the lease obligations allocated to the land was treated as an operating lease.

Pursuant to ASC 842, the Company adjusted the amounts recorded on its condensed consolidated balance sheet as of January 1, 2019 for the Buildings to reflect the present value of the lease payments over the remaining lease term related to the Buildings. The finance lease assets associated with the Buildings are amortized to depreciation expense using the straight-line method over the remaining lease term, which is significantly shorter than the Buildings' useful lives. The Company continues to record interest expense associated with the finance lease liabilities for the Buildings.

Corporate Headquarters

In 2011, the Company entered into two lease agreements, pursuant to which the Company leases approximately 1.1 million square feet of office and laboratory space in two buildings in Boston, Massachusetts for a term of 15 years. Base rent payments commenced in December 2013, and will continue through December 2028. The Company utilizes this initial period as its lease term. The Company has an option to extend the lease terms for an additional ten years.

San Diego Lease

In 2015, the Company entered into a lease agreement pursuant to which the Company leases approximately 170,000 square feet of office and laboratory space in San Diego, California for a term of 16 years. Base rent payments commenced in the second quarter of 2019, and will continue through May 2034. The Company utilizes this initial period as its lease term. The Company has an option to extend the lease term for up to two additional five-year terms. The Company placed this building in service in the second quarter of 2018.

Operating Leases

The Company's operating leases relate to its real estate leases that are not classified as finance leases.

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Aggregate Lease Information Related to the Application of ASC 842

The following information is disclosed in accordance with ASC 842, which became effective January 1, 2019. The components of lease cost recorded in the Company's condensed consolidated statement of operations were as follows:

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
	(in thousands)	
Operating lease cost	$ 2,796	$ 8,064
Finance lease cost		
Amortization of leased assets	12,217	36,645
Interest on lease liabilities	13,093	39,917
Variable lease cost	7,427	20,225
Sublease income	(1,702)	(4,873)
Net lease cost	$ 33,831	$ 99,978

The Company's variable lease cost during the three and nine months ended September 30, 2019 primarily related to operating expenses, taxes and insurance associated with its finance leases. The Company's sublease income during the three and nine months ended September 30, 2019 primarily related to subleases for an insignificant portion of the Company's corporate headquarters.

The Company's leases are included on its condensed consolidated balance sheets as follows:

	As of September 30, 2019	As of December 31, 2018 ^
	(in thousands)	
Finance leases		
Property and equipment, net	$ 449,350	$ 640,952
Total finance lease assets	$ 449,350	$ 640,952
Capital lease obligations, current portion	$ —	$ 9,817
Other current liabilities	37,063	5,271
Capital lease obligations, excluding current portion	—	19,658
Construction financing lease obligation, excluding current portion	—	561,892
Long-term finance lease liabilities	541,561	—
Total finance lease liabilities	$ 578,624	$ 596,638
Operating leases		
Operating lease assets	$ 60,929	$ —
Total operating lease assets	$ 60,929	$ —
Other current liabilities	$ 8,199	$ —
Long-term operating lease liabilities	62,978	—
Total operating lease liabilities	$ 71,177	$ —

^ As reported in the Company's 2018 Annual Report on Form 10-K.

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Maturities of the Company's finance and operating lease liabilities in accordance with ASC 842 as of September 30, 2019 were as follows:

Year	Finance Leases	Operating Leases	Total
		(in thousands)	
Remainder of 2019	$ 16,172	$ 2,299	$ 18,471
2020	89,159	11,033	100,192
2021	87,525	9,372	96,897
2022	85,177	8,994	94,171
2023	84,253	8,920	93,173
Thereafter	513,206	47,405	560,611
Total lease payments	875,492	88,023	963,515
Less: amount representing interest	(296,868)	(16,846)	(313,714)
Present value of lease liabilities	$ 578,624	$ 71,177	$ 649,801

The weighted-average remaining lease terms and discount rates related to the Company's leases were as follows:

	As of September 30, 2019
Weighted-average remaining lease term (in years)	
Finance leases	10.02
Operating leases	10.41
Weighted-average discount rate	
Finance leases	9.11%
Operating leases	4.01%

Please refer to Note O, "Additional Cash Flow Information," for cash flow impact of the Company's leases.

Additional Lease Information Related to the Application of ASC 840

The following information is disclosed in accordance with ASC 840, *Leases (Topic 840)* ("ASC 840"), which was applicable until December 31, 2018. As of December 31, 2018, future minimum commitments under the Company's real estate leases with initial terms of more than one year were as follows:

Year	Fan Pier Leases	San Diego Lease	Other Leases	Total Lease Commitments
		(in thousands)		
2019	$ 66,540	$ 5,324	$ 13,207	$ 85,071
2020	72,589	9,127	14,270	95,986
2021	72,589	9,127	12,529	94,245
2022	72,589	9,127	12,045	93,761
2023	72,589	9,530	11,952	94,071
Thereafter	389,855	119,864	65,472	575,191
Total minimum lease payments	$ 746,751	$ 162,099	$ 129,475	$ 1,038,325

As of December 31, 2018, the Company's total sublease income to be received related to its facility leases was $6.2 million. During the three and nine months ended September 30, 2018, rental expenses were $4.5 million and $13.3 million, respectively.

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As of December 31, 2018, the Company had capital leases for property and equipment of $94.8 million, related to which it had recorded $34.0 million of accumulated depreciation. The capital leases, which were related to equipment and leasehold improvements, bore interest at rates ranging from less than 1% to 6% per year. The Company's capital lease amortization was included in depreciation expense during the three and nine months ended September 30, 2018. The following table set forth the Company's future minimum payments due under capital leases as of December 31, 2018:

Year	(in thousands)
2019	$ 10,770
2020	7,282
2021	5,649
2022	3,300
2023	1,974
Thereafter	3,085
Total payments	32,060
Less: amount representing interest	(2,585)
Present value of payments	$ 29,475

L. Stock-based Compensation Expense and Share Repurchase Programs

Stock-based compensation expense

During the three and nine months ended September 30, 2019 and 2018, the Company recognized the following stock-based compensation expense:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in thousands)			
Stock-based compensation expense by type of award:				
Restricted stock and restricted stock units (including PSUs)	$ 61,175	$ 55,482	$ 185,651	$ 157,397
Stock options	21,737	27,234	76,053	81,880
ESPP share issuances	3,044	2,725	8,430	7,281
Stock-based compensation expense related to inventories	(536)	91	(1,236)	(454)
Total stock-based compensation included in costs and expenses	$ 85,420	$ 85,532	$ 268,898	$ 246,104
Stock-based compensation expense by line item:				
Cost of sales	$ 1,337	$ 1,259	$ 4,178	$ 3,263
Research and development expenses	52,504	52,918	167,851	153,018
Sales, general and administrative expenses	31,579	31,355	96,869	89,823
Total stock-based compensation included in costs and expenses	85,420	85,532	268,898	246,104
Income tax effect	(21,996)	3,114	(87,638)	(13,715)
Total stock-based compensation included in costs and expenses, net of tax	$ 63,424	$ 88,646	$ 181,260	$ 232,389

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The following table sets forth the Company's unrecognized stock-based compensation expense as of September 30, 2019, by type of award and the weighted-average period over which that expense is expected to be recognized:

	As of September 30, 2019	
	Unrecognized Expense	Weighted-average Recognition Period
	(in thousands)	(in years)
Type of award:		
Restricted stock and restricted stock units (including PSUs)	$ 409,425	2.27
Stock options	$ 153,686	2.64
ESPP share issuances	$ 3,321	0.46

The following table summarizes information about stock options outstanding and exercisable as of September 30, 2019:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted-average Remaining Contractual Life	Weighted-average Exercise Price	Number Exercisable	Weighted-average Exercise Price
	(in thousands)	(in years)	(per share)	(in thousands)	(per share)
$29.07–$40.00	186	1.47	$ 36.89	186	$ 36.89
$40.01–$60.00	379	2.73	$ 50.00	379	$ 50.00
$60.01–$80.00	299	4.62	$ 73.01	294	$ 72.96
$80.01–$100.00	2,183	6.41	$ 89.27	1,477	$ 89.78
$100.01–$120.00	597	5.37	$ 109.29	592	$ 109.25
$120.01–$140.00	707	5.89	$ 130.24	695	$ 130.35
$140.01–$160.00	1,203	8.34	$ 155.51	464	$ 155.41
$160.01–$180.00	803	8.61	$ 167.65	257	$ 163.59
$180.01–$189.38	1,733	9.12	$ 185.35	346	$ 184.58
Total	8,090	7.02	$ 128.89	4,690	$ 109.42

Share repurchase programs

In January 2018, the Company's Board of Directors approved a share repurchase program (the "2018 Share Repurchase Program"), pursuant to which the Company was authorized to repurchase up to $500.0 million of its common stock between February 1, 2018 and December 31, 2019. As of September 30, 2019, the Company had repurchased the entire $500.0 million it was authorized to repurchase of its common stock under the 2018 Share Repurchase Program. Under the 2018 Share Repurchase Program, the Company was authorized to purchase shares from time to time through open market or privately negotiated transactions. Such purchases were made pursuant to Rule 10b5-1 plans or other means as determined by the Company's management and in accordance with the requirements of the SEC.

During the nine months ended September 30, 2019, the Company repurchased 832,186 shares of its common stock under the 2018 Share Repurchase Program for an aggregate of $150.0 million including commissions and fees. During the nine months ended September 30, 2018, the Company repurchased 1,282,683 shares of its common stock under the 2018 Share Repurchase Program for an aggregate of $211.0 million including commissions and fees.

In July 2019, the Company's Board of Directors approved a new share repurchase program (the "2019 Share Repurchase Program"), pursuant to which the Company is authorized to repurchase up to $500.0 million of its common stock between August 1, 2019 and December 31, 2020. The Company expects to fund further repurchases of its common stock through a combination of cash on hand and cash generated by operations. During the nine months ended September 30, 2019, the Company repurchased 70,713 shares of its common stock under the 2019 Share Repurchase Program for an aggregate

of $12.0 million including commissions and fees. As of September 30, 2019, there is a total of $488.0 million remaining for repurchases under the 2019 Share Repurchase Program.

M. Income Taxes

The Company is subject to U.S. federal, state, and foreign income taxes. For the three and nine months ended September 30, 2019, the Company recorded provisions for income taxes of $13.1 million and $124.4 million, respectively. The Company's effective tax rate for the three and nine months ended September 30, 2019 is lower than the U.S. statutory rate primarily due to excess tax benefits related to stock-based compensation. The Company's provision for income taxes in 2019 has increased compared to historical amounts due to the release of the Company's valuation allowance on the majority of its net operating losses and other deferred tax assets as of December 31, 2018. Starting in 2019, the Company began recording a provision for income taxes on its pre-tax income using an estimated effective tax rate that approximates statutory rates. Due to the Company's ability to offset its pre-tax income against previously benefited net operating losses, it expects the majority of its tax provision to represent a non-cash expense until its net operating losses have been fully utilized.

During the three and nine months ended September 30, 2018, the Company's income taxes included excess tax benefits related to stock-based compensation, a provision for income taxes related to BioAxone's income taxes and the Company's U.S. state and foreign taxes.

As noted above, the Company released the valuation allowance on the majority of net operating losses and other deferred tax assets and maintained a valuation allowance of $168.5 million related primarily to U.S. state and foreign tax attributes as of December 31, 2018. On a periodic basis, the Company reassesses any valuation allowances that it maintains on its deferred tax assets, weighing positive and negative evidence to assess the recoverability of the deferred tax assets.

The Company has reviewed the tax positions taken, or to be taken, in its tax returns for all tax years currently open to examination by a taxing authority. Unrecognized tax benefits represent the aggregate tax effect of differences between tax return positions and the benefits recognized in the financial statements. As of September 30, 2019 and December 31, 2018, the Company had $29.4 million and $19.5 million, respectively, of gross unrecognized tax benefits, which would affect the Company's tax rate if recognized. The Company does not expect that its unrecognized tax benefits will materially increase within the next twelve months. The Company accrues interest and penalties related to unrecognized tax benefits as a component of its provision for income taxes. As of September 30, 2019, no significant interest or penalties were accrued. The Company did not recognize any material interest or penalties related to uncertain tax positions during the three and nine months ended September 30, 2019 and 2018.

As of September 30, 2019, foreign earnings, which were not significant, have been retained indefinitely by foreign subsidiaries for indefinite reinvestment. Upon repatriation of those earnings, in the form of dividends or otherwise, the Company could be subject to withholding taxes payable to the various foreign countries.

The Company files U.S. federal income tax returns and income tax returns in various state, local and foreign jurisdictions. The Company is no longer subject to any tax assessment from an income tax examination in the United States or any other major taxing jurisdiction for years before 2011, except where the Company has net operating losses or tax credit carryforwards that originate before 2011. The Company has various income tax audits ongoing at any time throughout the world. No significant adjustments have been reported for any jurisdiction under audit.

N. Commitments and Contingencies

Guaranties and Indemnifications

As permitted under Massachusetts law, the Company's Articles of Organization and By-laws provide that the Company will indemnify certain of its officers and directors for certain claims asserted against them in connection with their service as an officer or director. The maximum potential amount of future payments that the Company could be required to make under these indemnification provisions is unlimited. However, the Company has purchased directors' and officers' liability insurance policies that could reduce its monetary exposure and enable it to recover a portion of any future amounts paid. No indemnification claims currently are outstanding, and the Company believes the estimated fair value of these indemnification arrangements is minimal.

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The Company customarily agrees in the ordinary course of its business to indemnification provisions in agreements with clinical trial investigators and sites in its drug development programs, sponsored research agreements with academic and not-for-profit institutions, various comparable agreements involving parties performing services for the Company and its real estate leases. The Company also customarily agrees to certain indemnification provisions in its drug discovery, development and commercialization collaboration agreements. With respect to the Company's clinical trials and sponsored research agreements, these indemnification provisions typically apply to any claim asserted against the investigator or the investigator's institution relating to personal injury or property damage, violations of law or certain breaches of the Company's contractual obligations arising out of the research or clinical testing of the Company's compounds or drug candidates. With respect to lease agreements, the indemnification provisions typically apply to claims asserted against the landlord relating to personal injury or property damage caused by the Company, to violations of law by the Company or to certain breaches of the Company's contractual obligations. The indemnification provisions appearing in the Company's collaboration agreements are similar to those for the other agreements discussed above, but in addition provide some limited indemnification for its collaborator in the event of third-party claims alleging infringement of intellectual property rights. In each of the cases above, the indemnification obligation generally survives the termination of the agreement for some extended period, although the Company believes the obligation typically has the most relevance during the contract term and for a short period of time thereafter. The maximum potential amount of future payments that the Company could be required to make under these provisions is generally unlimited. The Company has purchased insurance policies covering personal injury, property damage and general liability that reduce its exposure for indemnification and would enable it in many cases to recover all or a portion of any future amounts paid. The Company has never paid any material amounts to defend lawsuits or settle claims related to these indemnification provisions. Accordingly, the Company believes the estimated fair value of these indemnification arrangements is minimal.

Other Contingencies

The Company has certain contingent liabilities that arise in the ordinary course of its business activities. The Company accrues a reserve for contingent liabilities when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. There were no material contingent liabilities accrued as of September 30, 2019 or December 31, 2018.

O. Additional Cash Flow Information

The cash, cash equivalents and restricted cash at the beginning and ending of each period presented in the Company's condensed consolidated statements of cash flows consisted of the following:

	Nine Months Ended September 30,			
	2019		2018	
	Beginning of period	End of period	Beginning of period	End of period
	(in thousands)			
Cash and cash equivalents	$ 2,650,134	$ 3,397,941	$ 1,665,412	$ 2,478,302
Prepaid expenses and other current assets	4,910	6,650	2,114	8,749
Other assets	3,209	—	—	—
Cash, cash equivalents and restricted cash per statement of cash flows	$ 2,658,253	$ 3,404,591	$ 1,667,526	$ 2,487,051

VERTEX PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(unaudited)

Supplemental cash flow information related to the Company's leases was as follows:

		Nine Months Ended September 30, 2019
		(in thousands)
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$	8,062
Operating cash flows from finance leases	$	37,667
Financing cash flows from finance leases	$	28,879
Right-of-use assets obtained in exchange for lease obligations		
Operating leases **	$	6,077
Finance leases	$	—

** Includes $5.4 million acquired in July 2019 pursuant to the Company's acquisition of Exonics.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

OVERVIEW

We invest in scientific innovation to create transformative medicines for people with serious diseases. Our business is focused on developing and commercializing therapies for the treatment of cystic fibrosis, or CF, and advancing our research and development programs in other serious diseases.

In the third quarter of 2019, our marketed products were SYMDEKO/SYMKEVI (tezacaftor in combination with ivacaftor), ORKAMBI (lumacaftor in combination with ivacaftor) and KALYDECO (ivacaftor), which were collectively approved to treat approximately half of the 75,000 cystic fibrosis, or CF, patients in North America, Europe and Australia. On October 21, 2019, our triple combination regimen TRIKAFTA™ (elexacaftor/tezacaftor/ivacaftor and ivacaftor) was approved by the United States Food and Drug Administration, or FDA, for the treatment of CF in patients 12 years of age and older who have at least one *F508del* mutation in the cystic fibrosis transmembrane conductance regulator, or CFTR, gene. This approval increases the number of patients eligible for our medicines in the United States by approximately 6,000 and provides an additional treatment option for many patients who are also eligible for one of our previously approved products. We have submitted a Marketing Authorization Application, or MAA, in Europe for this triple combination regimen. The FDA approval and the MAA filing were based on positive data from Phase 3 clinical trials evaluating the triple combination regimen in patients 12 years of age or older (i) who have a copy of the *F508del* mutation in their CFTR gene and a second mutation that results in minimal CFTR function, whom we refer to as *F508del/Min* patients; and (ii) who have two copies of the *F508del mutation*, whom we refer to as F508del homozygous patients. We are focused on obtaining approval for the triple combination in ex-U.S. markets for patients 12 years of age and older and evaluating our triple combination in younger patients with the goal of having treatments for up to 90% of patients with CF.

We also are progressing earlier-stage programs in alpha-1 antitrypsin deficiency, APOL1-mediated kidney diseases, beta thalassemia, sickle cell disease and pain. We recently enhanced our gene-editing capabilities by expanding our collaboration with CRISPR Therapeutics AG, or CRISPR, and acquiring Exonics Therapeutics, Inc., or Exonics, in order to support the development of novel therapies for duchenne muscular dystrophy, or DMD, and myotonic dystrophy type 1, or DM1. Additionally, we advanced our cell therapy capabilities by acquiring Semma Therapeutics, Inc., or Semma, in order to support the development of transformative therapies for type 1 diabetes.

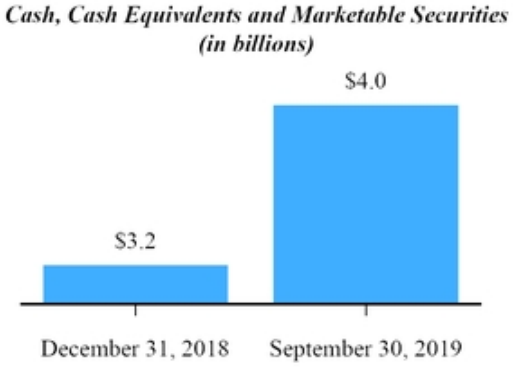
Financial Highlights

Revenues

In the third quarter of 2019, our net product revenues continued to increase due to the approval of our third CF medicine, SYMDEKO/SYMKEVI, in 2018 and continued strong net product revenues from KALYDECO and ORKAMBI.

Expenses

In the third quarter of 2019, combined R&D and SG&A expenses increased from $467.8 million in the third quarter of 2018 to $715.6 million primarily due to research expenses associated with our business development activities. In the third quarter of 2019, cost of sales was 14% of our net product revenues.



Balance Sheet

Business Highlights

Cystic Fibrosis

- Received approval from the FDA for TRIKAFTA for treatment of patients with CF 12 years of age and older who have at least one *F508del* mutation in October 2019.
- Submitted a MAA to the European Medicines Agency, or EMA, for the triple combination of elexacaftor, tezacaftor, and ivacaftor in patients 12 years of age and older.
- Enrollment ongoing in Phase 3 clinical trial evaluating elexacaftor, tezacaftor, and ivacaftor in children 6 to 11 years of age who have two *F508del* mutations or one *F508del* mutation and one minimal function mutation.
- Obtained a positive opinion from the EMA's Committee for Medicinal Products for Human Use for KALYDECO for infants as young as six months old.
- Obtained reimbursement of ORKAMBI and SYMDEKO/SYMKEVI for eligible patients in England, Australia, Scotland and Spain.

Expanding Pipeline

- In the fourth quarter of 2019, we plan to initiate a Phase 2 proof-of-concept clinical trial for VX-814, our first investigational oral small molecule corrector for the treatment of alpha-1 antitrypsin, or AAT, deficiency, in order to evaluate VX-814 in patients with AAT deficiency who have two copies of the Z mutation.
- A Phase 1 clinical trial of VX-864, a second investigational small molecule corrector for the treatment of AAT deficiency, is ongoing in healthy volunteers.
- A Phase 1 clinical trial evaluating VX-147, our first investigational oral small molecule for the treatment of APOL1-mediated focal segmental glomerulosclerosis, or FSGS, and other serious kidney diseases, in healthy volunteers is expected to be completed in the fourth quarter of 2019.
- Enrollment is ongoing in Phase 1/2 clinical trials evaluating CTX001 for the treatment of severe sickle cell disease and beta thalassemia. Along with our collaborator, CRISPR, we plan to provide the first clinical data from these trials in the fourth quarter of 2019, including measurements of safety and efficacy in patients with beta thalassemia and sickle cell disease.
- A Phase 1 clinical trial evaluating the investigational NaV1.8 inhibitor VX-961 for the treatment of pain in healthy volunteers is ongoing.

Business Development

- Acquired Semma in order to acquire its type 1 diabetes pre-clinical program in October 2019.
- Completed our acquisition of Exonics and our expanded collaboration with CRISPR, in order to expand into DMD and DM1 in July 2019.
- Established a strategic collaboration with Ribometrix, Inc. to discover and develop RNA-targeted small molecule therapeutic candidates for serious diseases in September 2019.

Transition

In July 2019, we announced that effective April 1, 2020, Dr. Jeffrey Leiden will transition to the role of Executive Chairman and Dr. Reshma Kewalramani will be appointed as our new Chief Executive Officer and President.

Research

We plan to continue investing in our research programs and fostering scientific innovation in order to identify and develop transformative medicines. We believe that pursuing research in diverse areas allows us to balance the risks inherent in drug development and may provide drug candidates that will form our pipeline in future years. To supplement our internal research programs, we collaborate with biopharmaceutical and technology companies, leading academic research institutions, government laboratories, foundations and other organizations as needed to advance research in our areas of therapeutic interest and to access technologies needed to execute on our strategy.

Drug Discovery and Development

Discovery and development of a new pharmaceutical product is a difficult and lengthy process that requires significant financial resources along with extensive technical and regulatory expertise. Potential drug candidates are subjected to rigorous

evaluations, driven in part by stringent regulatory considerations, designed to generate information concerning efficacy, side effects, proper dosage levels and a variety of other physical and chemical characteristics that are important in determining whether a drug candidate should be approved for marketing as a pharmaceutical product. Most chemical compounds that are investigated as potential drug candidates never progress into development, and most drug candidates that do advance into development never receive marketing approval. Because our investments in drug candidates are subject to considerable risks, we closely monitor the results of our discovery, research, clinical trials and nonclinical studies and frequently evaluate our drug development programs in light of new data and scientific, business and commercial insights, with the objective of balancing risk and potential. This process can result in abrupt changes in focus and priorities as new information becomes available and as we gain additional understanding of our ongoing programs and potential new programs, as well as those of our competitors.

If we believe that data from a completed registration program support approval of a drug candidate, we submit an NDA to the FDA requesting approval to market the drug candidate in the United States and seek analogous approvals from comparable regulatory authorities in jurisdictions outside the United States. To obtain approval, we must, among other things, demonstrate with evidence gathered in nonclinical studies and well-controlled clinical trials that the drug candidate is safe and effective for the disease it is intended to treat and that the manufacturing facilities, processes and controls for the manufacture of the drug candidate are adequate. The FDA and ex-U.S. regulatory authorities have substantial discretion in deciding whether or not a drug candidate should be granted approval based on the benefits and risks of the drug candidate in the treatment of a particular disease, and could delay, limit or deny regulatory approval. If regulatory delays are significant or regulatory approval is limited or denied altogether, our financial results and the commercial prospects for the drug candidate involved will be harmed.

Regulatory Compliance

Our marketing of pharmaceutical products is subject to extensive and complex laws and regulations. We have a corporate compliance program designed to actively identify, prevent and mitigate risk through the implementation of compliance policies and systems and through the promotion of a culture of compliance. Among other laws, regulations and standards, we are subject to various U.S. federal and state laws, and comparable laws in other jurisdictions, pertaining to health care fraud and abuse, including anti-kickback and false claims laws, and laws prohibiting the promotion of drugs for unapproved or off-label uses. Anti-kickback laws make it illegal for a prescription drug manufacturer to solicit, offer, receive or pay any remuneration to induce the referral of business, including the purchase or prescription of a particular drug that is reimbursed by a state or federal program. False claims laws prohibit anyone from knowingly or willfully presenting for payment to third-party payors, including Medicare and Medicaid, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. We are subject to laws and regulations that regulate the sales and marketing practices of pharmaceutical manufacturers, as well as laws such as the U.S. Foreign Corrupt Practices Act, which govern our international business practices with respect to payments to government officials. We expect to continue to devote substantial resources to maintain, administer and expand these compliance programs globally.

Reimbursement

Sales of our products depend, to a large degree, on the extent to which our products are reimbursed by third-party payors, such as government health programs, commercial insurance and managed health care organizations. We dedicate substantial management and other resources in order to obtain and maintain appropriate levels of reimbursement for our products from third-party payors, including governmental organizations in the United States and ex-U.S. markets.

In the United States, we have worked successfully with third party payors in order to promptly obtain appropriate levels of reimbursement for our first three CF medicines and have begun working with these stakeholders to obtain reimbursement for TRIKAFTA. We plan to continue to engage in discussions with numerous commercial insurers and managed health care organizations, along with government health programs that are typically managed by authorities in the individual states, to ensure that payors recognize the significant benefits that our medicines provide by treating the underlying cause of cystic fibrosis and continue to provide access to our medicines.

In Europe and other ex-U.S. markets, we seek government reimbursement for our medicines on a country-by-country basis. This is necessary for each new medicine, as well as label expansions for our current medicines in most countries. We successfully obtained reimbursement for KALYDECO in each significant ex-U.S. market within two years of approval. We experienced significant challenges in obtaining reimbursement for ORKAMBI in certain ex-U.S. markets. In the fourth quarter of 2019, we obtained reimbursement for ORKAMBI and SYMKEVI in England, four years after ORKAMBI’s initial approval in 2015. With this approval, we now have obtained reimbursement for ORKAMBI or SYMKEVI in most of our significant markets. Many patients in France are receiving ORKAMBI through an early access program while we continue to

negotiate the reimbursement arrangements for this medicine with the French Government. In some ex-U.S. markets, our reimbursement agreements include innovative arrangements that provide a pathway to access and rapid reimbursement for certain future CF medicines, including arrangements in Ireland, Denmark and Australia. We recently filed a MAA with the EMA for the triple combination regimen of elexacaftor, tezacaftor and ivacaftor and, if approved, we would need to seek government reimbursement on a country-by-country basis.

Strategic Transactions

As part of our business strategy, we seek to license or acquire drugs, drug candidates and other technologies that have the potential to complement our ongoing research and development efforts in CF, access emerging technologies and license or acquire pipeline assets with a focus on early-stage assets. In addition, we establish business relationships with collaborators to support our research activities and to lead or support development and/or commercialization of certain drug candidates.

Since the beginning of 2018, we have invested significantly in business development transactions designed to augment our pipeline. We expect to continue to evaluate potential acquisitions and collaborations that may be similar to or different from the transactions that we have engaged in previously.

Acquisitions

In July 2019, we completed our acquisition of Exonics, a privately-held company focused on creating transformative gene-editing therapies to repair mutations that cause DMD and other severe neuromuscular diseases, including DM1. Our acquisition of Exonics enhanced our gene-editing capabilities and supports the development of novel therapies for DMD and DM1. In connection with the acquisition, we acquired all of the outstanding equity of Exonics for an upfront payment of approximately $245.0 million plus customary working capital adjustments in cash, and certain potential future payments based primarily upon the successful achievement of specified development and regulatory milestones for the DMD and DM1 programs.

In October 2019, we completed our acquisition of Semma, a privately-held company focused on the use of stem cell-derived human islets as a potentially curative treatment for type 1 diabetes. Our acquisition of Semma advanced our cell therapy capabilities and supports the development of transformative therapies for type 1 diabetes. In connection with the acquisition, we acquired all of the outstanding equity of Semma for approximately $950 million in cash.

Our Exonics acquisition was accounted for as a business combination in the third quarter of 2019. The upfront payment and fair value of contingent consideration as of the acquisition date for Exonics was allocated primarily to goodwill. We recorded the fair value of Exonics' DMD/DM1 programs as an in-process research and development asset. The fair value of contingent consideration was recorded as a liability and will be adjusted on a quarterly basis in the future. As a result, the acquisition of Exonics is primarily reflected in additional assets and liabilities on our condensed consolidated balance sheet. Operating expenses incurred by Exonics after the acquisition date and specific expenses associated with the acquisition are reflected in our condensed statements of operations for the three and nine months ended September 30, 2019.

Our acquisition of Semma is expected to be accounted for as a business combination in the fourth quarter of 2019. We expect that the Semma acquisition will result in significant additional assets allocated either to goodwill or to in-process research and development assets as of December 31, 2019. In addition, Semma operating expenses after the acquisition date and specific expenses association with the Semma acquisition will be reflected in our condensed statements of operations.

In-License Agreements

We have entered into collaborations with biotechnology and pharmaceutical companies in order to acquire rights or to license drug candidates or technologies that enhance our pipeline and/or our research capabilities. Over the last several years, we entered into collaboration agreements with:

- CRISPR, pursuant to which we have been collaborating since 2015 on the discovery and development of potential new treatments aimed at the underlying genetic causes of human diseases using CRISPR-Cas9 gene-editing technology. In the third quarter of 2019, we obtained the exclusive worldwide rights to CRISPR's intellectual property for DMD and DM1 gene-editing products through a new agreement with CRISPR.
- Kymera Therapeutics, pursuant to which we are looking to advance small molecule protein degraders against multiple targets.
- Arbor Biotechnologies, Inc., or Arbor, pursuant to which we are collaborating on the discovery of novel proteins, including DNA endonucleases, to advance the development of new gene-editing therapies.

Generally, when we in-license a technology or drug candidate, we make upfront payments to the collaborator, assume the costs of the program and agree to make contingent payments, which could consist of milestone, royalty and option payments. Most of these collaboration payments are expensed as research and development expenses; however, depending on many factors, including the structure of the collaboration, the significance of the drug candidate that we license to the collaborator's operations and the other activities in which our collaborators are engaged, the accounting for these transactions can vary significantly. In the nine months ended September 30, 2019, our research and development expenses included $261.6 million related to upfront and milestones payments pursuant to our collaboration agreements. In the nine months ended September 30, 2018, upfront and milestone payments pursuant to our collaboration agreements were not a significant component of our research and development expenses.

Out-License Agreements

We also have out-licensed internally developed programs to collaborators who are leading the development of these programs. These out-license arrangements include our collaboration agreements with:

- Janssen Pharmaceuticals, Inc., or Janssen, which is evaluating pimodivir in Phase 3 clinical trials for the treatment of influenza; and
- Merck KGaA, Darmstadt, Germany, which licensed oncology research and development programs from us in early 2017.

Pursuant to these out-licensing arrangements, our collaborators are responsible for the research, development and commercialization costs associated with these programs, and we are entitled to receive contingent milestone and/or royalty payments. As a result, we do not expect to incur significant expenses in connection with these programs and have the potential for future collaborative and royalty revenues resulting from these programs.

Please refer to Note C, "Collaborative Arrangements and Acquisitions," for further information regarding our VIEs, acquisitions, in-license agreements and out-license agreements. For additional information regarding our VIEs, see our critical accounting policies in our 2018 Annual Report on Form 10-K.

Strategic Investments

In connection with our business development activities, we have periodically made equity investments in our collaborators. As of September 30, 2019 and December 31, 2018, we held strategic equity investments in CRISPR and Moderna, Inc., or Moderna, both public companies, as well as certain private companies, and we plan to make additional strategic equity investments in the future. While we invest the majority of our cash, cash equivalents and marketable securities in instruments that meet specific credit quality standards and limit our exposure to any one issue or type of instrument, our strategic investments are maintained and managed separately from our other cash, cash equivalents and marketable securities. Any changes in the fair value of equity investments with readily determinable fair values (including publicly traded securities such as CRISPR and Moderna) are recorded to other income (expense), net in our condensed consolidated statement of operations. For equity investments without readily determinable fair values (including private equity investments), each reporting period we are required to re-evaluate the carrying value of the investment, which may result in other income (expense).

In the nine months ended September 30, 2019 and 2018, we recorded within other income (expense), unrealized gains of $68.9 million and $88.2 million, respectively, related to increases in the fair value of our strategic investments, which were included in our net income attributable to Vertex. To the extent that we continue to hold strategic investments, particularly strategic investments in publicly traded companies, we will record other income (expense) related to these strategic investments on a quarterly basis. Due to the high volatility of stocks in the biotechnology industry, we expect the value of these strategic investments to fluctuate and that the increases or decreases in the fair value of these strategic investments will continue to have material impacts on our net income (expense) and our profitability on a quarterly and/or annual basis.

RESULTS OF OPERATIONS

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Revenues	$ 949,828	$ 784,535	$ 165,293	21 %	$ 2,749,556	$ 2,177,491	$ 572,065	26%
Operating costs and expenses	850,495	578,886	271,609	47 %	2,103,455	1,670,063	433,392	26%
Other non-operating (expense) income, net	(28,667)	(68,848)	40,181	(58)%	71,868	44,678	27,190	61%
Provision for income taxes	13,148	8,055	**	**	124,393	5,737	**	**
Net income attributable to Vertex	$ 57,518	$ 128,746	$ (71,228)	(55)%	$ 593,576	$ 546,369	$ 47,207	9%
Net income per diluted share attributable to Vertex common shareholders	$ 0.22	$ 0.50			$ 2.28	$ 2.11		
Diluted shares used in per share calculations	260,473	259,788			260,182	258,972		

** Not meaningful

Net Income Attributable to Vertex

Net income attributable to Vertex was $57.5 million in the third quarter of 2019 as compared to net income attributable to Vertex of $128.7 million in the third quarter of 2018. Our total revenues increased in the third quarter of 2019 as compared to the third quarter of 2018 due to a $167.3 million increase in net product revenues. The increase in operating costs and expenses in the third quarter of 2019 as compared to the third quarter of 2018 was primarily due to a $175.0 million upfront payment we made in the third quarter of 2019 pursuant to our collaboration agreement with CRISPR (which is included in research expenses), as well as increased cost of sales associated with our increasing net product revenues and increases in other expenses.

Net income attributable to Vertex was $593.6 million in the nine months ended September 30, 2019 as compared to net income attributable to Vertex of $546.4 million in the nine months ended September 30, 2018. Our total revenues increased in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018 due to a $577.3 million increase in net product revenues. The increase in operating costs and expenses in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018 was primarily due to a total of $225.0 million in upfront payments we made in 2019 pursuant to our collaboration agreements with CRISPR and Kymera (which are included in research expenses), as well as increased cost of sales associated with our increasing net product revenues and increases in other expenses.

Other non-operating (expense) income, net in the third quarter of 2019 and in the third quarter of 2018 primarily related to total unrealized losses associated with decreases in the fair value of our strategic investments. Other non-operating (expense) income, net in the nine months ended September 30, 2019 and in the nine months ended September 30, 2018 primarily related to total unrealized gains associated with increases in the fair value of our strategic investments.

In the first quarter of 2019, we began recording a provision for income taxes based primarily on our pre-tax income using an estimated effective tax rate that approximates statutory rates, resulting in a provision for income taxes of $13.1 million and $124.4 million for the third quarter and nine months ended September 30, 2019, respectively. Due to our ability to offset our pre-tax income against previously benefited net operating losses, the majority of our tax provision in 2019 is a non-cash expense. In the third quarter and nine months ended September 30, 2018, we did not record a similar provision for income taxes based on our pre-tax income because we did not release our tax valuation allowance until the fourth quarter of 2018.

Earnings Per Share

Diluted net income per share attributable to Vertex common shareholders was $0.22 in the third quarter of 2019 as compared to diluted net income per share attributable to Vertex common shareholders of $0.50 in the third quarter of 2018.

Diluted net income per share attributable to Vertex common shareholders was $2.28 in the nine months ended September 30, 2019 as compared to diluted net income per share attributable to Vertex common shareholders of $2.11 in the nine months ended September 30, 2018.

Revenues

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Product revenues, net	$ 949,828	$ 782,511	$ 167,317	21%	$ 2,747,461	$ 2,170,152	$ 577,309	27 %
Collaborative and royalty revenues	—	2,024	**	**	2,095	7,339	(5,244)	(71)%
Total revenues	$ 949,828	$ 784,535	$ 165,293	21%	$ 2,749,556	$ 2,177,491	$ 572,065	26 %

** Not meaningful

Product Revenues, Net

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
SYMDEKO/SYMKEVI	$ 403,714	$ 254,919	$ 148,795	58%	$ 1,085,821	$ 474,601	$ 611,220	129 %
ORKAMBI	296,711	281,859	14,852	5%	906,159	947,186	(41,027)	(4)%
KALYDECO	249,403	245,733	3,670	1%	755,481	748,365	7,116	1 %
Total product revenues, net	$ 949,828	$ 782,511	$ 167,317	21%	$ 2,747,461	$ 2,170,152	$ 577,309	27 %

In the third quarter and nine months ended September 30, 2019, our net product revenues increased by $167.3 million and $577.3 million, respectively, as compared to the third quarter and nine months ended September 30, 2018. The increase in net product revenues was primarily due to the increasing number of patients being treated with SYMDEKO/SYMKEVI in both the United States and European Union. We expect our net product revenues to increase in the fourth quarter of 2019 as compared to the third quarter of 2019 as a result of the recent U.S. approval of TRIKAFTA.

SYMDEKO/SYMKEVI

SYMDEKO/SYMKEVI net product revenues were $403.7 million and $1.09 billion in the third quarter and nine months ended September 30, 2019, respectively, as compared to $254.9 million and $474.6 million in the third quarter and nine months ended September 30, 2018, respectively. SYMDEKO was approved by the FDA in February 2018 and SYMKEVI was approved in the European Union in November 2018. In the third quarter and nine months ended September 30, 2019, SYMDEKO/SYMKEVI net product revenues were $54.7 million and $132.4 million, respectively, in ex-U.S. markets.

ORKAMBI

We have continued to increase the number of patients eligible for ORKAMBI through label expansions and additional ex-U.S. reimbursement arrangements. These increases in eligible patients have partially offset the negative effect on ORKAMBI net product revenues resulting from a portion of the patients who were being treated with ORKAMBI switching to SYMDEKO/SYMKEVI. Due primarily to patients switching from ORKAMBI to SYMDEKO in the United States, ORKAMBI net product revenues decreased by 4% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018. In the third quarter and nine months ended September 30, 2019, ORKAMBI net product revenues were $296.7 million and $906.2 million, respectively, including $98.2 million and $287.7 million, respectively, of net product revenues from ex-U.S. markets, compared to ORKAMBI net product revenues of $281.9 million and $947.2 million in the third quarter and nine months ended September 30, 2018, respectively, including $73.0 million and $220.5 million, respectively, of net product revenues from ex-U.S. markets. We have received significant cash and recognized limited net product revenues to date on sales of ORKAMBI supplied under early access programs in France due to ongoing pricing discussions regarding the reimbursement rate for ORKAMBI. Please refer to Note B, “Revenue Recognition,” for a discussion of our accounting treatment for our early access program for ORKAMBI in France.

KALYDECO

In the third quarter and nine months ended September 30, 2019, KALYDECO net product revenues were $249.4 million and $755.5 million, respectively, including $86.6 million and $277.5 million, respectively, of net product revenues from ex-U.S. markets, compared to KALYDECO net product revenues of $245.7 million and $748.4 million in the third quarter and nine months ended September 30, 2018, respectively, including $90.9 million and $268.7 million, respectively, of net product revenues from ex-U.S. markets. KALYDECO net product revenues were similar in the third quarter and nine months ended September 30, 2019 to the third quarter and nine months ended September 30, 2018 due to additional patients being treated

with KALYDECO as we completed reimbursement discussions in various ex-U.S. jurisdictions and increased the number of patients eligible to receive KALYDECO through label expansions, offset by a portion of the patients who were being treated with KALYDECO switching to SYMDEKO in the United States.

Collaborative and Royalty Revenues

We did not record any collaborative and royalty revenues in the third quarter of 2019. In the nine months ended September 30, 2019, our collaborative and royalty revenues were $2.1 million. Our collaborative and royalty revenues were $2.0 million in the third quarter of 2018 and $7.3 million in the nine months ended September 30, 2018. Our collaborative revenues have historically fluctuated significantly from one period to another and may continue to fluctuate in the future. Our future royalty revenues will be dependent on if, and when, our collaborators, including Janssen and Merck KGaA, Darmstadt, Germany are able to successfully develop drug candidates that we have out-licensed to them.

Operating Costs and Expenses

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Cost of sales	$ 131,914	$ 111,255	$ 20,659	19%	$ 362,746	$ 287,250	$ 75,496	26%
Research and development expenses	555,948	330,510	225,438	68%	1,274,529	978,595	295,934	30%
Sales, general and administrative expenses	159,674	137,295	22,379	16%	463,221	404,406	58,815	15%
Change in fair value of contingent consideration	2,959	—	2,959	**	2,959	—	2,959	**
Restructuring income	—	(174)	174	**	—	(188)	188	**
Total costs and expenses	$ 850,495	$ 578,886	$ 271,609	47%	$ 2,103,455	$ 1,670,063	$ 433,392	26%

** Not Meaningful

Cost of Sales

Our cost of sales primarily consists of the cost of producing inventories that corresponded to product revenues for the reporting period, plus the third-party royalties payable on our net sales of our products. Pursuant to our agreement with the CFF, our tiered third-party royalties on sales of SYMDEKO/SYMKEVI, ORKAMBI and KALYDECO, calculated as a percentage of net sales, range from the single digits to the sub-teens. As a result of the tiered royalty rate, which resets annually, our cost of sales as a percentage of net product revenues are lower at the beginning of each calendar year.

Over the last several years, our cost of sales has been increasing primarily due to increased net product revenues. Our cost of sales as a percentage of our net product revenues was approximately 14% in each of the third quarter of 2018 and 2019. Our cost of sales as a percentage of our net product revenues was approximately 13% in each of the nine months ended September 30, 2018 and 2019. In the fourth quarter of 2019, we expect our total cost of sales to be similar to our cost of sales as a percentage of total net product revenues in the third quarter of 2019.

Research and Development Expenses

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Research expenses	$ 302,418	$ 83,701	$ 218,717	261%	$ 537,509	$ 247,656	$ 289,853	117%
Development expenses	253,530	246,809	6,721	3%	737,020	730,939	6,081	1%
Total research and development expenses	$ 555,948	$ 330,510	$ 225,438	68%	$ 1,274,529	$ 978,595	$ 295,934	30%

Our research and development expenses include internal and external costs incurred for research and development of our drugs and drug candidates and expenses related to certain technology that we acquire or license through business development transactions. We do not assign our internal costs, such as salary and benefits, stock-based compensation expense, laboratory supplies and other direct expenses and infrastructure costs, to individual drugs or drug candidates, because the employees within our research and development groups typically are deployed across multiple research and development programs. These internal costs are significantly greater than our external costs, such as the costs of services provided to us by clinical

research organizations and other outsourced research, which we allocate by individual program. All research and development costs for our drugs and drug candidates are expensed as incurred.

Since January 2017, we have incurred approximately $4.0 billion in research and development expenses associated with drug discovery and development. The successful development of our drug candidates is highly uncertain and subject to a number of risks. In addition, the duration of clinical trials may vary substantially according to the type, complexity and novelty of the drug candidate and the disease indication being targeted. The FDA and comparable agencies in foreign countries impose substantial requirements on the introduction of therapeutic pharmaceutical products, typically requiring lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures. Data obtained from nonclinical and clinical activities at any step in the testing process may be adverse and lead to discontinuation or redirection of development activities. Data obtained from these activities also are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The duration and cost of discovery, nonclinical studies and clinical trials may vary significantly over the life of a project and are difficult to predict. Therefore, accurate and meaningful estimates of the ultimate costs to bring our drug candidates to market are not available.

In 2018 and the nine months ended September 30, 2019, costs related to our CF programs represented the largest portion of our development costs. Any estimates regarding development and regulatory timelines for our drug candidates are highly subjective and subject to change. Until we have data from Phase 3 clinical trials, we cannot make a meaningful estimate regarding when, or if, a clinical development program will generate revenues and cash flows. In October 2019, we obtained approval for TRIKAFTA and we recently submitted a MAA to the EMA for the triple combination regimen of elexacaftor, tezacaftor and ivacaftor.

Research Expenses

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Research Expenses:								
Salary and benefits	$ 33,767	$ 21,745	$ 12,022	55 %	$ 80,644	$ 67,078	$ 13,566	20%
Stock-based compensation expense	16,170	16,462	(292)	(2)%	50,843	47,503	3,340	7%
Outsourced services and other direct expenses	27,721	21,548	6,173	29 %	78,707	65,409	13,298	20%
Collaboration and asset acquisition payments	198,979	1,791	197,188	**	251,179	4,350	246,829	**
Infrastructure costs	25,781	22,155	3,626	16 %	76,136	63,316	12,820	20%
Total research expenses	$ 302,418	$ 83,701	$ 218,717	261 %	$ 537,509	$ 247,656	$ 289,853	117%

** Not meaningful

We expect to continue to invest in our research programs with a focus on identifying drug candidates with the goal of creating transformative medicines for serious diseases. Our research expenses increased by 261% in the third quarter of 2019 as compared to the third quarter of 2018 primarily as a result of a $175.0 million upfront payment to CRISPR in the third quarter of 2019, as well as expenses related to additional headcount in our research organization and increased infrastructure costs. The increase of 117% in our research expenses for the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018 also included a $50.0 million upfront payment to Kymera in the second quarter of 2019. The increase in salary and benefits during the third quarter and nine months ended September 30, 2019 was primarily related to costs associated with our acquisition of Exonics. Our research expenses have been affected, and are expected to continue to be affected, by research expenses associated with our business development activities.

Development Expenses

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Development Expenses:								
Salary and benefits	$ 59,552	$ 56,417	$ 3,135	6 %	$ 178,254	$ 167,208	$ 11,046	7 %
Stock-based compensation expense	36,334	36,456	(122)	— %	117,008	105,515	11,493	11 %
Outsourced services and other direct expenses	103,868	104,892	(1,024)	(1)%	281,997	319,582	(37,585)	(12)%
Collaboration and asset acquisition payments	5,000	—	5,000	**	10,440	250	10,190	**
Drug supply costs	3,571	12,301	(8,730)	(71)%	16,911	32,014	(15,103)	(47)%
Infrastructure costs	45,205	36,743	8,462	23 %	132,410	106,370	26,040	24 %
Total development expenses	$ 253,530	$ 246,809	$ 6,721	3 %	$ 737,020	$ 730,939	$ 6,081	1 %

** Not meaningful

Our development expenses increased by 3% in the third quarter of 2019 as compared to the third quarter of 2018 and increased by 1% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018, primarily due to increased headcount and infrastructure costs to support our advancing pipeline and increased milestones related to our collaborative agreements offset by decreased expenses related to our CF programs.

Sales, General and Administrative Expenses

	Three Months Ended September 30,		Increase/(Decrease)		Nine Months Ended September 30,		Increase/(Decrease)	
	2019	2018	$	%	2019	2018	$	%
	(in thousands)				(in thousands)			
Sales, general and administrative expenses	$ 159,674	$ 137,295	$ 22,379	16%	$ 463,221	$ 404,406	$ 58,815	15%

Sales, general and administrative expenses increased by 16% in the third quarter of 2019 as compared to the third quarter of 2018 and increased by 15% in the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018, primarily due to increased global support for our medicines and incremental investment to support the launch of our triple combination regimen.

Contingent Consideration

The increase in the fair value of contingent consideration in the third quarter and nine months ended September 30, 2019 was $3.0 million. The change in fair value of contingent consideration relates to contingent development and regulatory milestone payments resulting from the acquisition of Exonics in the third quarter of 2019. There were no similar amounts for the third quarter and nine months ended September 30, 2018.

Other Non-Operating Income (Expense), Net

Interest Income

Interest income increased from $10.5 million in the third quarter of 2018 to $17.6 million in the third quarter of 2019 primarily due to an increase in our cash equivalents and marketable securities. Interest income increased from $24.4 million in the nine months ended September 30, 2018 to $51.3 million in the nine months ended September 30, 2019 primarily due to an increase in our cash equivalents and marketable securities and prevailing market interest rates. Our future interest income will be dependent on the amount of, and prevailing market interest rates on, our outstanding cash equivalents and marketable securities.

Interest Expense

Interest expense was $14.5 million and $44.3 million in the third quarter and nine months ended September 30, 2019, respectively, compared to $18.7 million and $53.7 million in the third quarter and nine months ended September 30, 2018, respectively. The majority of our interest expense in these periods was related to imputed interest expense associated with our leased corporate headquarters in Boston and our research site in San Diego. On January 1, 2019, we adopted ASC 842,

Leases, which resulted in a reduction in our imputed interest expense associated with these leases in the third quarter and nine months ended September 30, 2019 as compared to the third quarter and nine months ended September 30, 2018. We expect similar reductions in our imputed interest expense associated with these leases in the initial years subsequent to the adoption of this accounting guidance as compared to the amounts that were recorded in accordance with the previously applicable guidance. In addition to the updated accounting guidance, our future interest expense will also be dependent on whether, and to what extent, we borrow amounts under our credit facility.

Other Income (Expense), Net

Other income (expense), net was an expense of $31.7 million and income of $64.8 million in the third quarter and nine months ended September 30, 2019, respectively, compared to an expense of $61.0 million and income of $89.7 million in the third quarter and nine months ended September 30, 2018, respectively. Our other income (expense), net in these periods is primarily related to changes in the fair value of our strategic investments. The value of these strategic investments has fluctuated significantly in the past and we expect our other income (expense), net to continue to fluctuate in future periods based on increases or decreases in the fair value of our strategic investments.

Noncontrolling Interest

The net income attributable to noncontrolling interest recorded on our condensed consolidated statements of operations reflects our VIE's net (income) loss for the reporting period adjusted for any changes in the noncontrolling interest holders' claim to net assets, including contingent milestone, royalty and option payments. As of December 31, 2018, we deconsolidated BioAxone and had no noncontrolling interest in the third quarter and nine months ended September 30, 2019 as a result. In the third quarter and nine months ended September 30, 2018, we recorded a net loss attributable to noncontrolling interest of $0.3 million and net income attributable to noncontrolling interest of $15.6 million, respectively.

Income Taxes

In the third quarter of 2019, we recorded a provision for income taxes of $13.1 million as compared to a provision for income taxes of $8.1 million in the third quarter of 2018. In the nine months ended September 30, 2019, we recorded a provision for income taxes of $124.4 million as compared to a provision for income taxes of $5.7 million in the nine months ended September 30, 2018. Our effective tax rate for the nine months ended September 30, 2019 is lower than the U.S. statutory rate primarily due to excess tax benefits related to stock-based compensation. The change in our provision for income taxes in the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018 was primarily due to the release of our valuation allowance on the majority of our net operating losses and other deferred tax assets in the fourth quarter of 2018. Starting in 2019, we began recording a provision for income taxes on our pre-tax income using an estimated effective tax rate that approximates statutory rates. Due to our ability to offset our pre-tax income against previously benefited net operating losses, we expect the majority of our tax provision to represent a non-cash expense until our net operating losses have been fully utilized.

The provision for income taxes in the third quarter of 2018 and provision for income taxes for the nine months ended September 30, 2018 primarily related to excess tax benefits associated with stock-based compensation, a provision for income taxes attributable to noncontrolling interest and our U.S. state and foreign taxes.

LIQUIDITY AND CAPITAL RESOURCES

The following table summarizes the components of our financial condition as of September 30, 2019 and December 31, 2018:

	September 30, 2019	December 31, 2018	Increase/(Decrease) $	Increase/(Decrease) %
	(in thousands)			
Cash, cash equivalents and marketable securities	$ 3,996,331	$ 3,168,242	$ 828,089	26%
Working Capital				
Total current assets	4,777,094	3,843,109	933,985	24%
Total current liabilities	(1,388,894)	(1,120,292)	268,602	24%
Total working capital	$ 3,388,200	$ 2,722,817	$ 665,383	24%

As of September 30, 2019, total working capital was $3.4 billion, which represented an increase of $665 million from $2.7 billion as of December 31, 2018. The most significant items that increased total working capital in the nine months ended September 30, 2019 were $1.1 billion of cash provided by operations and a $68.9 million increase in the fair value of our strategic investments partially offset by approximately $245.8 million of cash used to acquire Exonics. We also used cash

of $156.0 million to repurchase our common stock, which was offset by cash of $144.6 million we received from issuance of common stock under our employee benefit plans.

Sources of Liquidity

As of September 30, 2019, we had cash, cash equivalents and marketable securities of $4.0 billion, which represented an increase of $828 million from $3.2 billion as of December 31, 2018. We intend to rely on our existing cash, cash equivalents and marketable securities together with cash flows from product sales as our primary source of liquidity. Future cash flows will be dependent on, among other things, the timing of and our ability to complete reimbursement discussions in certain European countries and, if and when, we obtain approval for a triple combination regimen in Europe.

We may borrow up to $500.0 million pursuant to a revolving credit facility that we entered into in September 2019. We may repay and reborrow amounts under the revolving credit agreement without penalty. Subject to certain conditions, we may request that the borrowing capacity under this credit agreement be increased by an additional $500.0 million, up to a total of $1.0 billion.

In the nine months ended September 30, 2019, we received significant proceeds from the issuance of common stock under our employee benefit plans, but the amount and timing of future proceeds from employee benefits plans is uncertain. Other possible sources of future liquidity include strategic collaborative agreements that include research and/or development funding, commercial debt, public and private offerings of our equity and debt securities, development milestones and royalties on sales of products, software and equipment leases, strategic sales of assets or businesses and financial transactions. Negative covenants in our credit agreement may prohibit or limit our ability to access these sources of liquidity.

Future Capital Requirements

We have significant future capital requirements, including:

- significant expected operating expenses to conduct research and development activities and to operate our organization; and
- substantial facility and capital lease obligations, including leases for two buildings in Boston, Massachusetts that continue through 2028 and a lease in San Diego, California that continues through 2034.

In addition,

- Once we conclude our ongoing pricing discussions with the French government, we expect we will be required to repay a portion of the amounts we have collected under ORKAMBI early access programs in France to the French government based on the difference between the invoiced price of ORKAMBI and the final price for ORKAMBI in France.
- We have entered into certain collaboration agreements with third parties that include the funding of certain research, development and commercialization efforts with the potential for future milestone and royalty payments by us upon the achievement of pre-established developmental and regulatory targets and/or commercial targets, and we may enter into additional business development transactions, including acquisitions, collaborations and equity investments, that require additional capital.
- To the extent we borrow amounts under the credit agreement we entered into in September 2019, we would be required to repay any outstanding principal amounts in 2024.
- In August 2019, we entered into an agreement to acquire Semma. In connection with the closing of this transaction in October 2019, we paid Semma’s equity holders approximately $950.0 million in cash.

In January 2018, we announced a share repurchase program to repurchase up to $500.0 million of shares of our common stock through December 31, 2019. As of September 30, 2019, we had repurchased the entire $500.0 million of our common stock that was authorized under the 2018 share repurchase program. In July 2019, we announced a new share repurchase program, pursuant to which we are authorized to repurchase up to $500.0 million of our common stock between August 1, 2019 and December 31, 2020. As of September 30, 2019, we have purchased $12.0 million of our common stock pursuant to the new share repurchase program.

We expect that cash flows from our products together with our current cash, cash equivalents and marketable securities will be sufficient to fund our operations for at least the next twelve months. The adequacy of our available funds to meet our future operating and capital requirements will depend on many factors, including the amounts of future revenues generated by products, including TRIKAFTA, which was recently approved in the United States, the potential introduction of one or more of our other drug candidates to the market, the level of our business development activities and the number, breadth, cost and prospects of our research and development programs.

Financing Strategy

We may raise additional capital by borrowing under credit agreements, through public offerings or private placements of our securities or securing new collaborative agreements or other methods of financing. We will continue to manage our capital structure and will consider all financing opportunities, whenever they may occur, that could strengthen our long-term liquidity profile. There can be no assurance that any such financing opportunities will be available on acceptable terms, if at all.

CONTRACTUAL COMMITMENTS AND OBLIGATIONS

Our commitments and obligations were reported in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission, or SEC, on February 13, 2019. There have been no material changes from the contractual commitments and obligations previously disclosed in that Annual Report on Form 10-K other than (i) additional potential future milestone and royalty payments upon the achievement of pre-established developmental and regulatory targets and/or commercial targets pursuant to business development transactions that we entered into in 2019, (ii) an aggregate of approximately $420.0 million in payments we made to CRISPR and shareholders of Exonics in connection with business development transactions that closed in July 2019, and (iii) approximately $950.0 million that we paid in connection with the closing of our acquisition of Semma in October 2019.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our discussion and analysis of our financial condition and results of operations is based upon our condensed consolidated financial statements prepared in accordance with generally accepted accounting principles in the United States. The preparation of these financial statements requires us to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reported periods. These items are monitored and analyzed by management for changes in facts and circumstances, and material changes in these estimates could occur in the future. Changes in estimates are reflected in reported results for the period in which the change occurs. We base our estimates on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from our estimates if past experience or other assumptions do not turn out to be substantially accurate. During the nine months ended September 30, 2019, there were no material changes to our critical accounting policies as reported in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 13, 2019, except as set forth below:

Acquisition

In connection with our acquisition of Exonics in the third quarter of 2019, we recorded a single in-process research and development asset of $13.0 million, goodwill of $397.1 million and a contingent consideration liability of $172.0 million. Goodwill reflects the difference between the fair value of the consideration transferred and the fair value of the net assets acquired. The fair value of the in-process research and development asset and contingent consideration was determined through a discounted cash flow analysis, which required management to make significant judgments and estimates. Please refer to Note C, “Collaborative Arrangements and Acquisitions,” for further information.

RECENT ACCOUNTING PRONOUNCEMENTS

For a discussion of recent accounting pronouncements, please refer to Note A, “Basis of Presentation and Accounting Policies.”

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As part of our investment portfolio, we own financial instruments that are sensitive to market risks. The investment portfolio is used to preserve our capital until it is required to fund operations, including our research and development activities. None of these market risk-sensitive instruments are held for trading purposes. We do not have derivative financial instruments in our investment portfolio.

Interest Rate Risk

We invest our cash in a variety of financial instruments, principally securities issued by the U.S. government and its agencies, investment-grade corporate bonds and commercial paper, and money market funds. These investments are denominated in U.S. Dollars. All of our interest-bearing securities are subject to interest rate risk and could decline in value

if interest rates fluctuate. Substantially all of our investment portfolio consists of marketable securities with active secondary or resale markets to help ensure portfolio liquidity, and we have implemented guidelines limiting the term-to-maturity of our investment instruments. Due to the conservative nature of these instruments, we do not believe that we have a material exposure to interest rate risk. If interest rates were to increase or decrease by 1%, the fair value of our investment portfolio would increase or decrease by an immaterial amount.

In September 2019, we entered into a credit agreement. Loans under the credit agreement bear interest, at our option, at either a base rate or a Eurocurrency rate, in each case plus an applicable margin. The applicable margin on base rate loans ranges from 0.125% to 0.50% and the applicable margin on Eurocurrency loans ranges from 1.125% to 1.50%, in each case, based on our consolidated leverage ratio (the ratio of our total consolidated funded indebtedness to our consolidated EBITDA for the most recently completed four fiscal quarter period). We do not believe that changes in interest rates related to the credit agreement would have a material effect on our financial statements. As of September 30, 2019, we had no principal or interest outstanding. A portion of our "Interest expense" in the fourth quarter of 2019 will be dependent on whether, and to what extent, we borrow amounts under the existing facility.

Foreign Exchange Market Risk

As a result of our foreign operations, we face exposure to movements in foreign currency exchange rates, primarily the Euro and British Pound against the U.S. Dollar. The current exposures arise primarily from cash, accounts receivable, intercompany receivables and payables, payables and accruals and inventories. Both positive and negative effects to our net revenues from international product sales from movements in exchange rates are partially mitigated by the natural, opposite effect that exchange rates have on our international operating costs and expenses.

We have a foreign currency management program with the objective of reducing the effect of exchange rate fluctuations on our operating results and forecasted revenues and expenses denominated in foreign currencies. We currently have cash flow hedges for the Euro, British Pound, Canadian Dollar and Australian Dollar related to a portion of our forecasted product revenues that qualify for hedge accounting treatment under U.S. GAAP. We do not seek hedge accounting treatment for our foreign currency forward contracts related to monetary assets and liabilities that impact our operating results. As of September 30, 2019, we held foreign exchange forward contracts that were designated as cash flow hedges with notional amounts totaling $672.2 million and had a net fair value of $29.0 million recorded on our condensed consolidated balance sheet.

Although not predictive in nature, we believe a hypothetical 10% threshold reflects a reasonably possible near-term change in exchange rates. Assuming that the September 30, 2019 exchange rates were to change by a hypothetical 10%, the fair value recorded on our condensed consolidated balance sheet related to our foreign exchange forward contracts that were designated as cash flow hedges as of September 30, 2019 would change by approximately $67.2 million. However, since these contracts hedge a specific portion of our forecasted product revenues denominated in certain foreign currencies, any change in the fair value of these contracts is recorded in "Accumulated other comprehensive income" on our condensed consolidated balance sheet and is reclassified to earnings in the same periods during which the underlying product revenues affect earnings. Therefore, any change in the fair value of these contracts that would result from a hypothetical 10% change in exchange rates would be entirely offset by the change in value associated with the underlying hedged product revenues resulting in no impact on our future anticipated earnings and cash flows with respect to the hedged portion of our forecasted product revenues.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management (under the supervision and with the participation of our chief executive officer and chief financial officer), after evaluating the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Quarterly Report on Form 10-Q, has concluded that, based on such evaluation, as of September 30, 2019 our disclosure controls and procedures were effective and designed to provide reasonable assurance that the information required to be disclosed is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Controls Over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended) occurred during the three months ended September 30, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. Other Information

Item 1. Legal Proceedings

We are not currently subject to any material legal proceedings.

Item 1A. Risk Factors

Information regarding risk factors appears in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 13, 2019. There have been no material changes from the risk factors previously disclosed in the Annual Report on Form 10-K.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q and, in particular, our Management's Discussion and Analysis of Financial Condition and Results of Operations set forth in Part I-Item 2, contain or incorporate a number of forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding:

- our expectations regarding the amount of, timing of and trends with respect to our revenues, costs and expenses and other gains and losses, including those related to net product revenues;
- our expectations regarding clinical trials, development timelines and regulatory authority filings and submissions for ivacaftor, lumacaftor, tezacaftor, elexacaftor, and the timelines for regulatory filings for our triple combination regimen;
- our ability to obtain reimbursement for our medicines in ex-U.S. markets and our ability to otherwise successfully market our medicines or any of

our other drug candidates for which we obtain regulatory approval;

- our expectations regarding the timing and structure of clinical trials of our drugs and drug candidates and the expected timing of our receipt of data from our ongoing and planned clinical trials;
- the data that will be generated by ongoing and planned clinical trials and the ability to use that data to advance compounds, continue development or support regulatory filings;
- our beliefs regarding the support provided by clinical trials and preclinical and nonclinical studies of our drug candidates for further investigation, clinical trials or potential use as a treatment;
- our plan to continue investing in our research and development programs and our strategy to develop our drug candidates, alone or with third party-collaborators;
- the potential future benefits of our acquisitions and collaborations;
- the establishment, development and maintenance of collaborative relationships;
- potential business development activities;
- potential fluctuations in foreign currency exchange rates;
- our ability to use our research programs to identify and develop new drug candidates to address serious diseases and significant unmet medical needs; and
- our liquidity and our expectations regarding the possibility of raising additional capital.

Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q may turn out to be wrong. They can be affected by inaccurate assumptions or by known or unknown risks and uncertainties. Many factors mentioned in this Quarterly Report on Form 10-Q will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially from expected results. We also provide a cautionary discussion of risks and uncertainties under “Risk Factors” in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 13, 2019. These are factors and uncertainties that we think could cause our actual results to differ materially from expected results. Other factors and uncertainties besides those listed there could also adversely affect us.

Without limiting the foregoing, the words “believes,” “anticipates,” “plans,” “intends,” “expects” and similar expressions are intended to identify forward-looking statements. There are a number of factors and uncertainties that could cause actual events or results to differ materially from those indicated by such forward-looking statements, many of which are beyond our

control. In addition, the forward-looking statements contained herein represent our estimate only as of the date of this filing and should not be relied upon as representing our estimate as of any subsequent date. While we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking statements.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Repurchases of Equity Securities

We had a share repurchase program (the "2018 Share Repurchase Program"), announced in January 2018, under which we were authorized to repurchase up to $500.0 million of our common stock by December 31, 2019. As of June 30, 2019, we had repurchased the entire $500.0 million of our common stock that was authorized under the 2018 Share Repurchase Program. In July 2019, we approved a new share repurchase program (the "2019 Share Repurchase Program"), pursuant to which we are authorized to repurchase up to $500.0 million of our common stock between August 1, 2019 and December 31, 2020. The table set forth below shows repurchases of securities by us during the three months ended September 30, 2019, including shares repurchased under our 2019 Share Repurchase Program and a small number of restricted shares repurchased by us from employees pursuant to our equity programs.

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs (2)
July 1, 2019 to July 31, 2019	1,354	$0.01	—	$500,000,000
August 1, 2019 to August 31, 2019	1,462	$0.01	—	$500,000,000
September 1, 2019 to September 30, 2019	71,534	$167.75	70,713	$488,000,138
Total	74,350	$161.40	70,713	$488,000,138

(1) Consists of 70,713 shares repurchased pursuant to our share repurchase program (described in footnote 2 below) at an average price per share of $169.70 and 3,637 restricted shares repurchased for $0.01 per share from our employees pursuant to our equity plans. While we have restricted shares that are continuing to vest under our equity plans that are subject to repurchase rights upon termination of service, we have transitioned our equity program to granting restricted stock units. Unvested restricted stock units are forfeited upon termination of service and do not result in an issuer repurchase that would be reflected in this table.

(2) Under our 2019 Share Repurchase Program, we are authorized to purchase shares from time to time through open market or privately negotiated transactions. Such purchases may be made pursuant to Rule 10b5-1 plans or other means as determined by our management and in accordance with the requirements of the Securities and Exchange Commission. The approximate dollar value of shares that may yet be repurchased is based solely on shares that may be repurchased under the share repurchase program and excludes any shares that may be repurchased under our employee equity programs.

Item 6. Exhibits

Exhibit Number	Exhibit Description
2.1	Agreement and Plan of Merger, dated as of August 30, 2019, by and among Vertex Pharmaceuticals Incorporated, Vertex Disc Inc., Semma Therapeutics, Inc., and Shareholder Representative Services LLC, solely in its capacity as agent for the Equityholders.+
10.1	Credit Agreement, dated as of September 17, 2019, by and among Vertex Pharmaceuticals Incorporated, Bank of America, N.A. and the other lenders party thereto.
31.1	Certification of the Chief Executive Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Chief Executive Officer and the Chief Financial Officer under Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation
101.LAB	XBRL Taxonomy Extension Labels
101.PRE	XBRL Taxonomy Extension Presentation
101.DEF	XBRL Taxonomy Extension Definition

+ Confidential portions of this exhibit have been omitted.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Vertex Pharmaceuticals Incorporated

October 31, 2019 By: /s/ Charles F. Wagner, Jr.

Charles F. Wagner, Jr.

Executive Vice President, Chief Financial Officer
(principal financial officer and
duly authorized officer)

AGREEMENT AND PLAN OF MERGER

DATED AS OF

AUGUST 30, 2019

BY AND AMONG

VERTEX PHARMACEUTICALS INCORPORATED,

VERTEX DISC INC.,

SEMMA THERAPEUTICS, INC.,

AND

SHAREHOLDER REPRESENTATIVE SERVICES LLC,

AS REPRESENTATIVE

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

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AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER (this "**Agreement**") is made and entered into as of August 30, 2019 by and among Vertex Pharmaceuticals Incorporated, a Massachusetts corporation ("**Purchaser**"), Vertex Disc Inc., a Delaware corporation and a wholly owned Subsidiary of Purchaser ("**Merger Sub**"), Semma Therapeutics, Inc., a Delaware corporation (the "**Company**"), and Shareholder Representative Services LLC, a Colorado limited liability company ("**Representative**"), solely in its capacity as agent for the Equityholders. Purchaser, Merger Sub, the Company and Representative are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS, the board of directors of Merger Sub has, upon the terms and subject to the conditions set forth herein, unanimously (i) declared that the transactions contemplated hereby, including the merger of Merger Sub with and into the Company (the "**Merger**") and the transactions contemplated by the other Transaction Documents (together with the Merger, the "**Transactions**"), and the Transaction Documents are advisable and in the best interests of Merger Sub; (ii) approved and authorized the Transactions, including the Merger, and the Transaction Documents, on the terms and subject to the conditions set forth in the Transaction Documents; and (iii) recommended that Purchaser, as the sole stockholder of Merger Sub, adopt this Agreement;

WHEREAS, the board of directors of the Company (the "**Company Board**") has unanimously (i) declared that the Transactions, including the Merger, and the Transaction Documents are advisable and in the best interests of, the Company and the Stockholders; (ii) approved and authorized the Transactions, including the Merger, and the Transaction Documents, on the terms and subject to the conditions set forth in the Transaction Documents; and (iii) recommended that the Stockholders adopt this Agreement;

WHEREAS, the board of directors of Purchaser has approved this Agreement and the Transactions, including the Merger;

WHEREAS, Purchaser, as the sole stockholder of Merger Sub, has adopted this Agreement conditioned upon the execution of this Agreement by Merger Sub pursuant to a written consent (the "**Merger Sub Stockholder Consent**");

WHEREAS, immediately following the execution and delivery of this Agreement, the Company shall use its best efforts to deliver a written consent of (i) the Stockholders holding not less than 76% of the outstanding Common Shares, Series A Shares and Series B Shares (voting together as a single class and on an as-converted to Common Shares basis); (ii) Stockholders holding not less than 86% of the Series A Shares; (iii) Stockholders holding not less than 75% of the Series B Shares; and (iv) Key Holders holding not less than a majority of Common Shares, approving the Transactions, including the Merger, and adopting this Agreement, substantially in the form of the Company Stockholder Consent attached hereto as Exhibit A (the "**Company Stockholder Consent**");

WHEREAS, contemporaneously with the execution and delivery of this Agreement, the Person listed on Schedule II has executed and delivered an agreement regarding the treatment of certain Options held by such Person, which are not Vested Options or Accelerated Options; and

WHEREAS, contemporaneously with the execution and delivery of this Agreement, the Persons listed on Schedule III have executed and delivered Non-Compete Agreements ("**Non-Compete Agreements**") to Purchaser, which shall become effective upon consummation of the Merger.

NOW, THEREFORE, in consideration of the mutual representations, warranties, covenants and agreements set forth in this Agreement, and for other good and valid consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

Article I
DEFINITIONS AND RULES OF CONSTRUCTION

Section 1.1 Defined Terms. The following terms, as used herein, have the following meanings:

"**Accelerated Option Consideration**" is defined in Section 2.5(b).

"**Accelerated Optionholder**" means the holder of an Accelerated Option.

"**Accelerated Options**" is defined in Section 2.2(a).

"**Acquisition Proposal**" means any written, *bona fide* offer, proposal or indication of interest with respect to (a) the direct or indirect acquisition of (i) all or substantially all of the Shares or (ii) all or substantially all of the assets of the Company, taken as a whole, or (b) any merger, consolidation, recapitalization, reorganization or business combination involving the Company, which if consummated would result in any Person becoming the beneficial owner of, directly or indirectly, in one or a series of related transactions, 30% or more of the total voting power or of any class of equity securities of a member of the Company Group, other than the Transactions.

"**Affiliate**" means, with respect to any Person, any other Person who directly or indirectly Controls, is Controlled by, or is under Common Control with such Person, including, in the case of any Person who is an individual, his or her spouse or domestic partner, any of his or her descendants (lineal or adopted) or ancestors and any of their respective spouses or domestic partners. For purposes hereof, with respect to any investor in the Company that is an Affiliate of the Company, the portfolio companies of that investor shall not be deemed to be an Affiliate of the Company solely by virtue of the fact that the Company and such other portfolio companies are deemed to be under the Common Control of such investor.

"**Aggregate Exercise Amount**" means an amount equal to the aggregate exercise price of all Vested Options.

"**Agreement**" is defined in the Preamble.

"**Allocation Schedule**" is defined in Section 2.2(e).

"**Anti-Bribery Laws**" is defined in Section 3.22(a).

"**Antitrust Laws**" means the United States Sherman Antitrust Act of 1890, the United States Clayton Act of 1914, the HSR Act, the United States Federal Trade Commission Act of 1914 and all other domestic and foreign Laws, including foreign merger control and other competition Laws, issued by a Governmental Authority that are designed or intended to prohibit, restrict or regulate actions having the purpose or effect of monopolization or restraint of trade or lessening of competition through merger or acquisition.

"**Associated Rights**" is defined in Section 11.18(a).

"**Authorized Purchaser Consent Provider**" means those individuals listed on Schedule 1.1 of the Disclosure Schedule.

"**Benefit Plan**" means (a) each employee benefit plan, program or arrangement (including any "employee benefit plan," as defined in Section 3(3) of ERISA, whether or not subject to ERISA), (b) each deferred compensation, bonus or other incentive compensation, stock purchase, stock option and other equity compensation plan, program, agreement or arrangement and each severance or

termination pay plan or arrangement, (c) each employment, termination or severance agreement, and (d) each other employee benefit plan, fund, program, agreement or arrangement, in each case, that is sponsored, maintained or contributed to or required to be contributed to by the Company or by any member of the Company Group, or to which the Company or any member of the Company Group is party, whether written or oral, for the benefit of any current or former employee or other service provider or with respect to which the Company or any member of the Company Group or with respect to which the Company or any member of the Company Group has or would reasonably be expected to have any liability.

"**Business Day**" shall mean a day on which banks are open for business in Boston, Massachusetts, but does not include any day that is a Saturday, Sunday or a statutory holiday in The Commonwealth of Massachusetts; for the avoidance of doubt, Columbus Day (October 14, 2019) shall not be considered a Business Day.

"**Certificate of Merger**" is defined in Section 2.1.

"**Claim Notice**" is defined in Section 10.4(b).

"**Claimed Amount**" is defined in Section 10.4(b).

"**Closing**" is defined in Section 2.4(a).

"**Closing Date**" is defined in Section 2.4(a).

"**Closing Threshold**" is defined in Section 5.13(c).

"**Code**" means the United States Internal Revenue Code of 1986.

"**Commerce**" is defined in Section 3.22(b).

"**Common Shares**" means shares of the Company's common stock, par value $0.0001 per share.

"**Company**" is defined in the Preamble. For defined terms purposes, after the Closing, the Company means the Surviving Corporation.

"**Company 401(k) Plan"** is defined in Section 5.10(b).

"**Company Associate**" shall mean each current and former officer or other employee, or individual who is or was at any time an independent contractor, consultant or director, of or to any member of the Company Group or any of its Affiliates.

"**Company Associate Agreement**" is defined in Section 3.12(c).

"**Company Board**" is defined in the Recitals.

"**Company Bylaws**" means the bylaws of the Company as in effect on the date hereof.

"**Company Charter**" means the certificate of incorporation of the Company as in effect on the date hereof.

"**Company Employees**" are those employees employed by a member of the Company Group as of the Closing Date, including those on vacation or a leave of absence, and a "**Company Employee**" is any one of them.

"**Company Group**" means the Company and CytoSolv.

"**Company IP**" means (a) all Intellectual Property Rights that are owned or purported to be owned by a member of the Company Group or any of its Affiliates and (b) all Intellectual Property Rights to which any member of the Company Group or any of its Affiliates has been granted a license or other rights.

"**Company IT Systems**" means all computer systems, including software, hardware, firmware, middleware and platforms, interfaces, systems, networks, information technology equipment, facilities, website, infrastructure, workstations, switches, data communications lines and associated documentation used or held for use by or on behalf of the Company Group.

"Company Material Contracts" is defined in Section 3.13(a).

"**Company Owned IP**" shall mean all Intellectual Property Rights that are owned or purported to be owned by a member of the Company Group or any of its Affiliates.

"**Company Owned Registered IP**" is defined in Section 3.12(a).

"**Company Permits**" is defined in Section 3.18.

"**Company Product Candidates**" shall mean any and all products, technologies, methods and processes being researched or developed (whether in the preclinical or clinical stage) by or on behalf of any member of the Company Group (whether on its or their own or together with a third party), including all compounds, biologics, treatments and devices, whether delivered as a product (including products administered using a device) or a service.

"**Company Stockholder Consent**" is defined in the Recitals.

"**Company's Knowledge**" means the knowledge after reasonable inquiry of the following persons: [*] and, solely for purposes of Sections 3.12, 3.18 and 3.20, [*].

"**Confidentiality Agreement**" is defined in Section 5.7.

"**Consent Agreements**" is defined in Section 5.13(c).

"**Contract**" means any contract, commitment, agreement, instrument, obligation, undertaking or other legally binding arrangement or understanding, whether written or oral.

"**Continuing Employees**" is defined in Section 5.10(c).

"**Control**" means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through ownership of securities, by contract or otherwise. The terms "Controlled by," "under Common Control with" and "Controlling" shall have correlative meanings.

"**Covered Person**" is defined in Section 5.9(a).

"**CytoSolv**" means CytoSolv, Inc., a Rhode Island corporation and a direct, wholly owned subsidiary of the Company.

"**Data Protection Laws**" means all applicable Laws relating to the processing of Personal Data or privacy.

"**Data Room**" means the virtual data room entitled "Semma Therapeutics" hosted by iDeals at https://www4.idealsvdr.com/v3/semma_therapeutics/#/documents?path=837022.

"**DGCL**" is defined in Section 2.1.

"**Disclosure Schedule**" is defined in Section 5.6(a).

"**Dissenting Shares**" means any Shares issued and outstanding immediately prior to the Effective Time and held by a Stockholder that has not voted in favor of the Merger or consented thereto in writing (whether by proxy or otherwise) or that has not otherwise contractually waived or agreed to refrain from exercising his, her or its rights to appraisal and that has demanded properly, in writing, appraisal for such Shares in accordance with Section 262 of the DGCL.

"**Dissenting Stockholder**" means each Stockholder holding Dissenting Shares.

"**Drag-Along Right**" is defined in Section 5.13(d).

"**Effective Time**" is defined in Section 2.1.

"**Encumbrance**" means any charge, lien, claim, mortgage, lease, license, hypothecation, deed of trust, pledge, security interest, easement, servitude, encroachment, encumbrance, covenant, assignment, right of way, defects in title, right of first refusal, right of first negotiation, right of first offer, right to acquire, option, preemptive right, conditional sale or other title retention agreement or other similar restriction of any kind.

"**Enforceability Exceptions**" is defined in Section 3.3.

"**Environmental Claim**" means any Proceeding by any Person alleging actual or potential liability (including, without limitation, actual or potential liability for investigatory costs, cleanup costs, governmental response costs, natural resources damages, property damages, personal injuries, attorneys' fees or penalties) arising out of, based on, resulting from or relating to (a) the presence, or release into the environment, of, or exposure to, any Materials of Environmental Concern at any location, now or in the past or (b) circumstances forming the basis of any violation, or alleged violation, of any Environmental Law.

"**Environmental Laws**" means all Laws and Orders that in each case pertain to environmental matters or contamination of the environment.

"**Equity Incentive Plan**" means the Semma Therapeutics, Inc. 2015 Stock Option and Grant Plan.

"**Equityholder**" means a Stockholder, a Vested Optionholder or an Accelerated Optionholder.

"**Equityholder Indemnified Party**" is defined in Section 10.2.

"**ERISA**" means the United States Employee Retirement Income Security Act of 1974.

"**Escrow Agent**" means Citibank, N.A.

"**Escrow Agreement**" is defined in Section 2.5(c)(i).

"**Escrow Amount**" is defined in Section 2.5(c)(i).

"**Escrow Fund**" is defined in Section 2.5(c)(i).

"**Escrow Release Date**" is defined in Section 10.6(c).

"**Estimated Closing Statement**" is defined in Section 2.4(b).

"**Exploitation**" means to make, have made, import, export, use, sell or offer for sale, including to research, develop, register, modify, enhance, improve, manufacture, have manufactured, store, formulate, export, transport, distribute, promote, market or otherwise dispose of.

"**Extra-Contractual Statement**" is defined in Section 11.16.

"**FDA**" means the United States Food and Drug Administration.

"**FDC Act**" is defined in Section 3.20(a).

"**Final Statement**" is defined in Section 2.4(c).

"**Financial Statements**" is defined in Section 3.6.

"**FIRPTA Certificate**" is defined in Section 2.11.

"**Forward-Looking Statements**" is defined in Section 5.11.

"**Fraud**" means Delaware common law fraud. For the avoidance of doubt, "**Fraud**" does not include any claim for equitable fraud, promissory fraud, or any torts based on negligence.

"**Fundamental Representations**" means, with respect to the Company, the representations and warranties set forth in Sections 3.1, 3.2, 3.3, 3.4 and 3.25, and with respect to Purchaser and Merger Sub, Sections 4.1, 4.2 and 4.3.

"**GAAP**" means generally accepted accounting principles as in effect in the United States of America from time to time, as consistently applied by the Company.

"**Good Laboratory Practices**" means the FDA's standards for conducting non-clinical laboratory studies contained in 21 C.F.R. Part 58.

"**Good Manufacturing Practices**" means the requirements set forth in the quality systems regulations for drugs contained in 21 C.F.R. Parts 210 and 211.

"**Governing Documents**" means the agreements and instruments by which any Person (other than an individual) establishes its legal existence or governs its internal affairs, including with respect to the Company, the Company Charter, the Company Bylaws and the Stockholders Agreements. For example, (a) the Governing Documents of a corporation include its certificate or articles of incorporation and bylaws, (b) the Governing Documents of a limited partnership include

its certificate or articles of limited partnership and its limited partnership agreement and (c) the Governing Documents of a limited liability company include its certificate or articles of formation and, if applicable, its limited liability company operating agreement.

"**Governmental Authority**" means any nation, state, province, commonwealth, municipal, local, or other political subdivision thereof, and any agency, commission, department, board, bureau, official, minister, tribunal or court, whether national, state, provincial, foreign, multinational, commonwealth, or local, exercising executive, legislative, judicial, regulatory or administrative functions of a nation, state, province or any municipal or other political subdivision thereof.

"**Health Care Laws" is defined in Section 3.20(a).**

"**HSR Act**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, and the rules and regulations promulgated thereunder.

"**Indebtedness**" means, with respect to any Person and without duplication: (a) any indebtedness of such Person that, in accordance with GAAP, would be required to be shown as indebtedness for borrowed money on the face of a balance sheet; (b) any indebtedness evidenced by a note, bond, debenture or other debt security, whether secured or unsecured; (c) the aggregate principal amount of, and accrued interest, prepayment penalties and outstanding fees with respect to, all indebtedness for borrowed money; (d) any obligation under any lease required to be capitalized in accordance with GAAP; (e) the drawn portion of any letter of credit arrangements; and (f) any prepayment, make-whole, breakage or other similar fees, expenses or penalties on or relating to the repayment or assumption of any of the foregoing.

"**Indemnifiable Losses Deductible**" is defined in Section 10.3(c).

"**Indemnified Party**" means either a Purchaser Indemnified Party or an Equityholder Indemnified Party.

"**Indemnifying Equityholder**" is defined in Section 10.1.

"**Indemnifying Party**" means the Party or Parties who are obligated to provide indemnification to another Person pursuant to Article X.

"**Insurance Policies**" is defined in Section 3.19.

"**Intellectual Property Rights**" means all intellectual property and industrial property rights and rights in confidential information throughout the world, including all U.S. and foreign (a) patents, patent applications, invention disclosures, and all related continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof ("**Patents**"); (b) trademarks, service marks, names, corporate names, trade names, domain names, URLs, social media addresses, logos, slogans, trade dress, design rights, and other similar designations of source or origin, together with the goodwill symbolized by any of the foregoing ("**Trademarks**"); (c) copyrights and copyrightable subject matter ("**Copyrights**"); (d) rights in computer programs (whether in source code, object code, or other form), algorithms, databases, compilations and data, technology supporting the foregoing, and all documentation, including user manuals and training materials, related to any of the foregoing; (e) trade secrets and all other confidential information, ideas, know-how, inventions, proprietary processes, protocols, specifications, techniques, data, results, plans, formulae, formulations, compositions, models, and methodologies ("**Trade**

Secrets"); (f) rights in the foregoing and in other similar intangible assets; and (g) applications and registrations for the foregoing.

"**IRS**" means the United States Internal Revenue Service.

"**Key Holders**" shall have the meaning given to it in the Voting Agreement.

"**Law**" means any applicable law, statute, ordinance, regulation, rule, code, treaty or other requirement having the force of law of any Governmental Authority.

"**Leased Real Property**" is defined in Section 3.11(b).

"**Leases**" is defined in Section 3.11(b).

"**Losses**" means any debts, obligations and other liabilities (whether absolute or contingent, liquidated or unliquidated, due or to become due, accrued or not accrued), losses, claims, damages, Taxes, diminutions in value, interest obligations, deficiencies, judgments, assessments, fines, fees, penalties, expenses (including amounts paid in settlement, interest, court costs, costs of investigators, fees and expenses of attorneys, accountants, financial advisors, consultants and other experts, and other expenses of litigation) or consequential damages (only to the extent reasonably foreseeable); *provided*, *however*, that Losses shall (i) include punitive damages only to the extent such damages are awarded by an arbitrator or a court of competent jurisdiction to a third party in connection with a claim by a third party and (ii) exclude special, incidental, indirect, treble or exemplary damages, lost revenues or profits.

"**Lost Certificate Affidavit**" is defined in Section 2.6(a).

"**Material Adverse Effect**" means any event, effect, circumstance, change, occurrence, fact or development that, individually or in the aggregate with other such events, effects, circumstances, changes, occurrences, facts or developments, (a) is or would reasonably be expected to be materially adverse to the business, operations, assets, liabilities, financial condition or results of operations of any member of the Company Group, in each case taken as a whole or (b) does or would reasonably be expected to materially impede, interfere with, hinder or delay, or affect the ability of the Company to perform its obligations hereunder or to consummate the Transactions; *provided*, *however*, that for purposes of clause (a), a Material Adverse Effect shall not be deemed to include any event, effect, circumstance, change, occurrence, fact or development to the extent resulting from: (i) general business or economic conditions, (ii) national or international political or social conditions, including the engagement by the United States in hostilities, whether or not pursuant to the declaration of a national emergency or war, or the occurrence of any military or terrorist attack upon the United States or any of its territories, possessions or diplomatic or consular offices or upon any military installation, equipment or personnel of the United States, (iii) changes in GAAP or other international accounting standards (it being understood that this clause (iii) shall not apply with respect to a representation or warranty contained in this Agreement to the extent that the purpose of such representation or warranty is to address compliance with GAAP), (iv) changes in Law (it being understood that this clause (iv) shall not apply with respect to a representation or warranty contained in this Agreement to the extent that the purpose of such representation or warranty is to address compliance with Laws), (v) the taking of, or the failure to take, any action expressly required

to be taken by the Company pursuant to this Agreement or any of the other Transaction Documents (although, subject to the other provisions of this definition, the underlying cause of such failure shall not be excluded), (vi) the negotiation, execution, or delivery of this Agreement or any of the other Transaction Documents, or the announcement or pendency of any of the Transactions, including the Merger, including any impact thereof on relationships, contractual or otherwise, with suppliers, distributors, partners or employees (it being understood that this clause (vi) does not apply with respect to a representation or warranty contained in this Agreement to the extent that the purpose of such representation or warranty is to address the consequences arising from the execution and delivery of this Agreement or the Transactions or the performance of obligations under this Agreement), or (vii) the identity or business plans of Purchaser or any of its Affiliates, so long as, with respect to clauses (i), (ii), (iii), (iv), (vi) and (vii) such events, circumstances, changes, occurrences, facts or developments do not adversely affect the Company Group in a materially disproportionate manner relative to similarly situated participants in the industry in which the Company Group operates.

"**Material Consents**" is defined in Section 5.2.

"**Materials of Environmental Concern**" means chemicals, pollutants, contaminants, wastes, toxic or hazardous substances, materials or wastes, biological, infectious or medical wastes, or petroleum and petroleum products, greenhouse gases, asbestos or asbestos-containing materials or products, polychlorinated biphenyls, lead or lead-based paints or materials, radon, fungus, mold, mycotoxins or other substances that are regulated by Governmental Authorities or that may have an adverse effect on human health or the environment.

"**Merger**" is defined in the Recitals.

"**Merger Consideration**" is defined in Section 2.5(a).

"**Merger Consideration Per Share**" means an amount equal to (a) the sum of (i) the Merger Consideration, *minus* (ii) the aggregate Series A Preference Amount in respect of all Series A Shares outstanding immediately prior to the Effective Time, *minus* (iii) the aggregate Series B Preference Amount, in respect of all Series B Shares outstanding immediately prior the Effective Time, *divided by* (b) the Participating Common Share Amount.

"**Merger Sub**" is defined in the Preamble.

"**Merger Sub Stockholder Consent**" is defined in the Recitals.

"**Mini-Basket**" is defined in Section 10.3(c).

"**No-Withholding Option**" means any Vested Option or Accelerated Option that has a per share exercise price less than the Merger Consideration Per Share and with respect to which the Company has no Tax withholding obligations.

"**Non-Compete Agreements**" is defined in the Recitals.

"**OFAC**" is defined in the Section 3.22(b).

"**Option**" means an option to purchase Common Shares issued pursuant to the Equity Incentive Plan.

"**Option Shares**" means Common Shares issuable upon exercise of Vested Options and Accelerated Options.

"**Optionholder**" means a holder, as of immediately prior to the Effective Time, of an Option.

"**Order**" means any applicable order, writ, injunction or decree of any Governmental Authority, arbitrator or mediator and any settlement agreement or compliance agreement entered into in connection with any Proceeding.

"**Participating Common Share Amount**" means (a) the aggregate number of Common Shares outstanding immediately prior to the Effective Time, *plus* (b) the aggregate number of Common Shares into which all Series A Shares outstanding immediately prior to the Effective Time are convertible, *plus* (c) the aggregate number of Common Shares into which all Series B Shares outstanding immediately prior to the Effective Time are convertible, *plus* (d) the aggregate number of Option Shares in respect of Vested Options.

"**Party**" and "**Parties**" are defined in the Preamble.

"**Paying Agent**" is defined in Section 2.5(c)(iv).

"**Paying Agent Agreement**" is defined in Section 2.5(c)(iv).

"**Permits**" means all licenses, permits, certifications, registrations and approvals of any Governmental Authority required for the operation of the business of the Company Group.

"**Permitted Encumbrances**" means the following: (a) Encumbrances for Taxes not yet due or payable or that are being contested in good faith by appropriate proceedings and, in each case, for which adequate reserves have been established and maintained; (b) Encumbrances of landlords, carriers, warehousemen, mechanics and repairmen incurred in the ordinary course of business, in each case for sums not yet due and payable or being contested in good faith by appropriate proceedings and for which adequate reserves have been established and maintained; and (c) easements, covenants or restrictions of record affecting title to or the use of real property, none of which individually or in the aggregate, materially detract from the value of the property encumbered thereby or materially impair the use or occupancy of such property in the business of the Company Group.

"**Person**" means any natural individual, corporation, partnership, limited liability company, joint venture, association, bank, trust company, trust or other entity, whether or not a legal entity, or any Governmental Authority.

"**Personal Data**" means non-public personally identifiable information relating to an individual or legal Person, the privacy of whom is protected under applicable Laws, and includes "personally identifiable information," "PII," "personal data" or other similar terms defined in applicable Laws.

"**Post-Closing Tax Period**" means any Tax Period beginning after the Closing Date and, with respect to any Straddle Tax Period, the portion of such Tax Period beginning on the day after the Closing Date and ending on the last day of such Straddle Tax Period.

"Pre-Closing Period" is defined in Section 5.1.

"**Preferred Shares**" means, together, Series A Shares and Series B Shares.

"**Pro Rata Share**" means, with respect to each Equityholder and each Promised Optionholder, as applicable, a percentage equal to (a) the amount of Merger Consideration, Accelerated Option Consideration and Promised Option Bonus Amount that such Equityholder or Promised Optionholder is entitled to receive pursuant to Section 2.6, *divided by* (b) the aggregate amount of Merger Consideration, Accelerated Option Consideration and Promised Option Bonus Amount that all Equityholders and Promised Optionholders are entitled to receive pursuant to Section 2.6.

"**Proceeding**" means any audit, litigation (in Law or in equity), arbitration, review, re-examination, opposition, mediation, action, lawsuit, proceeding, complaint, charge, claim (including any counterclaim), demand, hearing, examination, inquiry, petition, subpoena, discovery, request, investigation or like matter before or by any arbitrator or Governmental Authority, whether administrative, judicial or arbitrative in nature, at Law or in equity.

"**Promised Option**" means an option to purchase Common Shares that, prior to the date hereof, the Company committed in writing to grant, which has not been granted by the Company, each of which is described on Schedule IV.

"**Promised Option Bonus Amount**" means the aggregate amount set forth on Schedule IV.

"**Promised Optionholder**" is defined in Section 2.6(c).

"**Protected Communication**" is defined in Section 11.18(a).

"**Protected Health Information**" shall have the same meaning set forth in 45 C.F.R. §160.103.

"**Purchaser**" is defined in the Preamble.

"**Purchaser 401(k) Plan**" is defined in Section 5.10(b).

"**Purchaser Group**" is defined in Section 11.18(a).

"**Purchaser Indemnified Party**" is defined in Section 10.1.

"**Purchaser Material Adverse Effect**" means any event, condition, change, occurrence or development of a state of circumstances that, individually or in the aggregate, would reasonably be expected to prevent or materially delay consummation of the Transactions, including the Merger, or materially impair or delay the ability of Purchaser or Merger Sub to perform their respective obligations under this Agreement.

"**Registered IP**" shall mean all issued Patents and Patent applications, Trademark applications and registrations (including domain names) and Copyright registrations and applications.

"**Representative**" is defined in the Preamble.

"**Representative Expense Amount**" means an amount equal to $**[*]**.

"**Representative Expense Fund**" is defined in Section 8.2.

"**Representative Losses**" is defined in Section 8.5.

"**Secretary of State**" is defined in Section 2.1.

"**Securities Act**" means the Securities Act of 1933.

"**Seller Group**" is defined in Section 11.18(a).

"**Series A Preference Amount**" means an amount per Series A Share equal to $1.09.

"**Series A Shares**" means shares of the Company's Series A Preferred Stock, par value $0.0001 per share.

"**Series B Preference Amount**" means an amount per Series B Share equal to $1.60.

"**Series B Shares**" means shares of the Company's Series B Preferred Stock, par value $0.0001 per share.

"**Shares**" means, collectively, Common Shares and Preferred Shares.

"**Specific Performance Conditions**" is defined in Section 11.17(a).

"**State Department**" is defined in Section 3.22(b).

"**Stockholder**" means a holder, as of immediately prior to the Effective Time, of a Share.

"**Stockholder Notice**" is defined in Section 5.13(b).

"Stockholders Agreements" means (a) the Voting Agreement; (b) the Series A Preferred Stock Purchase Agreement, dated March 19, 2015, among the Company and the Investors (as defined therein) listed on Exhibit A thereto; (c) the Series B Preferred Stock Purchase Agreement, dated November 27, 2017, among the Company and the Investors (as defined therein) listed on Exhibit A thereto; (d) the Amended and Restated Investors' Rights Agreement, dated November 27, 2017, among the Company and the Investors (as defined therein); and (e) the Amended and Restated Right of First Refusal and Co-Sale Agreement, dated November 27, 2017, among the Company and the Investors (as defined therein).

"**Straddle Tax Period**" means any Tax Period that begins on or before the Closing Date and ends after the Closing Date.

"**Subsidiary**" means, with respect to any Person, any corporation, limited liability company, partnership, association or other business entity of which (a) if a corporation, a majority of the total voting power of shares of stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or Controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person or a combination thereof or (b) if a limited liability company, partnership, association or other business entity (other than a corporation), a majority of the membership, partnership or other similar equity interests thereof is at the time held or Controlled, directly or indirectly, by that Person or one or more Subsidiaries of that Person or a combination thereof. For purposes of subpart (b) above, a Person or Persons will be deemed to hold a majority equity interest in a business entity (other than a corporation) if such Person or Persons (i) is allocated a majority of such business entity's gains or losses or (ii) is the managing director or general partner of such business entity. The term "Subsidiary" includes all Subsidiaries of such Subsidiary.

"**Surviving Corporation**" is defined in Section 2.1.

"**Target Group**" is defined in Section 11.18(a).

"**Tax Authority**" means the IRS, or any successor thereto, and any state, local or non-U.S. Governmental Authority responsible for the assessment, collection, imposition or administration of any Taxes.

"**Tax Contest**" means any pending or threatened audit, claim, dispute, controversy, hearing, or administrative, judicial or other proceeding relating to Taxes or Tax Returns.

"**Tax Law**" means any Law related to Taxes.

"**Tax Period**" means any period prescribed by any Governmental Authority for which a Tax Return is required to be filed or a Tax is required to be paid.

"**Tax Returns**" means any report, return, document, estimate, form, information return, declaration or other information or filing filed with or supplied to, or required to be filed with or supplied to, any Governmental Authority with respect to Taxes, including any schedule, attachment or amendment with respect thereto.

"**Taxes**" means (a) any and all federal, state, local, foreign and other taxes, duties, levies, tariffs, imposts, tolls, customs or other assessments, including all net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, branch profits, profit share, license, lease, service, service use, value added, withholding, payroll, employment, excise, estimated, stamp, occupation, premium, property, windfall profits, wealth, net wealth, net worth, export and import fees and charges, registration fees, tonnage, vessel or other taxes, duties, levies, tariffs, imposts, tolls, customs or other assessments of any kind whatsoever imposed by any Governmental Authority, together with any interest, penalties, inflationary adjustments, additions to tax, fines or other additional amounts imposed thereon, with respect thereto, or related thereto; and (b) any and all liability for the payment of any items described in clause (a) above arising from or through, attributable to, or with respect to a branch or as a result of being (or ceasing to be) a member of a fiscal unity, affiliated, consolidated, combined, unitary or other similar group (or being included) in any Tax Return related to such group.

"**Third Party Claim**" means a Proceeding brought by a Person who is not a Party or an Affiliate thereof.

"**Transaction Documents**" means this Agreement, the Paying Agent Agreement, the Escrow Agreement, the Non-Compete Agreements and all other agreements, certificates, instruments and documents to be executed or delivered by one or more of the Parties in connection with the Transactions.

"**Transaction Expenses**" means, without duplication (a) the expenses, fees and charges incurred by any member of the Company Group in connection with the preparation, negotiation, execution and delivery of this Agreement and the other Transaction Documents and any offering or marketing materials and the consummation of the Closing, including all attorneys', accountants', consultants', professionals', investment bankers' and other advisors' fees and expenses payable by the Company or CytoSolv, in each case, whether or not paid, (b) any amounts payable by the

Company or CytoSolv to any current or former director, officer, employee, independent contractor or consultant as a result of, in connection with, or conditioned on, the consummation of the Transactions (including retention payments, change of control payments, deferred compensation, bonuses, severance payments but specifically excluding any amounts payable pursuant to Section 2.6), (c) the expenses, fees and charges associated with obtaining the directors' and officers' liability insurance policy (including any premium, broker fee, underwriting fee, due diligence fee, carrier commissions, legal fees for counsel engaged by the underwriter and surplus lines taxes and fees) pursuant to Section 5.9(b), and (d) applicable withholding Taxes associated with the amounts payable in respect of the Vested Options, the Accelerated Options, the Promised Option Bonus Amount and the amounts described in clause (b) (including the employer portion of any payroll, social security, unemployment or similar Taxes).

"**Transactions**" is defined in the Recitals.

"**Transfer Taxes**" means all sales (including bulk sales), use, transfer, recording, privilege, documentary, registration, real estate, conveyance, excise, license, stamp duty or similar fees and Taxes arising out of or in connection with, or attributable to, the Merger and, for the avoidance of doubt, shall include all Taxes payable in relation to any deemed or indirect transfer of assets or property as a result of the Transactions, but "Transfer Tax" shall not include any charge to capital gains or income, franchise or similar Taxes and shall not include any value added Taxes.

"**Transition Tax Obligations**" means, with respect to any Person, such Person's net Tax liability under Section 965 of the Code, including any amounts that are not yet due and payable pursuant to an election under Section 965(h) of the Code to pay such net Tax liability in installments.

"**Unresolved Escrow Claim**" is defined in Section 10.6(c).

"**Vested Option**" means, except for any Accelerated Options, (1) an outstanding Option that is vested, as of immediately prior to the Effective Time, in accordance with the Equity Incentive Plan, (2) any Option described on Part 1 of Schedule V, Part 2 of Schedule V or Part 3 of Schedule V and (3) any Options that may have expired, forfeited or lapsed held by the Person listed on Part 4 of Schedule V.

"**Vested Optionholder**" means a holder, as of immediately prior to the Effective Time of a Vested Option.

"**Voting Agreement**" means that certain Amended and Restated Voting Agreement, by and among the Company, the Investors (as defined therein) listed on Schedule A thereto and the Key Holders (as defined therein) listed on Schedule B thereto, dated as of November 27, 2017.

"**WARN**" is defined in Section 5.10(e).

Section 1.2 Rules of Construction. Any reference in this Agreement to a statute refers to the statute, any amendments or successor legislation, and all regulations promulgated thereunder, as in effect at the relevant time. Any reference in this Agreement to any United States federal or state action, remedy, method of judicial Proceeding, legal document, legal status, court, official or any legal concept or thing will, in respect of any jurisdiction other than a federal or state jurisdiction of the United States, be deemed to include what is most nearly approximate under the Laws of such other jurisdiction. Any reference to a contract, instrument or other document as of a given date means the contract, instrument or other document

as amended, supplemented and modified from time to time through the date hereof, solely to the extent such amendments, supplements or modifications are provided in the Data Room. The headings contained herein are for convenience of reference only and will not affect the meaning or interpretation of this Agreement. All preamble, recital, article, section, paragraph, annex, exhibit and schedule references are to the preambles, recitals, articles, sections, paragraphs, annexes, exhibits and schedules of this Agreement unless otherwise specified. All references herein to "dollars" or "$" are to United States dollars. When calculating the period of time before which, within which or following which, any act is to be done or step taken pursuant to this Agreement, the date that is the reference date in calculating such period will be excluded. If the last day of such period is a non-Business Day, the period in question will end on the next succeeding Business Day. Where the context requires, words in the singular will be held to include the plural and vice versa. Words of one gender will be held to include the other genders as the context requires. The terms "hereof," "herein," "hereunder," "hereto" and "herewith" and words of similar import will, unless otherwise stated, be construed to refer to this Agreement and not to any particular provision of this Agreement. The word "including" and words of similar import when used in this Agreement will mean "including, without limitation," unless otherwise specified. The word "or" will not be exclusive. Any accounting term used in this Agreement will have, unless otherwise specifically provided herein, the meaning customarily given such term in accordance with GAAP, and all financial computations hereunder will be computed, unless otherwise specifically provided herein, in accordance with GAAP. Any dollar amounts or thresholds set forth herein shall not be used as a determinative benchmark for establishing what is or is not "material" or a "Material Adverse Effect" (or words of similar import) under this Agreement. The Parties acknowledge and agree that each has negotiated and reviewed the terms of this Agreement, assisted by such legal and tax counsel as they desired, and has contributed to its revisions. The Parties further agree that the rule of construction that any ambiguities are resolved against the drafting Party will be subordinated to the principle that the terms and provisions of this Agreement will be construed fairly as to all Parties and not in favor of or against any Party. Any amounts to be deposited with Paying Agent or the Escrow Agent, or paid and delivered or disbursed to Purchaser, the Surviving Corporation, or any Equityholder, in each case in accordance with Article II, will be deposited or paid and delivered or disbursed by wire transfer of immediately available funds to the recipient thereof.

ARTICLE II
MERGER

Section 2.1 The Merger. At the Effective Time and, on the terms and subject to conditions set forth in this Agreement and the applicable provisions of the General Corporation Law of the State of Delaware (the "**DGCL**"), Merger Sub will be merged with and into the Company, the separate corporate existence of Merger Sub will cease, and the Company will continue as the surviving corporation and a wholly owned subsidiary of Purchaser (the "**Surviving Corporation**"). On the terms and subject to the conditions set forth in this Agreement, on the Closing Date, the Parties will execute and file the certificate of merger in the form attached hereto as Exhibit B (the "**Certificate of Merger**") in accordance with the requirements of the DGCL with the office of the Secretary of State of the State of Delaware (the "**Secretary of State**"), whereupon Merger Sub will be merged with and into the Company, which will survive the Merger, pursuant to the provisions of the DGCL. The Parties will make all other filings, recordings or publications required by the DGCL in connection with the Merger. The Merger will become effective upon the filing of the Certificate of Merger with the Secretary of State pursuant to the DGCL or at such later time as will be agreed upon by the Parties and specified in the Certificate of Merger (the "**Effective Time**"). From and after the Effective Time, the effect of the Merger will be as provided in this Agreement and the applicable provisions of the DGCL.

Section 2.2 Effect on Options and Capital Stock.

(a) Prior to the Effective Time, the Company shall take all necessary and appropriate actions so that, (i) each Option (other than any option held by the Person listed on Schedule II) that is then-outstanding will be vested, immediately prior to the Effective Time, with respect to the portion of such Option that would have become vested had the holder remained in the employment or service of the Company for the 12-month period commencing on the Closing Date (such Options, the "**Accelerated Options**"), (ii) each Option described on Part 1, Part 2 or Part 3 of Schedule V shall, to the extent not vested by operation of clause (i) above, become fully vested immediately prior to the Effective Time and (iii) each then-outstanding Option (including each Vested Option, Accelerated Option and each other outstanding Option) is immediately terminated and canceled immediately prior to the Effective Time, and each Optionholder will cease to have any rights with respect thereto, except that each holder of a Vested Option and each holder of an Accelerated Option will have the right to receive his or her respective portion of the Merger Consideration and Accelerated Option Consideration payable in accordance with and in the manner provided by this Article II, subject to the limitations and conditions in this Article II, and any other rights expressly provided by this Agreement. Each Option that is not a Vested Option or an Accelerated Option shall terminate without consideration therefor immediately prior to the Effective Time.

(b) As of the Effective Time, by virtue of the Merger and without any action on the part of any Party, each share of common stock, par value $0.0001 per share, of Merger Sub issued and outstanding immediately prior to the Effective Time will be converted into and exchanged for one validly issued, fully paid and non-assessable share of common stock of the Surviving Corporation, which will be the only shares of capital stock of the Surviving Corporation issued and outstanding immediately after the Effective Time. Each stock certificate of Merger Sub evidencing ownership of shares of common stock of Merger Sub will thereafter evidence ownership of such shares of capital stock of the Surviving Corporation.

(c) At the Effective Time, by virtue of the Merger and without any action on the part of any Party or any Equityholder, all Shares will no longer be outstanding and will be canceled and retired automatically and will cease to exist, and each Stockholder will cease to have any rights with respect thereto, except the right to receive his, her or its respective portion of the Merger Consideration payable in accordance with and in the manner provided by this Article II, subject to the limitations and conditions in this Article II, and any other rights expressly provided by this Agreement. Notwithstanding any other provision of this Agreement to the contrary, Dissenting Shares will not be converted as provided in the foregoing sentence and will instead be converted into the right to receive payment of the appraised value of such Dissenting Shares in accordance with the provisions of Section 262 of the DGCL, except if any Stockholder that demands appraisal of such Stockholder's Shares under the DGCL effectively withdraws or loses (through failure to perfect or otherwise) such Stockholder's right to appraisal, then such Stockholder's Shares will automatically be deemed to have been canceled and converted (without interest) as provided in the foregoing sentence as of the Effective Time.

(d) As of the Effective Time, by virtue of the Merger and without any action on the part of any Party or any Equityholder, all Shares that are owned by the Company as treasury stock immediately prior to the Effective Time (if any) will be canceled and extinguished without any conversion thereof, and no consideration will be paid or delivered in exchange therefor.

(e) No later than three (3) Business Days prior to the Closing Date, the Company shall deliver to Purchaser a schedule to be attached hereto as Schedule I (the "**Allocation Schedule**") setting forth the Company's good faith estimates of, with respect to each Equityholder, such Equityholder's: (i) portion of the Merger Consideration and Accelerated Option Consideration payable at Closing pursuant to this Agreement in respect of such Equityholder's Shares, Vested Options and Accelerated Options, (ii) portion of the Escrow Amount (as defined below) to be disbursed to the Escrow Agent at Closing, (iii) portion of

the Representative Expense Amount to be disbursed to the Representative at Closing, (iv) Pro Rata Share, (v) portion of the Promised Option Bonus Amount, if any, and (vi) correct and complete wire or other payment instructions. The Parties hereby agree that the Allocation Schedule shall govern the allocation among the Equityholders of any payments to or from the Equityholders that are contemplated by this Agreement. The Allocation Schedule will be prepared in accordance with the priorities set forth in the Company Charter, the bylaws of the Company and the Stockholders Agreements (each as in effect on the date of this Agreement and at the Closing). Purchaser shall be entitled to rely solely on the Allocation Schedule with respect to the amounts allocated and payable to the Equityholders pursuant thereto. The Parties further agree that the Representative shall update the Allocation Schedule from time to time to reflect the allocation of any payment and to promptly furnish any such update to Purchaser and the Paying Agent. Once the Paying Agent and, to the extent required, the Surviving Corporation have made all payments required to be made hereunder to the Equityholders in accordance with the Allocation Schedule, such payments shall constitute a complete discharge of the applicable payment obligations of Purchaser and Merger Sub hereunder to the Equityholders.

Section 2.3 Certificate of Incorporation and Bylaws; Directors and Officers. At the Effective Time, by virtue of the Merger and without any additional action on the part of Merger Sub or the Company: (a) the certificate of incorporation of the Surviving Corporation will be amended and restated to read as set forth on Exhibit C hereto, and such certificate of incorporation, as so amended and restated, will be the certificate of incorporation of the Surviving Corporation until thereafter amended as provided by Law and such certificate of incorporation; (b) the bylaws of the Surviving Corporation will be amended and restated to read as set forth on Exhibit D hereto, and such bylaws, as so amended and restated, will be the bylaws of the Surviving Corporation until thereafter amended as provided by Law and such bylaws; (c) the directors of Merger Sub immediately before the Effective Time will be the directors of the Surviving Corporation until the earlier of their resignation or removal or until their respective successors are duly elected and qualified, as the case may be; and (d) the officers of Merger Sub immediately before the Effective Time will be the officers of the Surviving Corporation until the earlier of their resignation or removal or until their respective successors are duly appointed, as the case may be.

Section 2.4 Closing.

(a) Subject to any earlier termination hereof, the closing of the Transactions, including the Merger (the "**Closing**"), will take place at the offices of Skadden, Arps, Slate, Meagher & Flom LLP, 500 Boylston Street, Boston, Massachusetts, 02116 as soon as practicable, but in any event within two (2) Business Days, following the satisfaction or waiver of all conditions to the Closing set forth in Article VI (other than conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of such conditions at or prior to the Closing) or such other place, date or time as Purchaser and the Company may mutually determine (the actual date on which the Closing occurs, the "**Closing Date**"); *provided*, *however*, that notwithstanding any provision of this Agreement, in no event shall the Closing occur on or before October 1, 2019. In lieu of an in-person Closing, the Closing may instead be accomplished by email (in .PDF format) transmission to the respective offices of legal counsel for the Parties of the requisite documents, duly executed where required, delivered upon actual confirmed receipt, with originals (if requested) to be delivered by overnight courier service on the next Business Day following the Closing. All proceedings to be taken and all documents to be executed and delivered by all Parties at the Closing will be deemed to have been taken and executed simultaneously and no proceedings will be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered.

(b) At least three (3) Business Days prior to the anticipated Closing Date, the Company will prepare and deliver to Purchaser (i) a statement (the "**Estimated Closing Statement**") setting forth the Company's good faith estimate of the Merger Consideration calculated in accordance with Section 2.5,

including an estimate of the Transaction Expenses and (ii) the Allocation Schedule. The Estimated Closing Statement shall be based upon the books and records of the Company Group and shall be prepared in accordance with the definitions contained in this Agreement and GAAP applied consistently. Purchaser and its agents shall be provided with reasonable access, during regular business hours and upon reasonable notice, to the financial books and records on which the Estimated Closing Statement is based and to the employees and agents of the Company Group who prepared the Estimated Closing Statement so as to enable it to verify the amounts set forth in the Estimated Closing Statement and the respective components thereof.

(c) At least one (1) Business Day prior to the anticipated Closing Date, the Company will provide an updated Estimated Closing Statement (the "**Final Statement**") reflecting Purchaser's good faith comments to the Estimated Closing Statement. The form and content of the Final Statement shall be reasonably acceptable to Purchaser prior to Closing.

Section 2.5 Merger Consideration.

(a) The aggregate consideration for the Shares and the Vested Options (the "**Merger Consideration**") is equal to:

(i) $950,000,000;

(ii) *plus* the Aggregate Exercise Amount of the Vested Options; and

(iii) *minus* the amount by which Transaction Expenses exceed $[*].

(b) The aggregate consideration for the Accelerated Options (the "**Accelerated Option Consideration**") is equal to (i) the Merger Consideration Per Share *multiplied by* the aggregate number of Accelerated Options, *minus* (ii) the Aggregate Exercise Amount in respect of all Accelerated Options.

(c) Subject to the terms and conditions hereof, including Section 2.7(b), at the Closing, Purchaser will:

(i) deposit $[*] (the "**Escrow Amount,**" and together with any interest or other earnings thereon, the "**Escrow Fund**") with the Escrow Agent, to be held, invested, and distributed by the Escrow Agent pursuant to the terms and conditions of an escrow agreement in substantially the form attached hereto as Exhibit E (as amended, modified or supplemented from time to time in accordance with the terms thereof, the "**Escrow Agreement**") to be entered into as of the Closing by Purchaser, the Surviving Corporation, Representative and the Escrow Agent to satisfy the due performance and payment of the Indemnifying Equityholders' potential indemnification obligations pursuant to Article X;

(ii) deliver the Representative Expense Amount to the Representative (in accordance with the instructions provided by the Company to Purchaser at least three (3) Business Days prior to the Closing Date);

(iii) deliver or make available the portion of the Merger Consideration and the Accelerated Option Consideration being paid to holders of Vested Options and Accelerated Options (in each case, other than with respect to No-Withholding Options) and the Promised Option Bonus Amount to the Surviving Corporation and cause the Surviving Corporation to pay and deliver such amounts to Vested Optionholders, Accelerated Optionholders and Promised Optionholders, in accordance with Section 2.6

(except in each case with respect to the Vested Options described in Part 2 of Schedule V and certain Accelerated Options as provided in Section 2.6(b) of the Disclosure Schedule); and

(iv) deposit an amount equal to the Merger Consideration, *minus* the payments contemplated by clauses (i) – (iii) above, with Citibank, N.A., a national banking association (together with its successors and permitted assigns, "**Paying Agent**"), to be distributed by Paying Agent pursuant to Section 2.6 and the terms and conditions of a Paying Agent Agreement to be entered into as of the Closing by Purchaser, Representative and Paying Agent in substantially the form attached hereto as Exhibit F (as amended, modified or supplemented from time to time in accordance with the terms thereof, the "**Paying Agent Agreement**").

Section 2.6 Distribution of Merger Consideration.

(a) Pursuant to the Paying Agent Agreement, Purchaser will cause Paying Agent to, as soon as practicable following Paying Agent's receipt after the Effective Time of a duly completed and validly executed letter of transmittal in substantially the form attached hereto as Exhibit G from a Stockholder and, in each case, certificate(s) representing the Shares held by such Stockholder outstanding immediately before the Effective Time (or, in the event that any such certificate(s) have been lost, stolen or destroyed, an affidavit of that fact by such Stockholder accompanied by a bond or other indemnity in form and substance reasonably acceptable to Purchaser (each, a "**Lost Certificate Affidavit**")), deliver to such Stockholder (i) in respect of the Series A Shares held by such Stockholder immediately prior to the Effective Time, an amount equal to the sum of (x) the Series A Preference Amount *multiplied by* such number of Series A Shares, *plus* (y) the Merger Consideration Per Share *multiplied by* the number of Common Shares into which such Series A Shares are convertible, (ii) in respect of the Series B Shares held by such Stockholder immediately prior to the Effective Time, an amount equal to the sum of (x) the Series B Preference Amount *multiplied by* such number of Series B Shares, *plus* (y) the Merger Consideration Per Share *multiplied by* the number of Common Shares into which such Series B Shares are convertible, and (iii) in respect of the Common Shares held by such Stockholder immediately prior to the Effective Time, the Merger Consideration Per Share *multiplied by* such number of Common Shares, in each case, *minus* such Stockholder's applicable Pro Rata Share of the Escrow Amount and the Representative Expense Amount, as directed by the Allocation Schedule. Pursuant to the Paying Agent Agreement, Purchaser will cause Paying Agent to, as soon as practicable after the Effective Time, deliver to each holder of a No-Withholding Option outstanding immediately prior to the Effective Time, a payment equal to (x) the Merger Consideration Per Share *minus* the exercise price of such No-Withholding Option, *multiplied by* (y) the number of Option Shares subject to the No-Withholding Option, in each case, *minus* such holder's applicable Pro Rata Share of the Escrow Amount and the Representative Expense Amount as directed by the Allocation Schedule.

(b) Except as set forth on Section 2.6(b) of the Disclosure Schedule, on the first regularly scheduled payroll period of the Company occurring at least three (3) Business Days following the Effective Time, (i) each holder of a Vested Option (other than a holder of No-Withholding Options) shall receive (net of applicable withholding) a payment equal to (x) the Merger Consideration Per Share *minus* the exercise price of such Vested Option, *multiplied by* (y) the number of Option Shares subject to the Vested Option, and (ii) each holder of an Accelerated Option (other than a holder of No-Withholding Options) shall receive (net of applicable withholding) a payment equal to (x) the Merger Consideration Per Share *minus* the exercise price of such Accelerated Option, *multiplied by* (y) the number of Option Shares subject to the Accelerated Option, in each case, *minus* such holder's applicable Pro Rata Share of the Escrow Amount and the Representative Expense Amount as directed by the Allocation Schedule.

(c) Purchaser will cause the Surviving Corporation to, as soon as practicable after the Effective Time, subject to the execution of a release in a form and substance reasonably acceptable to Purchaser with respect to any rights such individual may have to receive any equity or equity based compensation with respect to any member of the Company Group or Purchaser and its Affiliates, pay and deliver to each of the Persons set forth on the Allocation Schedule as holding a Promised Option (each a "**Promised Optionholder**") the portion of the Promised Option Bonus Amount set forth thereon in consideration for releasing and waiving such Promised Optionholder's rights described above, in each case, *minus* such holder's applicable Pro Rata Share of the Escrow Amount and the Representative Expense Amount as directed by the Allocation Schedule.

Section 2.7 Closing Deliverables. At the Closing, the Parties will deliver the following documents and instruments:

(a) Subject to the delivery of the documents and instruments set forth in Section 2.7(b), at the Closing, Purchaser or Merger Sub, as applicable, will deliver to the Company (or such other Person as indicated below) each of the following:

(i) counterparts of the Paying Agent Agreement, executed by, respectively, Purchaser and Paying Agent;

(ii) counterparts of the Escrow Agreement, executed by, respectively, Purchaser and Escrow Agent; and

(iii) a closing certificate executed by Purchaser and Merger Sub to the effect that the conditions set forth in Sections 6.1(a) and (b) have been satisfied, and that all documents to be executed and delivered by, respectively, Purchaser and Merger Sub at the Closing have been executed by duly authorized officers of, respectively, Purchaser and Merger Sub.

(b) Subject to the delivery of the payments set forth in Section 2.5(c) and the documents and instruments set forth in Section 2.7(a), at the Closing, the Company will deliver to Purchaser (or such other Person as indicated below) each of the following:

(i) the Certificate of Merger, executed by the Company;

(ii) a counterpart of the Escrow Agreement, executed by Representative;

(iii) a counterpart of the Paying Agent Agreement, executed by Representative;

(iv) an invoice issued by each intended beneficiary of Transaction Expenses that sets forth (A) the amount required to pay in full all Transaction Expenses owed to such Person on the Closing Date, and (B) the wire transfer instructions for the payment of such Transaction Expenses to such Person;

(v) the written resignations, effective as of the Closing Date, of the directors and officers of the Company requested by Purchaser to resign as of the Closing;

(vi) a certificate of the Company's secretary certifying as complete and accurate a copy of (A) the resolutions of the Company Board authorizing the execution, delivery and performance

of this Agreement and any other Transaction Documents delivered by the Company hereunder and (B) the Company Stockholder Consent;

(vii) a certificate, dated as of the Closing Date, satisfying Treasury Regulations Sections 1.897-2(h) and 1.1445-2(c) certifying that the interests in the Company are not "United States real property interests" within the meaning of Section 897(c) of the Code; and

(viii) a closing certificate executed by an officer of the Company to the effect that the conditions set forth in Sections 6.2(a) and (b) have been satisfied, and that all documents to be executed and delivered by the Company or Representative, as applicable, in connection with the Closing have been executed by duly authorized officers of the Company or Representative, as applicable.

Section 2.8 Certificates Not Surrendered. Until properly surrendered (or until a Lost Certificate Affidavit is delivered therefor), each outstanding Share certificate (including any certificate representing Dissenting Shares that lose their status as such) will be deemed from and after the Effective Time, for all corporate purposes, to evidence the right to receive the portion of the Merger Consideration to which the holder thereof is entitled pursuant to Sections 2.5, 2.6, 2.9 and 10.6.

Section 2.9 Distribution of Representative Expense Fund.

(a) As promptly as practicable after Representative's disbursement to Paying Agent of any amounts from the Representative Expense Fund pursuant to Section 8.6, Paying Agent will deliver to each Equityholder an amount equal to such Equityholder's Pro Rata Share of such dispersed Representative Expense Fund attributable to such Equityholder's Shares; *provided* that any portion of such dispersed Representative Expense Fund that is for payment to Vested Optionholders or Accelerated Options shall be delivered to the Surviving Corporation for payment in accordance with Section 2.9(b).

(b) On or before the first regularly scheduled payroll period that is at least three (3) Business Days following receipt of any dispersed Representative Expense Fund from the Paying Agent on behalf of the former Vested Optionholders, Accelerated Optionholders and Promised Optionholders, the Surviving Corporation shall pay and deliver to each former holder of Vested Options, Accelerated Options and Promised Options an amount equal to such Equityholder's Pro Rata Share of such dispersed Representative Expense Fund attributable to the Vested Options, Accelerated Options and Promised Options.

Section 2.10 Withholding Rights. The Surviving Corporation, Purchaser and their respective agents will be entitled to deduct and withhold from any payments of the consideration otherwise payable to any Equityholder or otherwise pursuant to this Agreement such amounts as are required to be deducted and withheld with respect to the making of such payment under the Code or any provision of Law. To the extent that such amounts are so withheld by the Surviving Corporation or Purchaser, as applicable, and paid over to the applicable Governmental Authority, such withheld amounts will be treated for all purposes of this Agreement as having been paid to, respectively, the Person in respect of whom such withholding was made.

Section 2.11 FIRPTA Certificate. At Closing, the Company shall have delivered to Purchaser a certificate and form of notice to the IRS prepared in accordance with the requirements of Treasury Regulation Section 1.897-2(h)(2) in substantially the form of Exhibit H attached hereto (the "**FIRPTA Certificate**") along with written authorization for Purchaser to deliver such FIRPTA Certificate to the IRS on behalf of the Company upon the Closing of the Merger. The Company's obligation to deliver the FIRPTA Certificate shall not be considered an obligation under this Agreement for purposes of Article VI, but if the FIRPTA Certificate is not delivered, Purchaser shall withhold from the Merger Consideration and pay over to the

appropriate Governmental Authorities any amounts required to be withheld under Section 1445 of the Code as determined by Purchaser.

Section 2.12 Rounding. The aggregate cash amount payable to any Equityholder pursuant to this Article II shall be rounded up or down to the nearest whole cent.

ARTICLE III
REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company makes the representations and warranties to Purchaser and Merger Sub as of the date hereof and as of the Closing Date that are set forth in this Article III:

Section 3.1 Organization, Standing and Power. Each member of the Company Group is a corporation duly organized, validly existing and in good standing under the Laws of the jurisdiction of its incorporation and has all requisite corporate power and authority to own, lease and operate its properties and assets and to carry on its business as now being conducted. Each member of the Company Group is duly qualified to do business and, where applicable as a legal concept, is in good standing as a foreign corporation in each jurisdiction in which the character of the properties it owns, operates or leases or the nature of its activities makes such qualification necessary, except for such failures to be so qualified or in good standing that would not have a Material Adverse Effect. The Company Group has made available to Purchaser and Merger Sub complete and correct copies of the Company Group's Governing Documents, each as amended to date, and such documents are in full force and effect. Each member of the Company Group is in compliance with all of the terms and provisions of its Governing Documents.

Section 3.2 Subsidiaries. The Company does not have any Subsidiaries, except for CytoSolv, or any other direct or indirect ownership interest in any corporation, limited liability company, joint venture, partnership, trust, non-corporate business enterprise or other Person and does not directly or indirectly own any capital stock in any other Person. The Company is the record holder of beneficial ownership of all of the issued and outstanding shares of capital stock of CytoSolv. Neither the Company nor CytoSolv has agreed to, nor are they obligated to, directly or indirectly, make any future investment in or capital contribution or advance to any Person.

Section 3.3 Enforceability. This Agreement constitutes a valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except to the extent enforcement may be affected by Laws relating to bankruptcy, reorganization, insolvency and creditors' rights and by the availability of injunctive relief, specific performance and other equitable remedies (collectively, "**Enforceability Exceptions**"). At the Closing, the Transaction Documents to be executed and delivered by the Company will be duly executed and delivered by duly authorized officers of the Company and will constitute valid and binding obligations of the Company, enforceable in accordance with their terms, except to the extent enforcement may be affected by Enforceability Exceptions.

Section 3.4 Capitalization.

(a) Section 3.4(a) of the Disclosure Schedule sets forth a true and complete list, as of the date of this Agreement, of the authorized capital stock of the Company and the number of shares of capital stock issued and outstanding and the holder of record of such shares. At the Closing, the Shares will constitute all of the issued and outstanding shares of capital stock of the Company.

(b) The issued and outstanding shares of capital stock of each member of the Company Group has been duly authorized and validly issued and are fully paid and non-assessable. Except for this Agreement, the Stockholder Agreements and as set forth on Section 3.4(d) of the Disclosure Schedule, there are no preemptive or other outstanding rights, options, warrants, subscriptions, puts, calls, conversion rights or agreements or commitments of any character relating to the authorized and issued, unissued or treasury shares of capital stock of any member of the Company Group. The shares of capital stock in each member of the Company Group have not been issued in violation of any applicable Laws or such company's Governing Documents. No member of the Company Group has any bonds, notes, debentures or other debt securities outstanding that have voting rights or are exercisable or convertible into, or exchangeable or redeemable for, or that give any Person a right to subscribe for or acquire, capital stock or any other security of the Company Group. Except as set forth in the Stockholder Agreements, there are no obligations, contingent or otherwise, to repurchase, redeem (or establish a sinking fund with respect to redemption) or otherwise acquire any shares of capital stock in the Company Group.

(c) Section 3.4(c) of the Disclosure Schedule sets forth the outstanding Indebtedness of the Company Group as of the date hereof.

(d) As of the close of business on August 28, 2019: (i) 22,799,197 Common Shares were subject to issuance pursuant to Options granted and outstanding under the Equity Incentive Plan and (ii) 1,690,186 Shares were reserved for future issuance under the Equity Incentive Plan. Section 3.4(d)(i) of the Disclosure Schedule sets forth, as of August 28, 2019, each outstanding Option, including the holder thereof, the applicable exercise price per share and the vesting status and schedule of each such Option. Section 3.4(d)(ii) of the Disclosure Schedule sets forth, as of August 28, 2019, each outstanding restricted Common Share award, including the holder thereof and the vesting status and schedule of each such restricted Common Share award. Other than as set forth on Section 3.4(d)(i) and Section 3.4(d)(ii) of the Disclosure Schedule, there are no issued, reserved for issuance, outstanding or authorized stock option, stock appreciation, restricted stock, restricted stock unit, phantom stock, profit participation or similar rights or equity-based awards with respect to the Company Group. All Options were granted with an exercise price per share no lower than the "fair market value" (as defined in the applicable plan and determined in a manner consistent with the requirements of Section 409A of the Code) of a Common Share on the date of the corporate action effectuating the grant.

(e) Except as set forth in the Stockholder Agreements, the Company Group is not a party to any voting trusts, voting agreements, proxies, equityholder agreements or other agreements or understandings with respect to the voting of the capital stock or other equity interests of any member of the Company Group that may affect the voting or transfer of the Shares or any of the shares of capital stock or other securities of any member of the Company Group. The Company Group is not subject to any obligation or requirement to make any investment (in the form of a loan or capital contribution) in any Person (other than to any member of the Company Group).

(f) Except for the payments and distributions contemplated pursuant to this Agreement or any other Transaction Document contemplated hereby, any payments made with respect to Dissenting Shares or as set forth on Section 3.4(f) of the Disclosure Schedule, none of the Equityholders, nor any of the Company Group's current or former officers, directors, employees or independent contractors has any right to receive any payment or distribution from the Company Group as a result of the consummation of the Transactions. Following the Closing, no holder of any Option shall have any right thereunder to acquire any capital stock of the Company or any of its Affiliates (including the Surviving Corporation), or of Purchaser or any of its Affiliates (including Merger Sub).

Section 3.5 No Conflict. Except as set forth on Section 3.5 of the Disclosure Schedule, assuming the due and prompt performance by Purchaser and Merger Sub of their obligations hereunder, the execution, delivery and performance of this Agreement or any other Transaction Document contemplated hereby by the Company and the consummation of the transactions contemplated hereby or thereby do not and will not (a) violate any (i) applicable material Law, (ii) applicable material Order, (iii) applicable Company Permits or (iv) Company Material Contract (as defined below) or (b) constitute a breach or violation of, or a default under, the Governing Documents of the Company Group.

Section 3.6 Financial Statements. Section 3.6 of the Disclosure Schedule sets forth, with the footnotes and other text set forth thereon, (a) the audited Consolidated Financial Statements of the Company Group as of (i) December 31, 2018, (ii) December 31, 2017 and (iii) December 31, 2016 and (b) the unaudited consolidated balance sheet of the Company Group for the six months ended June 30, 2019, and the unaudited consolidated statements of income, changes in stockholders' equity and cash flows of the Company Group for the fiscal period ended as of such date (the financial statements referred to in clauses (a) and (b) being referred to collectively as the "**Financial Statements**"). The Financial Statements (x) are consistent with the books and records of the Company Group, (y) have been prepared in accordance with GAAP, applied on a consistent basis throughout the periods covered, and (z) present fairly the consolidated financial condition, results of operations, stockholders' equity and cash flows of the Company as of the respective dates thereof and for the periods referred to therein. Since December 31, 2018, there has been no change in any accounting policies, principles, methods or practices, including any change with respect to reserves (whether for bad debts, contingent liabilities or otherwise), of the Company Group. No audit firm has ever declined or indicated its inability to issue an opinion with respect to any financial statements of the Company Group. Except as set forth on Section 3.6 of the Disclosure Schedule, the Company has devised and maintained systems of internal accounting controls sufficient to provide reasonable assurances that (i) transactions are executed in accordance with the appropriate officer's general or specific authorization, (ii) transactions are recorded as necessary to permit the preparation of financial statements in conformity with GAAP and to maintain proper accountability for items, (iii) access to the property and assets of the Company Group is permitted in accordance with management's general or specific authorization, and (iv) recorded accountability for items is compared with actual levels at reasonable intervals and appropriate action is taken with respect to any differences.

Section 3.7 Absence of Certain Changes. Except as expressly contemplated by this Agreement, since December 31, 2018 to the date hereof, the Company Group has conducted its business in the ordinary course in all material respects and in a manner consistent in all material respects with prior practice and there has not been a Material Adverse Effect. Since December 31, 2018, there has not been any other action or event that would have required the consent of Purchaser and Merger Sub pursuant to Section 5.4.

Section 3.8 No Undisclosed Liabilities. Except (a) as disclosed in the Financial Statements, (b) liabilities incurred in the ordinary course of business after June 30, 2019 that are not individually or in the aggregate material, (c) liabilities arising under Company Material Contracts in accordance with their terms other than the payment of liquidated damages or arising as a result of a default or breach thereof and (d) as set forth on Section 3.8 of the Disclosure Schedule, no member of the Company Group has any material liabilities of any nature, whether or not accrued, contingent or otherwise, whether due or to become due.

Section 3.9 Taxes. Except as set forth on Section 3.9 of the Disclosure Schedule:

(a) The Company Group has (i) timely filed (or had filed on their behalf) with the appropriate Governmental Authorities all income Tax and other material Tax Returns required to be filed by or on behalf of it and all such Tax Returns have been true, correct and complete in all material respects and

have been prepared in compliance with all applicable Laws and regulations, (ii) paid (or had paid on its behalf) all Taxes due and owing, regardless of whether shown or required to be shown as due on such Tax Returns, and (iii) established in accordance with its normal accounting practices and procedures accruals and reserves that are adequate for the payment of all Taxes not yet due and payable and attributable to any Pre-Closing Period and the pre-Closing portion of any Straddle Tax Period. No member of the Company Group is currently the beneficiary of any extension of time within which to file any Tax Return.

(b) The Company Group has withheld and paid all material Taxes required to be withheld and paid in connection with amounts paid and owing to any employee, independent contractor, creditor, stockholder or other third party and/or has obtained from any such employee, independent contractor, creditor, stockholder, other third party or other Person any certificate or other document that it is required to obtain or that would mitigate, reduce or eliminate any such Taxes or any withholding or deduction with respect thereto for payments made on or prior to the Closing and has complied with all applicable requirements of Law relating to information or other similar reporting relating to any such payments.

(c) The Company Group has collected all material sales, use and value added Taxes required to be collected by it, and has timely remitted all such Taxes to the appropriate Governmental Authorities.

(d) No member of the Company Group is currently the subject of any Tax Contest, nor to the Company's Knowledge is any such Tax Contest asserted, contemplated or threatened in writing by any Governmental Authority. No deficiencies or adjustments for any Taxes have been proposed, asserted or assessed by a Tax Authority against the Company Group.

(e) No "closing agreement" pursuant to Section 7121 of the Code (or any similar provision of state, local or foreign law) has been entered into by or with respect to Company Group that has continuing effect after the Closing Date. No member of the Company Group has requested or has been issued any private letter rulings, technical advice memoranda or similar agreements or rulings in respect of Taxes with any Governmental Authority. No member of the Company Group is a party to or subject to any Tax exemption, Tax holiday or other Tax reduction agreement or order.

(f) No member of the Company Group has requested, obtained or granted a power of attorney that is currently in force with respect to Taxes of the Company Group.

(g) No member of the Company Group is currently the beneficiary of any outstanding waivers of any statute of limitations with respect to any material Taxes or extensions of time with respect to a material Tax assessment or deficiency and no request for any such waiver or extension is currently outstanding.

(h) No member of the Company Group (i) has been a member of an affiliated, combined, unitary or other similar group filing consolidated, combined, unitary or other similar Tax Returns (other than a group the common parent of which is the Company) or (ii) has any liability for the Taxes of any Person (other than a member of the Company Group) under Treasury Regulation Section 1.1502-6 (or any similar provision of Law), as a transferee or successor or contract (other than commercial Contracts entered into with third parties in the ordinary course of business consistent with past practice not primarily related to Taxes).

(i) No member of the Company Group is a party to, subject to, bound by or has any obligation under any Tax allocation, indemnity, sharing or similar agreement that will not be terminated prior

to the Closing (excluding, for the avoidance of doubt, any Contract entered into in the ordinary course of business and which does not relate primarily to Taxes).

(j) No member of the Company Group has been a party to any joint venture, partnership or other arrangement that is treated as a partnership for U.S. federal income Tax purposes.

(k) No member of the Company Group will be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any Tax Period (or portion thereof) ending after the Closing Date as a result of any:

(i) change in or improper use of any method of accounting for a taxable period ending on or prior to the Closing Date;

(ii) "closing agreement" as described in Section 7121 of the Code (or any comparable, analogous or similar provision under any state, local or foreign Tax Law) executed prior to the Closing;

(iii) installment sale or open transaction made prior to the Closing;

(iv) prepaid amount received or deferred revenue accrued on or prior to the Closing;

(v) any intercompany transaction consummated on or prior to the Closing Date or excess loss account existing on or prior to the Closing Date, in either case described in Treasury Regulations issued under Section 1502 of the Code (or any comparable, analogous or similar provision under any state, local or foreign Tax Law); or

(vi) election under Section 108(i) of the Code.

(l) No member of the Company Group has agreed or is required to make any adjustments pursuant to Section 481(a) of the Code or any similar provision of applicable Law by reason of a change in method of accounting initiated by it or any other relevant party, and none of the Company Group or the Surviving Corporation will be required to make any such adjustment as a result of the Transactions.

(m) No member of the Company Group has distributed stock of another entity, or had its stock distributed by another entity, in a transaction that was purported or intended to be governed in whole or in part by Section 355 or Section 361 of the Code (i) in the two years immediately preceding the date of this Agreement or (ii) in a distribution which could otherwise constitute part of a "plan" or "series of related transactions" (within the meaning of Section 355(e) of the Code) in connection with the Transactions.

(n) To the Company's Knowledge, no claim has been made in writing by any Governmental Authority in a jurisdiction where the Company Group does not file Tax Returns that the Company Group is or may be subject to taxation by such jurisdiction.

(o) No member of the Company Group has (i) a permanent establishment (within the meaning of an applicable Tax treaty), branch, or other fixed place of business, or (ii) otherwise been, or deemed to be, engaged in a trade or business in any jurisdiction, other than its own country of incorporation or formation. No member of the Company Group currently has or has had nexus (within the meaning of the applicable Law of any applicable state) in any state where such member of the Company Group does not

currently, or did not at the applicable time, file Tax Returns and pay Taxes with respect to such member of the Company Group.

(p) There are no material Encumbrances for Taxes upon the assets of the Company Group, except for Permitted Encumbrances.

(q) No member of the Company Group has any Transition Tax Obligation.

(r) No member of the Company Group has entered into, participated in or engaged in any "reportable transaction" (as defined in Treasury Regulations Section 1.6011-4(b) or any comparable, analogous or similar provision under any state, local or foreign Tax Law). The Company Group has disclosed on their U.S. federal income Tax Returns all positions taken therein with respect to the members of the Company Group that could give rise to a "substantial understatement of income tax" within the meaning of Section 6662 of the Code (or any comparable, analogous or similar provision under any state, local or foreign Tax Laws).

(s) The Company is not, and has not been, a "United States real property holding corporation" (as defined in Section 897(c)(2) of the Code) during the applicable period (as defined in Section 897(c)(1)(A)(ii) of the Code).

(t) The Company Group has in their respective possessions official government receipts for any Taxes paid by them to any foreign Governmental Authority.

Notwithstanding anything to the contrary in this Agreement, the Company Group does not make any representation regarding (i) the amount of any net operating losses, Tax credits, or charitable contribution carryovers that are available to, or have been reported by, the Company Group for any federal, state or other Tax purposes, or (ii) any limitation on use by the Company Group of any net operating losses, Tax credits, or charitable contribution carryovers that might apply either before or after the Closing Date under Section 382 of the Code or any other applicable limitations under any Tax Laws.

Section 3.10 Assets Other than Real Property.

(a) Except as set forth on Section 3.12(f) of the Disclosure Schedule, to the Company's Knowledge, the Company Group has all of the assets necessary to enable the Company Group to continue to conduct its business in the ordinary course as currently conducted by the Company Group.

(b) The tangible assets of the Company Group are in good working order (ordinary wear and tear excepted) and are suitable for the purposes for which they are presently used. All material leased personal property of the Company Group is in good working order (ordinary wear and tear excepted) and is in all material respects in the condition required of such property by the terms of the lease applicable thereto.

(c) There are no Encumbrances on any assets of the Company Group, other than Permitted Encumbrances and Encumbrances that will be extinguished on or before the Closing (except as set forth on Section 3.12 of the Disclosure Schedule and Section 3.13 of the Disclosure Schedule, as applicable).

Section 3.11 Owned and Leased Real Property.

(a) No member of the Company Group owns any real property or is under Contract to acquire any interest in any real property.

(b) Section 3.11(b) of the Disclosure Schedule sets forth a true and correct list of all written or oral leases, subleases, sub-subleases, licenses, concessions, occupancy agreements and any other agreements or arrangements, including any amendments, extensions, renewals, guarantees, terminations and modifications with respect thereto, for the use of real property to which the Company Group is a party or by which such real property may be bound (collectively, the "**Leases,**" and the real property (together with the buildings, structures, fixtures and improvements thereon) subject to any such Lease, the "**Leased Real Property**"). True, correct and complete copies of the Leases have been delivered or made available to Purchaser. The Company Group has good and valid title to a leasehold estate in and has possession of each Leased Real Property free and clear of all Encumbrances (except for Permitted Encumbrances). Each Lease is a legal, valid and binding agreement, except to the extent enforcement may be affected by Enforceability Exceptions. No member of the Company Group or, to the Company's Knowledge, any Person other than the Company Group, is in breach of, or default under, in any material respect, any provisions of any Lease nor has any event occurred and no circumstances exist which, whether with or without notice or the passage of time, or both, would give rise to such a default or breach, result in a loss of any rights or result in the creation of any Encumbrance (except for Permitted Encumbrances) under such Lease.

(c) The Company Group's possession and quiet enjoyment of the Leased Real Property, as applicable, has not been disturbed and no party to any Lease has provided written notice to the Company Group of any dispute with respect thereto. There are no leases, subleases, sub-subleases, licenses, occupancy agreements, options, rights or other agreements or arrangements to which the Company Group is a party granting to any Person the right to use, occupy or otherwise obtain a real property interest in all or any portion of any Leased Real Property.

(d) The Company Group has all Company Permits necessary to permit the lawful use and operation of the business as it is currently being conducted on the Leased Real Property. The Company Group is in compliance in all material respects with all Encumbrances and other matters of record affecting the Leased Real Property, and no member of the Company Group has received any written notice alleging a default in any material respect under any Encumbrance or other matter of record. No member of the Company Group has received any written notice from any Governmental Authority asserting, nor to the Company's Knowledge does there exist, any violation of any applicable Law with respect to the Leased Real Property.

(e) There is no tax assessment pending or, to the Company's Knowledge, threatened in writing with respect to any portion of the Leased Real Property. There is no writ, injunction, decree, order or judgment outstanding, nor any Proceeding pending or, to the Company's Knowledge, threatened in writing relating to the ownership, lease, use, occupancy or operation by any Person of the Leased Real Property. There are no condemnation, eminent domain or compulsory purchase proceedings or claims pending or, to the Company's Knowledge, threatened in writing with respect to any portion of the Leased Real Property. There are no pending claims initiated by or on behalf of the Company Group to change or redefine the zoning or land use classification, and no member of the Company Group has received written notice of such claim and there is no proposed claim of such kind with respect to any of the Leased Real Property.

Section 3.12 Intellectual Property.

(a) Section 3.12(a) of the Disclosure Schedule sets forth a correct and complete list of all Intellectual Property Rights owned or purported to be owned by any member of the Company Group (the

"**Company Owned Registered IP**"), and, to the Company's Knowledge, all other material Intellectual Property Rights included in the Company IP (which the Parties acknowledge and agree shall include any and all Intellectual Property Rights licensed to any member of the Company Group pursuant to inbound license agreements) identifying for each: (i) the current assignee, (ii) the title and (iii) with respect to Registered IP, (1) the jurisdiction of application or registration, (2) the application or registration number, and (3) the filing date. With respect to Company Owned Registered IP, the Company Group is the sole and exclusive beneficial and record owner of each such item of Registered IP, and to the Company's Knowledge, all other Company IP is subsisting, valid and enforceable. Except as set forth in Section 3.12(a)(1) and Section 3.12(a)(2) of the Disclosure Schedule, there is no, and in the past three years there has been no, pending or threatened Proceeding in which the scope, validity, enforceability, priority, inventorship or ownership of any Company Owned Registered IP or, to the Company's Knowledge, any other Company IP. None of the Company Owned IP, or to the Company's Knowledge, any other Company IP, is, or has been, subject to any Order or Proceeding that adversely restricts the use, transfer, registration or licensing of any such Company IP by the Company Group, or otherwise adversely affects the validity, scope, use, registrability, patentability or enforceability of any such Company IP. The Company Owned Registered IP, and to the Company's Knowledge, all other Company IP, has been filed, prosecuted and maintained (as applicable) in accordance with all applicable Laws, including all Laws regarding the duty to disclose and duties of candor.

(b) Except as set forth in Section 3.12(b) and Section 3.12(f) of the Disclosure Schedule, the Company Group owns and possesses all right, title and interest in and to or have the right to use, pursuant to a valid and enforceable written agreement, all Company IP and all other Intellectual Property Rights used in their business as currently conducted and as currently contemplated to be conducted (which, for purposes of this Agreement, shall include the Exploitation of the Company Product Candidates), free and clear of all Encumbrances other than Permitted Encumbrances.

(c) No Company Associate owns or has any claim, right (whether or not currently exercisable) or interest to or in any Company Owned IP, and each Company Associate who participated in the creation, invention, development or modification of any Company Owned IP, or any other Intellectual Property Rights for, or by or on behalf of, any member of the Company Group, has signed a valid, enforceable written agreement containing an assignment of all right, title and interest with respect to such Intellectual Property Rights to the Company Group and confidentiality provisions protecting such Company IP, and, to the Company's Knowledge, there is no material breach under any such agreement (each such agreement, a "**Company Associate Agreement**"). To the Company's Knowledge, no Company Associate is in breach of any of its obligations to any other Person (including any current or former employer) as a result of its compliance with the Company Associate Agreement or any of its activities in connection with any member of the Company Group.

(d) Section 3.12(d) of the Disclosure Schedule sets forth each Contract pursuant to which the Company Group receives or has received funding, facilities or personnel of any Governmental Authority or any university, college, research institute or other educational institution that is being or has been used to create, in whole or in part, Company Owned IP, and, to the Company's Knowledge, any other Company IP.

(e) The Company Group has taken reasonable steps to maintain the confidentiality of and otherwise protect and enforce their rights in all material Trade Secrets included in the Company Owned IP or otherwise disclosed in confidence to the Company Group, including requiring all Persons having access thereto to execute written non-disclosure agreements. To the Company's Knowledge, there has not been any disclosure of or access to any such Trade Secret to any Person in a manner that has resulted or is likely to result in the loss of trade secret or other rights in and to such information.

(f) Except as set forth in Section 3.12(f) of the Disclosure Schedule, the Exploitation of the Company Product Candidates, together with the operation of the Company Group's business, as currently conducted and as contemplated to be conducted, (i) does not and will not infringe, misappropriate or otherwise violate, and has not infringed, misappropriated or otherwise violated, any Person's Intellectual Property Rights (other than Patents) and to the Company's Knowledge, any Person's Patents. No Proceedings have been or are pending, or to the Company's Knowledge, threatened, against the Company Group relating to any actual, alleged or suspected infringement, misappropriation or other violation of any Intellectual Property Rights of another Person.

(g) Except as set forth in Section 3.12(g) of the Disclosure Schedule, to the Company's Knowledge, no Person is infringing, misappropriating or otherwise violating any Company Owned IP or other Company IP, and no Proceeding has been asserted or threatened against a Person by the Company Group relating to any actual, alleged or suspected infringement, misappropriation or other violation of any such Company IP.

(h) Except as set forth in Section 3.12(h) of the Disclosure Schedule, the Company IT Systems have adequate capability and capacity to enable the Company Group to conduct its business, in all material respects, in the manner currently conducted and as currently contemplated to be conducted, and there has been no failure of the Company IT Systems that has resulted in a material disruption or interruption in the operation of the Company Group's business since January 1, 2017. Since January 1, 2017, the Company IT Systems have not had any device or feature designed to disrupt, disable or otherwise impair the functioning thereof or any "back door," "time bomb," "Trojan horse," "worm," "drop dead device" or other code or routines that permit unauthorized access or the unauthorized disablement of the Company IT Systems, or erasure of any information or data, in each case that would have a material effect on the functioning of the Company IT Systems taken as a whole. The Company Group has implemented commercially reasonable back-up, disaster recovery and business continuity plans, procedures, and facilities.

(i) The consummation of the Transactions will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other Person in respect of, any Company IP.

Section 3.13 Contracts.

(a) Section 3.13(a) of the Disclosure Schedule sets forth a complete and accurate list as of the date of this Agreement of the following contracts to which any member of the Company Group is a party and under which the Company Group has any remaining rights or obligations (collectively, the "**Company Material Contracts**"):

(i) each Contract pursuant to which any Intellectual Property Right has been licensed, granted, sold, assigned or otherwise conveyed or provided to the Company Group or pursuant to which the Company Group has otherwise received or acquired any right in any material Intellectual Property Right, including a right to receive a license or non-assert (other than Contracts for commercially available off-the-shelf software pursuant to standard terms and conditions entered into in the ordinary course of business consistent with past practice);

(ii) each Contract pursuant to which any Person has been granted any license or non-assert under, or otherwise has received or acquired any right, option or interest in or to (including a right to use, register or enforce) any Company IP by the Company Group;

(iii) any agreement (or group of related agreements) for the lease of personal property from or to third parties that provide for payments in excess of $[*] per year;

(iv) any agreement (or group of related agreements) for the purchase of raw materials, inventory or finished goods or for the receipt of services under which the Company Group expects to receive or pay more than $[*] per year;

(v) any agreement for capital expenditures or the acquisition or construction of fixed assets which requires aggregate future payments in excess of $[*];

(vi) any agreement concerning the establishment or operation of a partnership, joint venture or limited liability company;

(vii) any agreement containing covenants of the Company Group not to (or otherwise restricting or limiting the ability of the Company Group to) (A) compete in any line of business or geographic or therapeutic area, including any covenant not to compete with respect to the development, manufacture, marketing, distribution or sale of any product or product line or (B) hire or solicit employees;

(viii) any agreement (or group of related agreements) under which the Company Group has created, incurred, assumed or guaranteed (or may create, incur, assume or guarantee) Indebtedness (including capitalized lease obligations) or otherwise placing a lien or security interest on any asset of the Company Group;

(ix) any agreement for the disposition of assets material to the business of the Company Group;

(x) any agreement for the acquisition of any business or any corporation, partnership, joint venture, limited liability company, association or other business organization or division thereof, except purchases of inventory, supplies and raw materials in the ordinary course of business consistent with past practice;

(xi) any agreement providing for the indemnification by the Company Group of any person, other than customary indemnification arrangements entered into in the ordinary course of business;

(xii) any collaboration or strategic alliance agreements, or other similar agreements, relating to technology, products or services of the Company Group;

(xiii) any agreement pursuant to which a third party manages or provides services in connection with drug discovery efforts, clinical trials or manufacturing; and

(xiv) any other executory agreement (or group of related agreements) (A) involving future payments of more than $[*] in any one-year period, (B) involving future payments of more than $[*] in any one-year period and that is not terminable by the Company Group upon less than [*] notice without penalty to the Company Group or (C) that is otherwise material to the operation of the business of the Company Group.

(b) The Company has made available to Purchaser a complete and accurate copy of each Company Material Contract. Each Company Material Contract is a legal, valid and binding agreement

of the Company Group, subject to the Enforceability Exceptions, and is in full force and effect with respect to the Company Group. No member of the Company Group is in material violation of or in material default under any Company Material Contract, nor, to the Company's Knowledge, has any event or circumstance occurred that with notice or lapse of time or both would constitute a violation or default under any Company Material Contract or result in a termination thereof or would cause or permit the acceleration or other changes of any right or obligation or the loss of any benefit thereunder. No member of the Company Group has received any written notice of a counterparty's intent to terminate any of the Company Material Contracts.

(c) With regard to any Company Material Contract pursuant to which work is performed under a work order or other similar ancillary document, (i) no member of the Company Group has ever entered into any work order or other similar ancillary document pursuant to which any product was sold or delivered or any service performed for any Person other than the Company Group, and (ii) all products sold or delivered and services performed under such Company Material Contracts have been sold, delivered or performed, as the case may be, pursuant to a work order or other similar ancillary document to which any member of the Company Group is a party.

Section 3.14 Legal Proceedings. Except as set forth on Section 3.14 of the Disclosure Schedule, there is no claim, action, suit, arbitration, investigation, audit or other proceeding pending or, to the Company's Knowledge, threatened in writing against the Company Group. There are no Orders outstanding, or to the Company's Knowledge, threatened in writing against the Company Group. There is no claim, action, suit, arbitration, investigation, audit or other proceeding pending by the Company Group, or, as of the date hereof, which the Company Group intends to initiate against any other Person.

Section 3.15 Environmental Matters.

(a) The Company Group is, and since January 1, 2017 has been, in compliance in all material respects with Environmental Laws, which compliance includes, but is not limited to, the possession by the Company Group of all Company Permits required under all Environmental Laws, and compliance in all material respects with the terms and conditions thereof. No member of the Company Group, since January 1, 2017, has received any written communication, whether from a Governmental Authority, citizens group or employee, that alleges that the Company Group is not in such compliance, and to the Company's Knowledge, there are no circumstances that may prevent or interfere with such compliance in the future.

(b) There is no Environmental Claim pending or to the Company's Knowledge, threatened against the Company Group or against any Person whose liability for any Environmental Claim the Company Group has retained or assumed either contractually or by operation of Law.

(c) There are no past or present actions, activities, circumstances, conditions, events or incidents, including, without limitation, the release, emission, discharge, presence or disposal of any Materials of Environmental Concern, that could form the basis of any Environmental Claim against the Company Group or against any person or entity whose liability for any Environmental Claim the Company Group has retained or assumed either contractually or by operation of Law, or otherwise result in any costs or liabilities under Environmental Law.

(d) The Company has provided to Purchaser all assessments, reports, data, results of investigations or audits and other information that is in the possession of or reasonably available to the Company Group regarding environmental matters pertaining to the compliance (or noncompliance) by the Company Group with any Environmental Laws.

(e) The Company Group is not required by any Environmental Law or by virtue of the transactions set forth herein and contemplated hereby, or as a condition to the effectiveness of any transactions contemplated hereby, (i) to perform a site assessment for Materials of Environmental Concern, (ii) to remove or remediate Materials of Environmental Concern, (iii) to give notice to or receive approval from any Governmental Authority, or (iv) to record or deliver to any Person any disclosure document or statement pertaining to environmental matters.

Section 3.16 Labor Matters.

(a) Section 3.16(a) of the Disclosure Schedule sets forth a complete and accurate list of all employees of the Company Group, stating such employee's (i) name, (ii) job title, (iii) employing entity, (iv) salary, bonus and target incentive compensation, if applicable, or other rate of pay, (v) full-time or part-time status, (vi) exempt or non-exempt status and (vii) active or leave status (and, if on leave, the nature of the leave and the expected return date).

(b) No member of the Company Group is party to, nor bound by, any labor agreement, collective bargaining agreement or any other labor-related agreements or arrangements with any labor union, labor organization or works council; no employees of the Company Group are represented by any labor union, labor organization or other employee representative body with respect to their employment with the Company Group; no labor union, labor organization or group of employees of the Company Group has made a pending demand for recognition or certification, and there are no representation or certification proceedings or petitions seeking a representation proceeding presently pending or, to the Company's Knowledge, threatened in writing to be brought or filed with the National Labor Relations Board; and, to the Company's Knowledge, there have been no labor union organizing activities with respect to any employees of the Company Group.

(c) The Company Group is in material compliance with all applicable laws respecting employment and employment practices, including, without limitation, all applicable laws respecting terms and conditions of employment, health and safety, wages and hours, child labor, immigration, employment discrimination, disability rights or benefits, equal opportunity, plant closures and layoffs, affirmative action, workers' compensation, labor relations, employee leave and unemployment insurance.

(d) Except as set forth on Section 3.16(d) of the Disclosure Schedule, to the Company's Knowledge, no member of the Company Group has received during the three-year period preceding the Closing (i) written notice of any unfair labor practice charge or complaint pending or threatened before the National Labor Relations Board or any other Governmental Authority against them, (ii) written notice of any complaints, grievances or arbitrations arising out of any collective bargaining agreement or any other complaints, grievances or arbitration procedures against them, (iii) written notice of any charge or complaint with respect to or relating to them pending before the Equal Employment Opportunity Commission or any other Governmental Authority responsible for the prevention of unlawful employment practices, (iv) notice of the intent of any Governmental Authority responsible for the enforcement of labor, employment, wages and hours of work, child labor, immigration or occupational safety and health laws to conduct an investigation with respect to or relating to them or notice that such investigation is in progress or (v) written notice of any complaint, lawsuit or other proceeding pending or threatened in any forum by or on behalf of any present or former employee of the Company Group, any applicant for employment or classes of the foregoing alleging breach of any express or implied contract of employment, any applicable Law governing employment or the termination thereof or other discriminatory, wrongful or tortious conduct in connection with the employment relationship.

(e) To the Company's Knowledge, no employee of the Company Group is in violation in any respect of any term of any employment agreement, non-disclosure agreement, common law non-disclosure obligation, fiduciary duty, non-competition agreement, restrictive covenant or other obligation (i) to the Company Group or (ii) to a former employer of any such employee relating (A) to the right of any such employee to be employed by the Company Group or (B) to the knowledge or use of trade secrets or proprietary information.

(f) With respect to each former and current employee of the Company Group, an authorized representative of the Company Group, respectively, has during the three-year period preceding the Closing, in compliance with applicable Law, (i) reviewed the original documents relating to the identity, employment eligibility and authorization of such employee to be employed in the United States and such documents appears, to such authorized representative of the Company Group, to be genuine on their face; and (ii) properly completed a Form I-9 and updated such Form I-9 as required by applicable Law. No member of the Company Group has received any "no-match" letters from the Social Security Administration with respect to any current or former employees. Each employee of the Company Group, respectively, is authorized to work in his or her current position.

(g) No member of the Company Group is delinquent in payments to any employees or former employees for any services or amounts required to be reimbursed or otherwise paid.

(h) No member of the Company Group has been: (i) a "contractor" or "subcontractor" (as defined by Executive Order 11246), (ii) required to comply with Executive Order 11246 or any other applicable Law requiring affirmative action or other employment related actions for government contractors or subcontractors, or (iii) otherwise required to maintain an affirmative action plan.

(i) To the Company's Knowledge, in the past twelve (12) months, no current employee of the Company Group who is at the level of Vice President or above has expressed any plans to terminate his or her employment.

(j) No member of the Company Group is a party to a settlement agreement with a current or former officer, employee or independent contractor of the Company that involves allegations relating to sexual harassment by either (i) an officer of the Company Group or (ii) an employee of the Company Group at the level of Vice President or above. To the Company's Knowledge, in the last five years, no allegations of sexual harassment have been made against (i) any officer of the Company Group relating to their employment with the Company Group or (ii) an employee of the Company Group at a level of Vice President or above relating to their employment with the Company Group.

(k) The Company Group is in material compliance with all applicable workers' compensation insurance laws.

(l) All individuals who are performing, and for the three-year period preceding Closing have performed, services for the Company Group while classified as independent contractors have been properly so classified for all purposes. For the three-year period preceding the Closing, all employees of the Company Group classified as "exempt" under the Fair Labor Standards Act of 1938, 29 U.S.C. § 201 et seq., and applicable state wage and hour laws have been, properly classified as "exempt."

Section 3.17 Compliance with Laws. The Company Group is in material compliance with, is not in material violation of, and, since January 1, 2017, has not received any written notice alleging any material violation with respect to, any Laws with respect to the conduct of the business of the Company Group.

Section 3.18 Government Authorizations. The Company Group has all Permits material to the conduct of the business of the Company Group as currently conducted (the "**Company Permits**"), all of which are in full force and effect. The Company Group is in material compliance with the terms of the Company Permits, and, to the Company's Knowledge, no event has occurred which allows, or as a result of which after notice or lapse of time would allow, revocation or termination thereof or result in any other material impairment of the rights of the holder of any such Company Permit.

Section 3.19 Insurance. Section 3.19 of the Disclosure Schedule sets forth a true and complete list of all insurance maintained by or on behalf of the Company Group (the "**Insurance Policies**"). Such Insurance Policies are in full force and effect with respect to the Company Group. The Company Group has complied in all material respects with the provisions of each Insurance Policy under which it is the insured party. No insurer under any Insurance Policy has provided written notice to the Company Group that it has canceled or generally disclaimed liability under any such Insurance Policy or indicated any intent to do so or not to renew any such policy.

Section 3.20 Regulatory Compliance.

(a) The Company Product Candidates are being and, since January 1, 2017, have been developed, tested, labeled, manufactured, stored, imported, exported and distributed, as applicable, and the Company Group is and, since January 1, 2017, has been in compliance in all material respects with all applicable Laws governing the business of the Company Group and Company Product Candidates, as such Laws pertain to the business of the Company Group and Company Product Candidates, including but not limited to (i) the U.S. Federal Food, Drug and Cosmetic Act and applicable regulations issued by the FDA, including, as applicable, those requirements relating to the FDA's current Good Manufacturing Practices, Good Laboratory Practices, investigational use, and applications to market a new pharmaceutical or biologic product (the "**FDC Act**"), (ii) the exclusion laws (42 U.S.C. § 1320a-7), and the regulations promulgated pursuant to such statutes; and (iii) all applicable comparable state, federal, non-U.S. or other Laws relating to any of the foregoing (the Laws referred to in (i) through (iii) collectively, "**Health Care Laws**"). No member of the Company Group has received written notice of any pending or threatened Proceeding, and, to the Company's Knowledge, there is not pending any allegation that any operation or activity of Company Group relating to the business of the Company Group or any Company Product Candidates is in violation of any **Health Care Laws**.

(b) The Company has made available to Purchaser and Merger Sub in an accurate and complete manner material preclinical data in the possession of the Company Group regarding the Company Product Candidates. The Company has delivered to Purchaser and Merger Sub accurate and complete copies of (i) each material report and filing submitted by the Company Group to the FDA or any similar federal, state or other Governmental Authority, including all related supplements, amendments, and annual reports; (ii) all internal, third party, FDA and other Governmental Authority audits related to compliance with applicable Health Care Laws by the Company Group; and (iii) all correspondence and minutes of meetings or memoranda of meetings or regulatory contacts with a Governmental Authority, in the case of subsection (i), (ii) and (iii) that concerns any Company Product Candidates or the business of the Company Group.

(c) All preclinical studies and any other studies and tests conducted by or, to the Company's Knowledge, on behalf of the Company Group with respect to any Company Product Candidates have been, and if still pending are being, conducted in material compliance with all applicable research protocols, Good Laboratory Practices and all applicable Laws, including the FDC Act and other Health Care Laws. No ongoing preclinical or proposed clinical trial conducted by or on behalf of the Company Group

with respect to any Company Product Candidates has been terminated, materially delayed or suspended prior to completion.

(d) Neither the Company Group, nor to the Company's Knowledge, any officer, employee or agent thereof has committed or failed to commit any act, made any material misstatement, or failed to make any required statement to the FDA or any other Governmental Authority with respect to any Company Product Candidate. Neither the Company Group, nor any officer, employee or agent thereof has been convicted of any crime or engaged in any conduct that would reasonably be expected to result, or has resulted, in (i) debarment under 21 U.S.C. Section 335a or any similar Law, (ii) disqualification under 21 C.F.R. Section 312.70, or (iii) exclusion under 42 U.S.C. Section 1320a-7 or any similar Law.

(e) The Company Group has not submitted nor, to the Company's Knowledge, caused to be submitted any claim for payment to any U.S. federal or state government healthcare program related to any Company Product Candidates.

(f) To the Company's Knowledge, all manufacturing operations conducted for the benefit of the Company Group or in connection with any Company Product Candidates have been and are being conducted in material compliance with applicable Laws, including, to the extent applicable, the provisions of the FDA's current Good Manufacturing Practices regulations, and the respective counterparts thereof promulgated by Governmental Authorities. Neither the Company Group nor, to the Company's Knowledge, any Person acting on its behalf has, with respect to any Company Product Candidate, been subject to a Governmental Authority (including FDA) shutdown or import or export prohibition or received any Form FDA-483, or other notice of inspectional observations, "warning letters," "untitled letters" or written requests or requirements from a Governmental Authority to make any change to any Company Product Candidate or any of the Company Group's processes or procedures relating to the manufacture of any Company Product Candidate, or any similar correspondence or notice from the FDA or any other Governmental Authority in respect of the business of the Company Group alleging or asserting noncompliance with any applicable Law or Company Permit.

(g) The Company Group is not party to any corporate integrity agreement, monitoring agreement, consent decree, settlement order, or similar agreement with or imposed by any Governmental Authority.

(h) The Company does not collect, process or store patient health information or Protected Health Information (as defined at 45 C.F.R. § 160.103) anywhere in the world, and the Company is not subject to Data Protection Laws in any jurisdiction outside the United States.

Section 3.21 Employee Benefits.

(a) Section 3.21(a) of the Disclosure Schedule lists each material Benefit Plan. Each Benefit Plan has been maintained and administered in accordance with its terms and in compliance with all applicable Laws, except to the extent any non-compliance would not result in a Material Adverse Effect. Each Benefit Plan intended to be qualified under Section 401(a) of the Code has received a favorable determination or approval letter from the IRS with respect to such qualification, or may rely on an opinion letter issued by the IRS with respect to a prototype plan adopted in accordance with the requirements for such reliance, or has time remaining for application to the IRS for a determination of the qualified status of such Benefit Plan for any period for which such Benefit Plan would not otherwise be covered by an IRS determination and, to the Company's Knowledge, no event or omission has occurred that would reasonably be expected to result in the revocation of any such determination. No litigation or other Proceeding (other

than those relating to routine claims for benefits) is pending or, to the Company's Knowledge, overtly threatened with respect to any Benefit Plan.

(b) No Benefit Plan is a (i) "multiemployer plan," as defined in Section 3(37) of ERISA, that is subject to ERISA, or (ii) a "employee pension benefit plan," as defined in Section 3(2) of ERISA, that is subject to Section 302 of ERISA, Title IV of ERISA or Section 412 of the Code and the Company has not incurred and does not reasonably expect to incur any liability with respect to any such plans.

(c) No Benefit Plan provides for post-termination or retiree medical benefits (other than under Section 4980B of the Code or pursuant to state health continuation Laws) to any current or future retiree or former employee.

(d) Except as provided in Section 2.2, neither the execution and delivery of this Agreement, the stockholder approval of this Agreement, nor the consummation of the Transactions could (either alone or in conjunction with any other event) (i) result in, or cause the accelerated vesting payment, funding or delivery of, or increase the amount or value of, any payment or benefit to any employee, officer, director or other service provider of the Company; (ii) result in any "parachute payment" as defined in Section 280G(b)(2) of the Code (whether or not such payment is considered to be reasonable compensation for services rendered); or (iii) result in a requirement to pay any tax "gross-up" or similar "make-whole" payments to any employee, director or consultant of the Company.

Section 3.22 Unlawful Payments.

(a) No member of the Company Group or, to the Company's Knowledge, any member of the board of directors (or equivalent), officer (or equivalent), agent, employee or other person acting on behalf of or in the name of any member of the Company Group with authority to do so has: (i) offered or used any corporate funds, directly or indirectly, for any unlawful contribution, gift, entertainment or other unlawful expense; (ii) offered or made a direct or indirect unlawful payment or conveyance of something of value to any U.S. or non-U.S. government official, employee or political candidate or established or maintained any unlawful or unrecorded funds; (iii) violated any provision of the U.S. Foreign Corrupt Practices Act of 1977, the UK Anti-Bribery Act of 2010 or any similar Laws including those concerning unlawful payments or gifts in any jurisdiction (collectively, "**Anti-Bribery Laws**"); (iv) offered or given any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment or gift of money or anything of value to any third party, including any U.S. or non-U.S. government official or employee of any Governmental Authority; (v) received any unlawful discounts or rebates in violation of any applicable Law relating to antitrust or competition; (vi) breached or waived any applicable U.S. or non-U.S., federal or state Law regarding business conduct; or (vii) failed to conduct the business of the Company Group at all times in compliance with applicable financial recordkeeping and reporting requirements of applicable Anti-Bribery Laws. The Company Group has instituted and maintained policies and procedures reasonably designed to promote, and which are reasonably expected to continue to promote, continued compliance with Anti-Bribery Laws.

(b) No member of the Company Group nor, to the Company's Knowledge, any member of the board of directors (or equivalent), officer (or equivalent), agent, employee or other person acting on behalf of or in the name of the such company: (i) has been or is designated on any list of any U.S. Governmental Authority, including the U.S. Office of Foreign Assets Control's ("**OFAC**") Specially Designated Nationals and Blocked Persons List, the U.S. Department of Commerce ("**Commerce**") Denied Persons List, the

Commerce Entity List, and the U.S. Department of State ("**State Department**") Debarred List, (ii) has participated in any unlawful transaction involving such designated person or entity, or any country that would cause a violation of U.S. sanctions administered by OFAC, (iii) has exported (including deemed exportation) or re-exported, directly or indirectly, any goods, technology or services in violation of any applicable U.S. export control or economic sanctions laws, regulations or orders administered by OFAC, Commerce or State Department, (iv) has to the Company's Knowledge, participated in any export, re-export or transaction prohibited by U.S. export control and economic sanctions laws, including, without limitation, support for international terrorism and nuclear, chemical or biological weapons proliferation.

Section 3.23 Affiliate Transactions. As of the Closing, except as otherwise set forth in this Agreement, the ancillary agreements hereto or other than in his or her capacity as a stockholder, director, officer or employee of the Company Group, no Affiliate of the Company Group (a) owns any property or right, tangible or intangible, which is used in the business of the Company Group, (b) has any claim or cause of action against the Company Group, (c) owes any money to, or is owed any money by, the Company Group or (d) is involved in any material business arrangement or relationship or is party to any material Contract with the Company Group.

Section 3.24 Effect of Transaction. As of the date of this Agreement, no Person having a business relationship with the Company Group has informed the Company Group in writing that such Person intends to change such relationship because (in part or in whole) of the consummation of the Transactions.

Section 3.25 Brokers. No agent, broker, investment banker, financial advisor or other firm or Person is or shall be entitled, as a result of any action, agreement or commitment of the Company or any of its Affiliates, to any broker's, finder's, financial advisor's or other similar fee or commission in connection with any of the Transactions.

Section 3.26 No Dividends Declared. No dividends have been declared or paid in respect of either the Series A Shares or the Series B Shares since their respective issue.

Section 3.27 No Other Representations or Warranties. Except for the representations and warranties contained in Article IV (including the Schedules and Exhibits to this Agreement), the Company acknowledges that neither Purchaser nor Merger Sub, nor any of their respective Affiliates, nor any other Person, made or shall be deemed to have made any representation or warranty to the Company, express or implied, at Law or in equity, on behalf of Purchaser or Merger Sub. Any claims the Company may have for breach of representation or warranty shall be based solely on the representations and warranties of Purchaser and Merger Sub expressly set forth in this Agreement, the ancillary agreements hereto and the certificates and other documents delivered pursuant hereto and thereto.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF PURCHASER AND MERGER SUB

Purchaser and Merger Sub hereby, jointly and severally, make the representations and warranties to the Company on the date hereof and as of the Closing Date that are set forth in this Article IV.

Section 4.1 Organization, Existence and Good Standing. Purchaser is a corporation duly organized, validly existing and in good standing under the Laws of The Commonwealth of Massachusetts. Merger Sub is a corporation duly organized, validly existing and in good standing under the Laws of the State of Delaware. Each of Purchaser and Merger Sub has qualified as a foreign corporation, and is in good

standing, under the Laws of all jurisdictions where the nature of its respective businesses or the nature or location of its respective assets requires such qualification and where the failure to so qualify would have a Purchaser Material Adverse Effect.

Section 4.2 Authority; Required Filings and Consents; No Conflict.

(a) Each of Purchaser and Merger Sub has full corporate power and authority to enter into and perform this Agreement and all the other Transaction Documents to be executed or delivered by such Party in connection with the Transactions. The execution, delivery and performance of this Agreement and the other Transaction Documents by Purchaser and Merger Sub and the consummation by Purchaser and Merger Sub of the Transactions have been duly and validly approved by the board of directors of Purchaser and the board of directors of Merger Sub. Purchaser has approved, effective upon the execution of this Agreement, in the Merger Sub Stockholder Consent, the execution by Merger Sub of this Agreement and the other Transaction Documents to which Merger Sub is a party and the consummation by Merger Sub of the Transactions. No other Proceedings or approvals are necessary on the part of Purchaser or Merger Sub to authorize the execution, delivery and performance of this Agreement and the other Transaction Documents by Purchaser or Merger Sub and the consummation by Purchaser or Merger Sub of the Transactions.

(b) No material consents or approvals of, waivers from or filings or registrations with, any Governmental Authority are required to be made or obtained at or prior to the Closing by Purchaser or Merger Sub in connection with the execution, delivery or performance by the Company of this Agreement or the ancillary agreements hereto or to consummate the transactions contemplated hereby or thereby, except for as required under the HSR Act.

(c) Subject to the making of the filings and registrations and receipt of the consents, approvals and waivers referred to in Section 4.2(b) and the expiration of related waiting periods, except as may result from any facts or circumstances relating to the identity or regulatory status of the Company or its Affiliates, the execution, delivery and performance of this Agreement or the ancillary agreements hereto by Purchaser and Merger Sub and the consummation of the transactions contemplated hereby or thereby do not and will not (i) violate any (A) applicable material Law, (B) applicable material Order or (C) applicable material Permits, or (ii) constitute a breach or violation of, or a default under, the Governing Documents of Purchaser or Merger Sub.

Section 4.3 Enforceability. This Agreement has been duly authorized, executed and delivered by duly authorized officers or other signatories of Purchaser and Merger Sub and constitutes a valid and binding obligation of Purchaser and Merger Sub, enforceable against Purchaser and Merger Sub in accordance with its terms, except to the extent enforcement may be affected by Enforceability Exceptions. At the Closing, the Transaction Documents to be executed and delivered by Purchaser and Merger Sub will be duly executed and delivered by duly authorized officers of Purchaser and Merger Sub and will constitute valid and binding obligations of Purchaser and Merger Sub, enforceable in accordance with their terms, except to the extent enforcement may be affected by Enforceability Exceptions.

Section 4.4 Legal Proceedings. There is no Proceeding pending against either Purchaser or Merger Sub and, to the knowledge of Purchaser, no such Proceeding has been threatened against Purchaser or Merger Sub, and each of Purchaser and Merger Sub is not subject to any Order that, individually or in the aggregate, would have a Purchaser Material Adverse Effect.

Section 4.5 Financial Capability. Purchaser has available sufficient cash or other sources of immediately available funds to pay all amounts payable pursuant to Article II, and Purchaser's obligations hereunder are not subject to any conditions regarding Purchaser's ability to obtain financing for the Merger.

Section 4.6 Acquisition of Transferred Interests for Investment. Purchaser has such knowledge and experience in financial and business matters, and is capable of evaluating the merits and risks of the Merger. Each of Purchaser and Merger Sub confirms that the Company has made available to each of Purchaser and Merger Sub and their agents the opportunity to ask questions of the officers and management employees of the Company as well as access to the documents, information and records of the Company Group and to acquire additional information about the business and financial condition of the Company Group. Purchaser is acquiring, upon the Effective Time in connection with the cancellation of the Shares, the securities of the Surviving Corporation for its own account with the present intention of holding such securities for investment and not with a view toward, or for sale in connection with any distribution thereof, or with any present intention of distributing or selling the Shares. Each of Purchaser and Merger Sub acknowledges that the Shares have not been registered under the Securities Act or any state securities Laws, and agrees that the Shares may not be sold, transferred, offered for sale, pledged, hypothecated or otherwise disposed of without registration under the Securities Act, except pursuant to an exemption from such registration available under the Securities Act, and without compliance with foreign securities Laws, in each case, to the extent applicable.

Section 4.7 Capitalization and Operation of Merger Sub. The authorized capital stock of Merger Sub consists of 1,000 shares of common stock, par value $0.0001 per share, 100 shares of which are validly issued and outstanding. All of the issued and outstanding capital stock of Merger Sub is, and at the Closing Date will be, owned by Purchaser and such capital stock shall be as of the Closing free and clear of all Encumbrances (other than transfer restrictions under applicable securities Laws). Merger Sub has been formed solely for the purpose of engaging in the Transactions and prior to the Closing Date will have engaged in no other business activities and will have incurred no liabilities or obligations other than as contemplated by this Agreement.

Section 4.8 No Other Representations and Warranties. Except for the representations and warranties contained in Article III (including the Schedules and Exhibits to this Agreement), Purchaser and Merger Sub acknowledge that neither the Company nor CytoSolv, nor any other Person, made or shall be deemed to have made any representation or warranty to Purchaser or Merger Sub, express or implied, at Law or in equity, on behalf of the Company or CytoSolv. Any claims Purchaser or Merger Sub may have for breach of representation or warranty shall be based solely on the representations and warranties of the Company expressly set forth in this Agreement, the ancillary agreements hereto and the certificates and other documents delivered pursuant hereto and thereto.

ARTICLE V
COVENANTS

Section 5.1 Reasonable Access. During the period between the date hereof and the earlier to occur of Closing or the valid termination of this Agreement pursuant to Article IX (the "**Pre-Closing Period**"), the Company will give to Purchaser's officers, employees, agents, attorneys, consultants, accountants, lenders and potential insurance providers reasonable access during normal business hours to all of the properties, books, contracts, documents, insurance policies and records of or with respect to any member of Company Group and will furnish to Purchaser and such Persons as Purchaser will designate to the Company such information as Purchaser or such Persons may at any time and from time to time reasonably request; *provided*, *however*, that (a) the Company shall not be required to permit any inspection or other access, or to disclose any information, that in the reasonable judgment of the Company would: (i) violate any contractual obligation of any member of the Company Group with respect to confidentiality or non-disclosure (including disclosure of trade secrets or other Intellectual Property Rights in violation of such contractual obligations); (ii) jeopardize protections afforded the Company under the attorney-client privilege

or the attorney work product doctrine; or (iii) result in disclosure of information that the Company is required by Law to keep confidential; and (b) the Company shall use commercially reasonable efforts to provide Purchaser the access, documents or information sought in a manner that does not violate applicable Law or jeopardize such attorney-client or other privilege or confidentiality. In no event shall Purchaser nor any Persons acting on its behalf communicate with any employee, customer or service provider of any member of the Company Group without the prior written consent of the Company (electronic mail being sufficient); *provided, however*, that Purchaser shall not be prohibited from contacting suppliers, distributors or other material business relations of any member of the Company Group in the ordinary course of business and not related to the Transactions.

Section 5.2 Third Party Consents. During the Pre-Closing Period, the Company will use its commercially reasonable efforts, and Purchaser will cooperate with the Company, to obtain the third party consents to the consummation of the Transactions under or with respect to the contracts, agreements, leases, Permits and other instruments enumerated in Schedule 5.2 ("**Material Consents**"), *provided, however*, that the Company will not be required to make, or obligate itself to make, any payment to any third party in order to obtain any Material Consent except as required by the terms of such contracts, agreements, leases, Permits or other instruments enumerated in Schedule 5.2.

Section 5.3 Operation of the Business. From the date of this Agreement to the earlier of the Closing or the date this Agreement is terminated pursuant to Article IX, the Company Group shall, except as expressly required by the terms of this Agreement or the ancillary agreements hereto or with the prior written consent of Purchaser (including via email only if from an Authorized Purchaser Consent Provider), conduct the business of the Company Group in the ordinary course of business consistent with past practice and use its reasonable best efforts to (i) preserve intact the respective current business organizations of the Company Group, (ii) keep the respective physical assets of the Company Group used in the business of the Company Group in good working condition, (iii) preserve, maintain the value of, renew, extend, protect the confidential nature of and legal protections applicable to and keep in full force and effect all Intellectual Property Rights, including filing and prosecuting applications for registration of Intellectual Property Rights, (iv) notify and consult with Purchaser promptly with respect to the Company Group or the business of the Company Group: (A) after receipt of any communication from any Governmental Authority and before giving any submission to a Governmental Authority; (B) before participating in any meeting or material discussion with any Governmental Authority regarding the business of the Company Group or any Company Product Candidate; and (C) prior to making any material change to the development timeline for any Company Product Candidate, (v) maintain good working relationships with Persons having a material business relationship with the Company Group, and (vi) keep in effect casualty, product liability, workers' compensation and other insurance policies in coverage amounts substantially similar to those in effect as of the date hereof to the extent applicable to the Company Group or the business of the Company Group.

Section 5.4 Actions Outside the Ordinary Course. Without limiting the generality of Section 5.3, except as expressly required by the terms of this Agreement, with the prior written consent of Purchaser (including via email only if from an Authorized Purchaser Consent Provider) or as set forth on Section 5.4 of the Disclosure Schedule, during the Pre-Closing Period, the Company Group shall not:

(a) amend its Governing Documents or adopt a plan of complete or partial liquidation, dissolution, merger, consolidation, restructuring, recapitalization, amalgamation, reclassification or like change in capitalization, or other reorganization;

(b) split, combine, reduce, subdivide or reclassify any of its capital stock;

(c) issue, deliver, grant, sell, pledge, dispose of or encumber or authorize the issuance, delivery, grant, sale, pledge, disposition or encumbrance of, any shares in its capital stock, voting securities or other equity interest in any member of the Company Group or any securities convertible into or exchangeable for any such shares, voting securities or equity interest, or any rights, warrants or options to acquire any such shares in its capital stock, voting securities or equity interest, or any "phantom" stock, "phantom" stock rights, stock appreciation rights, stock-based performance units or any right to receive an amount that is based off of, or related to, the value of any of the foregoing or the value of a member of the Company Group; provided, however, the Company shall be permitted to issue shares of its Common Stock upon the exercise of Options that are outstanding as of the date hereof; *provided* that the Company shall update the Allocation Schedule accordingly.

(d) acquire, lease, license, sublicense, pledge, sell or otherwise dispose of, divest or spin-off, abandon, waive, covenant not to assert, relinquish or permit to lapse (other than allowing a Patent to expire at the end of its statutory term), transfer, assign, guarantee, exchange or swap, mortgage or otherwise subject to any Encumbrance (other than Permitted Encumbrances) any material right or other material asset or property;

(e) disclose or agree to disclose to any Person, other than representatives of Purchaser or in accordance with an existing Contract, any material Trade Secret;

(f) except as required by applicable Law, as required by any Benefit Plan of the Company Group as in effect on the date of this Agreement: (i) grant any increase in the wages, salary, bonus or other compensation, remuneration or benefits, including severance compensation and benefits, of any current or former director, officer, employee, independent contractor or consultant of any of the Company Group, or provide a loan to such individual; (ii) establish, adopt, enter into, materially amend or terminate any Benefit Plan (or any arrangement which if in existence as of the date of this Agreement would constitute a Benefit Plan); (iii) take any action to fund or secure the payment of any amounts under any Benefit Plan; (iv) except as provided in Section 2.2, accelerate the vesting of any equity or equity-based compensation; or (v) change any assumptions used to calculate funding or contribution obligations of the Company Group with respect to any Benefit Plan;

(g) hire, engage the services of or terminate any director, officer, employee, independent contractor or consultant, other than hiring or engaging employees, independent contractors or consultants in the ordinary course of business consistent with past practice and where the annualized base salary of such individual is less than $[*];

(h) make any changes to accounting policies or practices, except as required by GAAP or applicable Law;

(i) directly or indirectly purchase, redeem or otherwise acquire any shares or other equity interests in its capital or any rights, warrants or options to acquire any such shares or other equity interests in its capital other than pursuant to the Equity Incentive Plan;

(j) acquire any ownership interest in any real property or enter into any lease, sublease, license or other agreement relating to real property;

(k) subject to any Encumbrance, other than Permitted Encumbrances or any of the Leased Real Property, abandon, sell, transfer, lease, assign or otherwise dispose of any of the Leased Real Property or materially amend or modify or terminate any Lease;

(l) incur, assume or guaranty any Indebtedness for borrowed money;

(m) declare, set aside or pay any dividend on or other distribution in respect of, any equity interests of the Company;

(n) enter into, materially modify or amend or terminate any Company Material Contract;

(o) change any method or timing of payments of accounts payable or collection of accounts receivable, other than changes required as a result in changes in GAAP or applicable Law;

(p) make any capital expenditures other than capital expenditures approved by the Company Board prior to the date hereof as set forth on Section 5.4(p) of the Disclosure Schedule;

(q) cancel, terminate, allow to lapse or amend in any material respect any insurance policy in effect as of the date hereof, other than the termination, renewal or replacement of any such policy in the ordinary course of business on comparable terms as in effect on the date hereof;

(r) waive any restrictive covenant obligations of any employee or consultant of the Company Group;

(s) unless required by Law, (i) modify, extend or enter into any labor agreement, collective bargaining agreement or any other labor-related agreements or arrangements with any labor union, labor organization or other employee representative body, or (ii) recognize or certify any labor union, labor organization or group of employees of the Company as the bargaining representative for any employees of the Company;

(t) adopt or change any Tax accounting methods;

(u) make, revoke or amend any election related to Taxes;

(v) enter into any closing or similar agreement with respect to Taxes;

(w) settle or compromise any Tax claim or liability of any member of the Company Group, or enter into any Tax allocation, indemnity or sharing agreement;

(x) make, compromise or surrender any right to claim a material Tax refund, consent to any waiver or extension of the statute of limitations applicable to any Taxes or any Tax Return (other than an extension obtained in the ordinary course of business in connection with filing Tax Returns);

(y) file any amended Tax Returns;

(z) take, cause or otherwise permit any other Person to take or cause any action outside of the ordinary course of business which could (A) materially increase Purchaser's or any of its Affiliates' (which following the Closing shall include the members of the Company Group) liability for Taxes or (B) result in, or change the character of, any material income or gain that Purchaser or any of its Affiliates (which following the Closing shall include the members of the Company Group) must report on any Tax Return;

(aa) settle, waive or compromise, or agree to settle, waive or compromise, any Proceeding or commence any Proceeding that is material to the Company;

(bb) take any action or fail to take any action that could reasonably be expected to result, directly or indirectly, in the inability to obtain Patent protection or in the invalidation or unenforceability of any Intellectual Property Rights;

(cc) issue or release any press releases or publications or make other public announcements material to the business of the Company Group, Company IP or any Company Product Candidate; or

(dd) agree to take any of the foregoing actions.

Section 5.5 Exclusivity. Upon receipt of the Company Stockholder Consent, during the remainder of the Pre-Closing Period, the Company shall cease any and all existing activities, discussions and negotiations with, and will not directly or indirectly solicit, initiate, consider, encourage, accept or engage in discussions with, or entertain, proposals or offers from, or enter into any legally binding written agreement with, or furnish any information with respect to the foregoing to, any Person (other than Purchaser, Merger Sub and their respective Affiliates and agents) concerning any Acquisition Proposal. During the Pre-Closing Period, the Company shall terminate access to the Data Room to all third parties other than Purchaser and its Representatives. The Company agrees to promptly notify Purchaser in the event Company or its Affiliates receives, during the Pre-Closing Period, any Acquisition Proposal.

Section 5.6 Disclosure Schedule.

(a) All representations and warranties of the Company in this Agreement or any other Transaction Document are made subject to and modified by the exceptions noted in the schedules delivered by the Company to Purchaser concurrently herewith and identified as the "**Disclosure Schedule**," as it may be modified from time to time pursuant to Section 5.6(b). A disclosure made by the Company in any Section of the Disclosure Schedule (or subparts thereof) that reasonably informs Purchaser of information with respect to another Section of this Agreement, any other Transaction Document or the Disclosure Schedule (or subparts thereof) in order to avoid a misrepresentation thereunder will be deemed, for all purposes of this Agreement and the other Transaction Documents, to have been made with respect to all such other Sections of this Agreement, the other Transaction Documents and the Disclosure Schedule (or subparts thereof), notwithstanding any cross-references (which are included solely as a matter of convenience) or lack of a Schedule reference in any representation or warranty. Information reflected in the Disclosure Schedule is not necessarily limited to matters required by this Agreement to be reflected in the Disclosure Schedule. Such additional information is set forth for informational purposes and does not necessarily include other matters of a similar nature. Disclosure of such additional information will not be deemed to constitute an acknowledgment that such information is required to be disclosed, and disclosure of such information will not be deemed to enlarge or enhance any of the representations or warranties in this Agreement or otherwise alter in any way the terms of this Agreement. Inclusion of information in the Disclosure Schedule will not be construed as an admission that such information is material to the business, assets, liabilities, financial position, operations or results of operations of any member of the Company Group. To the extent that any representation or warranty is limited by its terms to a specific date or range of dates, such representation and warranty shall be deemed to have been made only on such date or during the range of dates so specified.

(b) From time to time between the date hereof and the Closing Date, the Company, in its sole discretion, may supplement or amend the Disclosure Schedule and deliver such supplemented or amended Disclosure Schedule to Purchaser solely with respect to any fact, occurrence, event, effect, change, circumstance or development, which comes into existence, occurs or becomes known after the date hereof,

or which, if existing, occurring or known on the date of this Agreement would have been required to been set forth on the Disclosure Schedule. No such supplement or amendment to the Disclosure Schedule pursuant to Section 5.6(a) shall be deemed to have modified the representations, warranties or covenants of the Company herein for purposes of determining whether the conditions set forth in Section 6.2(a) have been satisfied, or shall affect whether a breach of such representations, warranties or covenants has occurred for purposes of determining Purchaser's rights under Article IX or Article X with respect thereto; *provided however*, that, the Company shall be permitted to provide an updated version of Section 3.4(a), Section 3.4(d)(i) and Section 3.4(d)(ii) of the Disclosure Schedule (solely with respect to the outstanding Shares and Options and the ownership thereof) to Purchaser one (1) Business Day prior to the Closing Date, which such update shall be deemed to modify Section 3.4(a), Section 3.4(d)(i) and Section 3.4(d)(ii) of the Disclosure Schedule provided as of the date hereof.

Section 5.7 Confidentiality Agreement. That certain Confidentiality Agreement, dated May 6, 2019, between Purchaser and the Company (the "**Confidentiality Agreement**") is hereby incorporated into this Agreement by reference and made a part of this Agreement and will survive the execution of this Agreement notwithstanding the terms thereof. The provisions of this Section 5.7 will terminate upon the Closing.

Section 5.8 Transfer of Permits. If any Permit of a member of the Company Group must be reissued to any Person on account of the Transactions in order to operate the applicable member of the Company Group's business following the Closing, then each of the Company, Purchaser and Merger Sub will use its commercially reasonable efforts to obtain such Permit; *provided*, *however*, that no member of the Company Group will be required to make any payment prior to the Closing to any third party with respect to the Company's, Purchaser's or Merger Sub's efforts to obtain any Permit unless Purchaser agrees to pay or reimburse the Company prior to the Closing for any such payment.

Section 5.9 Officers' and Directors' Liability; Release.

(a) From the Effective Time through the sixth (6^{th}) anniversary of the Closing Date, Purchaser will cause the Surviving Corporation (and any successor in interest) to maintain on terms no less favorable in the aggregate than the current terms, and to honor in accordance with such terms, the provisions of the Governing Documents of the Company and any agreements between the Company and each individual who, at or prior to the Closing Date, was entitled to indemnification pursuant to the Governing Documents or any indemnification agreements between such Person and the Company (each, a "**Covered Person**") (including provisions relating to contributions and advancement of expenses, in each case, to the extent so provided), and the provisions with respect to indemnification and limitations on liability set forth in such Governing Documents or indemnification agreements shall not be amended, repealed or otherwise modified during such period. For the avoidance of doubt, it being the intent of the Parties that the Covered Persons will continue to be entitled to such exculpation, indemnification, and advancement of expense to the fullest extent of the Law, the Governing Documents and any such indemnification agreements.

(b) At the Closing, Purchaser shall cause the Surviving Corporation (and any successor in interest) to purchase, and the Surviving Corporation immediately following the Closing shall purchase and maintain in effect for a period of six (6) years thereafter, a tail policy to the current officers' and directors' liability insurance maintained by or on behalf of the Company, on terms no less favorable in terms of coverage and amount in the aggregate than the officers' and directors' liability insurance currently maintained in effect by the Company; *provided*, *however*, that in no event shall the cost of the entire tail policy be in excess of [*]% of the annual premium currently paid by or on behalf of the Company for its existing policy of officers' and directors' liability insurance as in effect on the date hereof.

(c) The provisions of this Section 5.9 (i) are intended to be for the benefit of, and will be enforceable by, each Person entitled to indemnification or any other benefits under this Section 5.9, and each such Person's heirs, legatees, representatives, successors, and assigns (and the Parties expressly agree that such Persons will be third party beneficiaries of this Section 5.9), (ii) will survive the consummation of a transaction involving the merger, consolidation or other reorganization of the Company, Purchaser or the Surviving Corporation and continue in full force and effect and binding against the survivor of any such transaction or successor to any of the Company, Purchaser or the Surviving Corporation, and (iii) are in addition to, and not in substitution for, any other rights to indemnification that any such Person may have by contract or otherwise.

Section 5.10 Labor Matters.

(a) Prior to the Effective Time, the Company shall use reasonable commercial efforts to obtain a written waiver from each "disqualified individual" (within the meaning of Section 280G(c) of the Code) with respect to the Company of his or her right to any and all payments or other benefits that could be deemed "parachute payments" under Section 280G(b) of the Code if such payments are not approved by the Company's stockholders in a manner that satisfies the requirements of Section 280G(b)(5)(B) and any regulations (including proposed regulations) thereunder. After obtaining such written waivers and prior to the Closing Date, the Company shall solicit stockholder approval of any and all such waived payments or benefits in a manner that intended to satisfy the requirements for the exemption under Section 280G(b)(5)(A)(ii) of the Code and the regulations thereunder, including the provision of adequate disclosure to all applicable stockholders of all material facts concerning all payments that, in the absence of such stockholder approval, could be classified as "parachute payments" to a "disqualified individual" under Section 280G of the Code. The form of waiver, solicitation of approval, and disclosure materials shall be subject to the prior review and reasonable approval of Purchaser, which shall be afforded a reasonable opportunity to review such documents before the waivers and approval are sought. As soon as practicable (but not more than ten (10) calendar days) following the date of this Agreement, the Company shall deliver to Purchaser a report that sets forth the Company's good faith estimate, as of the date of such report, of the amounts described in this Section 5.10(a) (including reasonable documentation).

(b) If requested by Purchaser at least two (2) Business Days prior to the Closing Date, the Company shall take all actions necessary to terminate the Company's tax-qualified defined contribution retirement plan (the "**Company 401(k) Plan**"), or cause such plan to be terminated, effective as of no later than the day immediately preceding the Closing Date, and contingent upon the occurrence of the Closing, and provide that participants in the Company 401(k) Plan shall become fully vested in any unvested portion of their Company 401(k) Plan accounts as of the date such plan is terminated. If the Company 401(k) Plan is terminated, Purchaser shall designate a tax-qualified defined contribution retirement plan with a cash or deferred arrangement that is sponsored by Purchaser or one of its Subsidiaries (the "**Purchaser 401(k) Plan**") that will cover Company Employees effective as of the Closing Date. In connection with the termination of the Company 401(k) Plan, Purchaser shall cause the Purchaser 401(k) Plan to accept from the Company 401(k) Plan the "direct rollover" of the account balance of each Company Employee who participated in the Company 401(k) Plan as of the date such plan is terminated and who elects such direct rollover in accordance with the terms of the Company 401(k) Plan and the Code.

(c) For the period commencing at the Effective Time and ending twelve (12) months after the Effective Time, Purchaser agrees to cause the Surviving Corporation to maintain the compensation levels (other than equity incentives), including base salary and annual cash incentive opportunities, of employees of the Company Group who remain employed after the Effective Time (the "**Continuing Employees**") at levels which are, in the aggregate, comparable to those in effect for the Continuing Employees

immediately prior to the Effective Time. Purchaser will treat, and cause the applicable benefit plans to treat, the service of the Continuing Employees with the applicable member of the Company Group attributable to any period before the Effective Time as service rendered to Purchaser or any Subsidiary of the Purchaser for purposes of eligibility and vesting under Purchaser's vacation program, health or welfare plan(s) maintained by Purchaser, and Purchaser's defined contribution plans, except where credit would result in duplication of benefits. Without limiting the foregoing, to the extent that any Continuing Employee participates in any health or other group welfare benefit plan of Purchaser following the Effective Time, (A) Purchaser shall cause any pre-existing conditions or limitations, eligibility waiting periods or required physical examinations under any health or similar welfare plan of Purchaser to be waived with respect to the Continuing Employees and their eligible dependents, to the extent waived under the corresponding plan in which the Continuing Employee participated immediately prior to the Effective Time, and (B) any deductibles paid by Continuing Employee under the Company Group's health plans in the plan year in which the Effective Time occurs shall be credited towards deductibles under the health plans of Purchaser or any Subsidiary of Purchaser in which the Continuing Employee commences participation in such plan year.

(d) Nothing in this Agreement shall confer upon any Company Employee any right to continue in the employ or service of Purchaser or any Subsidiary or Affiliate of Purchaser, or shall interfere with or restrict in any way the rights of Purchaser, which rights are hereby expressly reserved, to discharge or terminate the services of any Company Employee at any time for any reason whatsoever, with or without cause. Notwithstanding any provision in this Agreement to the contrary, nothing in this Section 5.10 shall (i) be deemed or construed to be an amendment or other modification of any Benefit Plan or Purchaser employee benefit plan, or (ii) create any third party rights in any current or former employee, director or other service provider of Purchaser, the Company or any of their respective affiliates (or any beneficiaries or dependents thereof).

(e) Neither Purchaser nor the Surviving Corporation following the Effective Time shall, at any time prior to 90 days after the Effective Time, take any action that would result in a "mass layoff" or "plant closing" as those terms are defined in the Worker Adjustment and Retraining Notification Act of 1988, as amended ("**WARN**"), or comparable conduct under any applicable state Law, affecting in whole or in part any facility, site of employment, operating unit or employee of the Surviving Corporation without complying fully with the requirements of WARN or such applicable state Law.

Section 5.11 Independent Investigation. Each of Purchaser and Merger Sub acknowledges and covenants and agrees: (a) that it and its representatives and Affiliates have undertaken their own independent investigation, examination, analysis and verification of each member of the Company Group and the business, assets, liabilities, suppliers, officers, employees, personnel, contracts, condition (financial and otherwise), cash flow, operations and prospects of each member of the Company Group, including Purchaser's own estimate of the value of the business of the Company; (b) that it has had the opportunity to visit with the Company and meet with its representatives and Affiliates to discuss the business and the assets, liabilities, suppliers, officers, employees, personnel, contracts, condition (financial and otherwise), cash flow, operations and prospects of each member of the Company Group; and (c) that it has undertaken such due diligence (including a review of the assets, liabilities, books, records and contracts of the Company) as Purchaser or Merger Sub deems adequate, including that described above. In connection with such investigation, each of Purchaser, Merger Sub and their respective representatives and Affiliates have received from or on behalf of the Company Group certain estimates, budgets, forecasts, plans, projections and statements ("**Forward-Looking Statements**"), and each of Purchaser and Merger Sub acknowledges that (i) there are uncertainties inherent in making Forward-Looking Statements; (ii) that the Company makes no representations or warranties with respect to such Forward-Looking Statements except as set forth in Article III; and (iii) it is familiar with such uncertainties and it is making its own evaluation of the adequacy and accuracy of all

Forward-Looking Statements so furnished to it and its representatives (including the reasonableness of the assumptions underlying any Forward-Looking Statements where such assumptions are explicitly disclosed). Each of Purchaser and Merger Sub acknowledges and agrees that any documents that are or were available for its review in connection with its due diligence investigation will be deemed to have been made available to, and received by, Purchaser and Merger Sub for all purposes if such documents were posted and made available to Purchaser and Merger Sub in the Data Room by 5:00 p.m. Eastern Time on the date that is one (1) calendar day prior to the date of this Agreement.

Section 5.12 Governmental Consents.

(a) Each of the Company, Purchaser and Merger Sub shall use its reasonable best efforts to take, or cause to be taken, all actions reasonably necessary or appropriate for the purpose of consummating and effectuating the Transactions as promptly as practicable. In furtherance of the foregoing, each Party (other than the Representative) agrees to use reasonable best efforts to: (i) promptly (and in no event later than the date that is ten Business Days after the date hereof) make and effect all registrations, filings and submissions required to be made or effected by it or otherwise advisable pursuant to the HSR Act; (ii) provide all information requested by any Governmental Authority in connection with the Transactions; and (iii) take, and cause its Subsidiaries and Affiliates to take, all actions and steps necessary to obtain and secure the expiration or termination of any applicable waiting periods under the HSR Act or other applicable Antitrust Laws and obtain any clearance or approval required to be obtained from the U.S. Federal Trade Commission, the U.S. Department of Justice, or any other Governmental Authority in connection with the Transactions. Notwithstanding the foregoing and for the avoidance of doubt, nothing in this Agreement shall require Purchaser or its Affiliates to sell, divest, license, dispose or hold separate any assets, business or voting securities (or proffering or agreeing to take such actions), or take any other action that limits the freedom of action with respect to or otherwise impairs its business activities in order to obtain any clearance or approval required to be obtained from the U.S. Federal Trade Commission, the U.S. Department of Justice, or any other Governmental Authority in connection with the Transactions.

(b) Each Party warrants that all filings made by it pursuant to the HSR Act will be, as of the date filed, complete and accurate and in accordance with the requirements of the HSR Act and any other applicable Antitrust Laws. Each of Company, Purchaser and Merger Sub agrees to make available to the other Party's counsel such information as each of them may reasonably request, and as may be appropriate under the HSR Act and any other applicable Antitrust Laws, so as to enable each Party to submit their required filings. [*]

(c) Without limiting the generality of anything contained elsewhere in this Section 5.12, subject to applicable Law, each Party hereto shall: (i) give the other Parties prompt written notice of the making or commencement of any request, inquiry, investigation, action or Proceeding by or before any Governmental Authority with respect to the Transactions; (ii) keep the other Parties informed as to the status of any such request, inquiry, investigation, action or Proceeding; and (iii) promptly inform the other Parties of any communication to or from the U.S. Federal Trade Commission, the U.S. Department of Justice, any foreign competition authority, or other Governmental Authority regarding the Transactions. Each Party hereto will consult and cooperate with the other Parties and will consider in good faith the views of the other Parties in connection with any analysis, appearance, presentation, memorandum, brief, argument, opinion or proposal made or submitted in connection with any such request, inquiry, investigation, action or Proceeding. In addition, except as may be prohibited by any Governmental Authority or by any Law, in connection with any such request, inquiry, investigation, action or Proceeding, each Party hereto will permit authorized representatives of the other Parties to be present at each meeting or conference relating to such request, inquiry, investigation, action or Proceeding and to have access to and be consulted in connection with any

document, opinion or proposal made or submitted to any Governmental Authority in connection with such request, inquiry, investigation, action or Proceeding. The Parties may, as they deem advisable and necessary, designate any competitively sensitive information provided to the other under this Section 5.12 as "outside counsel only." Such materials and the information contained therein shall be given only to outside counsel of the recipient and will not be disclosed by outside counsel to any employees, officers, or directors of the recipient without the advance written consent of the disclosing Party.

(d) In the event that any litigation or other administrative or judicial action or Proceeding is commenced challenging the Transactions and such litigation, action or Proceeding seeks, or would reasonably be expected to seek, to prevent the consummation of the Transactions, Purchaser and Merger Sub shall take any and all action to resolve any such litigation, action or Proceeding and each of the Company, Purchaser and Merger Sub shall cooperate with each other and use its respective best efforts to contest any such litigation, action or Proceeding and to have vacated, lifted, reversed or overturned any decree, judgment, injunction or other Order, whether temporary, preliminary or permanent, that is in effect and that prohibits, prevents or restricts consummation of the Transactions, in each case subject to the last sentence of Section 5.12(a).

Section 5.13 Required Approval.

(a) The Company shall take all action necessary in accordance with applicable Law and its organizational documents to seek and obtain the Company Stockholder Consent within 24 hours after the execution and delivery of this Agreement. Promptly following the receipt of the Company Stockholder Consent, the Company shall provide copies thereof to Purchaser.

(b) Promptly, and in no event later than the date that is five (5) Business Days after the date of this Agreement, the Company shall deliver to each Stockholder a notice (the "**Stockholder Notice**") to the extent required by, and in accordance with, the DGCL, which Stockholder Notice shall provide notice of the Company Stockholder Consent and include therewith a copy of Section 262 of the DGCL and shall be sufficient in form and substance to start the 20 calendar day period during which a holder of Shares may demand appraisal of such Shares as contemplated by Section 262(d)(2) of the DGCL. All materials mailed to the holders of the Shares pursuant to this Section 5.13(b) shall be subject to Purchaser's prior review and approval, such approval not to be unreasonably withheld.

(c) The Company shall use its commercial reasonable efforts to deliver to Purchaser, at least three (3) Business Days prior to the Closing Date, additional consents, substantially in the form of the Company Stockholder Consent, signed by additional Stockholders such that Stockholders holding not less than 90% of the issued and outstanding Shares of the Company (voting together as a single class and on an as-converted to Common Shares basis), inclusive of the Shares delivered pursuant to the Company Stockholder Consent (the "**Closing Threshold**"), irrevocably approving the Transactions, including the Merger, and adopting this Agreement and waiving any applicable notice provisions or appraisal rights in accordance with the DGCL, the Governing Documents and the Stockholders Agreements (the "**Consent Agreements**").

(d) If the Company has not delivered duly executed consents of Stockholders constituting the Closing Threshold to Purchaser at least three (3) Business Days prior to the Closing Date, (i) the holders of at least a majority of Shares of the Company (voting together as a single class and on an as-converted to Common Shares basis) and (ii) the holders of a majority of the then-outstanding shares of Common Shares (other than those issued or issuable upon conversion of Preferred Shares) held by the Key

Holders (as defined in the Voting Agreement) shall effect the Drag-Along Rights set forth in Section 3 of the Voting Agreement (the "**Drag-Along Right**").

Section 5.14 Pre-Closing Covenants. During the Pre-Closing Period, each of the Parties will use all commercially reasonable efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary, proper or advisable to consummate the Transactions as soon as practicable. During the Pre-Closing Period, none of the Parties will intentionally perform any act that, if performed, or intentionally omit to perform any act that, if omitted to be performed, would prevent or excuse the performance of this Agreement by any Party or that would result in any representation or warranty herein contained of such Party being untrue in any material respect as if originally made on and as of the Closing Date.

Section 5.15 Inspection of Records. Purchaser will cause each member of the Company Group to make its books and records (including work papers in the possession of its accountants) available for inspection (and permit extracts or copies thereof to be made) by Representative, or by its representatives, for reasonable business purposes upon reasonable prior notice at all reasonable times during normal business hours, for a [*] period from and after the Closing Date, with respect to all transactions of any member of the Company Group occurring prior to or relating to the Closing, and the historical financial condition, assets, liabilities, operations and cash flows of any member of the Company Group; *provided* that Purchaser and its Representatives shall not be required to make available the books and records to any member of the Company Group or the Representative if the Representative, the Equityholders, or any of their respective Affiliates, on the one hand, and Purchaser and its Affiliates, on the other hand, are adverse parties in any Proceeding to which the books and records relate.

Section 5.16 Transaction Litigation. In the event that any action or proceeding relating to the Transactions, including the Merger, is brought or threatened against any member of the Company Group or any of its directors or officers, the Company shall promptly notify in writing Purchaser of such Proceeding or threatened Proceeding and shall keep Purchaser informed on a reasonably current basis with respect to the status thereof. Subject to applicable Law, the Company shall give Purchaser the opportunity, at Purchaser's cost and expense, to participate in the defense or settlement of any such Proceeding, and no such settlement in respect thereof shall be agreed to without the prior written consent of Purchaser (not to be unreasonably withheld, conditioned or delayed).

Section 5.17 Further Assurances. The Parties agree that in the event any further action is necessary or desirable to carry out the purposes of this Agreement, each such Party will take such further action, will execute such further documents, and perform such further acts, as may be necessary to comply with the terms of this Agreement and consummate the Transactions.

ARTICLE VI
CONDITIONS TO CLOSING

Section 6.1 Conditions to the Company's Obligations. The obligation of the Company to consummate the Transactions is subject to the fulfillment (or, at the election of the Company, waiver by the Company) of all of the following conditions on the Closing Date:

(a) (i) all Fundamental Representations of Purchaser and Merger Sub shall be true and correct in all respects as of the date of this Agreement and as of the Closing Date; and (ii) all other representations and warranties of Purchaser and Merger Sub set forth in Article IV of this Agreement shall be true and correct (in each case, without taking into account any "Purchaser Material Adverse Effect" or other materiality qualifications) as of the date of this Agreement and as of the Closing Date with the same

force and effect as though made on and as of the Closing Date, except: (A) to the extent that any representation or warranty is limited by its terms to a specific date or range of dates, in which case such representation and warranty need only be true and correct on such date or during the range of dates so specified; and (B) where the failure of such other representations and warranties of Purchaser and Merger Sub set forth in Article IV of this Agreement to be true and correct, as of such dates, would not have a Purchaser Material Adverse Effect; and

(b) all material obligations of Purchaser and Merger Sub to be performed hereunder through and including the Closing Date will have been fully performed or complied with in all material respects.

Section 6.2 Conditions to Purchaser's and Merger Sub's Obligations. The obligation of Purchaser and Merger Sub to consummate the Transactions is subject to the fulfillment (or, at the election of Purchaser, waiver by Purchaser) of all of the following conditions on the Closing Date:

(a) (i) all Fundamental Representations of the Company (taking into account any updates to Section 3.4(a), Section 3.4(d)(i) and Section 3.4(d)(ii) of the Disclosure Schedule) shall be true and correct in all respects as of the date of this Agreement and as of the Closing Date; and (ii) all other representations and warranties of the Company set forth in Article III shall be true and correct (in each case, without taking into account any "Material Adverse Effect" or other materiality qualifications) as of the date of this Agreement and as of the Closing Date with the same force and effect as though made on and as of the Closing Date, except: (A) to the extent that any representation or warranty is limited by its terms to a specific date or range of dates, in which case such representation and warranty need only be true and correct on such date or during the range of dates so specified; and (B) where the failure of such other representations and warranties of the Company set forth in Article III to be true and correct, as of such dates, would not have a Material Adverse Effect;

(b) all material obligations of the Company to be performed hereunder through and including the Closing Date will have been fully performed or complied with in all material respects;

(c) the Company shall have delivered the Consent Agreements signed by the Closing Threshold, or invoked the Drag-Along Right in lieu thereof;

(d) each of the Non-Compete Agreements executed and delivered by the persons set forth on Schedule III shall be in full force and effect upon the Effective Time;

(e) the approvals, consents and waivers that are listed on Section 6.2(e) of the Disclosure Schedule shall have been received, and executed counterparts thereof shall have been delivered to Purchaser; and

(f) since the date of this Agreement, there shall not have occurred, or be continuing, a Material Adverse Effect.

Section 6.3 Joint Conditions to the Parties' Obligations. The obligations of the Parties to consummate the Transactions are subject to the fulfillment of all of the following conditions on or prior to the Closing Date:

(a) No Law will have been enacted or promulgated by any Governmental Authority that prohibits the consummation of the Transactions;

(b) there will be no final and non-appealable Order of a court of competent jurisdiction in effect precluding consummation of the Transactions; and

(c) all applicable waiting periods under the HSR Act and any other applicable Antitrust Laws shall have expired or have been terminated.

ARTICLE VII
TAX MATTERS

Section 7.1 Treatment of Payments. All amounts paid by the Equityholders or the Representative under Article X shall be treated for all purposes as adjustments to the Merger Consideration, unless otherwise required pursuant to a determination within the meaning of Section 1313(a) of the Code.

Section 7.2 Purchaser's Use. Nothing in this Agreement shall be construed to require Purchaser to make any payment to the Equityholders for Purchaser's use in a Tax Return for a Post-Closing Tax Period of any excess Tax credit (including any excess foreign tax credits), net operating loss, or other Tax attribute of the Company.

Section 7.3 Transfer Taxes. [*]. The Equityholders, Company and Purchaser shall cooperate in timely submitting all filings, returns, reports and forms as may be required in connection with the [*] payment of Transfer Taxes, and, to the extent required, shall execute and deliver all instruments and certificates necessary to enable the other Party to comply with any filing requirements relating to any such Transfer Taxes. In no event shall Purchaser or the Surviving Corporation bear any Tax imposed in connection with any Equityholder's receipt of the Merger Consideration, or other payment otherwise payable pursuant to this Agreement or the Escrow Agreement, to which such Equityholder is entitled. The Equityholders shall cooperate with Purchaser and the Surviving Corporation in the preparation and filing of all necessary Tax Returns and other documentation with respect to all such Taxes, costs and fees.

ARTICLE VIII
REPRESENTATIVE

Section 8.1 Appointment of Representative. By voting in favor of the adoption of this Agreement, the approval of the principal terms of the Merger, and the consummation of the Merger or participating in the Merger and receiving the benefits thereof, including the right to receive the consideration payable in connection with the Merger, each Equityholder, on behalf of himself, herself or itself and such Equityholder's successors and permitted assigns, hereby irrevocably constitutes and appoints Representative as representative, attorney-in-fact and agent for such Equityholder and such Equityholder's successors and permitted assigns for all purposes in connection with the execution and performance of this Agreement and the agreements ancillary hereto. This power is irrevocable and coupled with an interest, and will not be affected by the death, incapacity, illness, dissolution or other inability to act of any Equityholder or such Equityholder's successors or permitted assigns.

Section 8.2 Authority of Representative. Without limiting the authority granted in Section 8.1, each Equityholder, on behalf of himself, herself or itself and such Equityholder's successors and permitted assigns, hereby irrevocably grants Representative full power and authority: (a) to execute and deliver, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, and to accept delivery of, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, such documents as may be deemed by Representative, in its sole discretion, to be appropriate to consummate this Agreement; (b) to make decisions on behalf of Equityholders and their respective successors and permitted assigns with

respect to the Transactions and matters contemplated under this Agreement or any other Transaction Document; (c) to (i) dispute or refrain from disputing, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, any claim made by Purchaser or any other Person under this Agreement; (ii) negotiate and compromise, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, any dispute that may arise under, and to exercise or refrain from exercising any remedies available under, this Agreement; and (iii) execute, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, any settlement agreement, release or other document with respect to such dispute or remedy; (d) to give or agree to, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, any and all consents, waivers, amendments or modifications, deemed by Representative, in its sole discretion, to be necessary or appropriate, under this Agreement, and, in each case, to execute and deliver any documents that may be necessary or appropriate in connection therewith; (e) to enforce, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, any claim against Purchaser arising under this Agreement; (f) to engage attorneys, accountants and other agents at the expense of Equityholders and their respective successors and permitted assigns in connection with any claim arising under this Agreement; (g) to receive the Representative Expense Amount as a fund (the "**Representative Expense Fund**") for the payment of all costs and expenses incurred by or on behalf of Representative in its capacity as such in connection with any dispute or claim under this Agreement; *provided*, *however*, that Representative's retention of any amounts in the Representative Expense Fund will not be used as evidence that Equityholders have any obligation hereunder; (h) to amend this Agreement (other than this Section 8.2) or any of the instruments to be delivered to Purchaser by such Equityholder pursuant to this Agreement; and (i) to give such instructions and to take such action or refrain from taking such action, on behalf of such Equityholder and such Equityholder's successors and permitted assigns, as Representative deems, in its sole discretion, necessary or appropriate to carry out the provisions of this Agreement, including the exercise of all rights granted to Equityholder and such Equityholder's successors and permitted assigns under this Agreement or any other Transaction Document.

Section 8.3 Reliance. Each Equityholder, on behalf of himself, herself or itself and Equityholder's successors and permitted assigns, hereby agrees to the following:

(a) In all matters in which action by Representative is required or permitted, Representative is authorized to act on behalf of such Equityholder, on behalf of himself, herself or itself and such Equityholder's successors and permitted assigns, notwithstanding any dispute or disagreement among Equityholders or their respective successors or permitted assigns or between any Equityholder or any Equityholder's successors and permitted assigns and Representative, and Purchaser and Merger Sub will be entitled to rely on any and all action taken by Representative under this Agreement without any liability to, or obligation to inquire of, any Equityholder or any Equityholder's successors and permitted assigns, notwithstanding any knowledge on the part of Purchaser of any such dispute or disagreement. Purchaser, Merger Sub and the Surviving Corporation will be fully protected in dealing with Representative under this Agreement (or any other Transaction Document) and may rely upon the authority of Representative to act on behalf of each Equityholder.

(b) After the Closing, notice to Representative, delivered in the manner provided in Section 11.3, will be deemed to be notice to all Equityholders and their respective successors and permitted assigns for purposes of this Agreement.

(c) The power and authority of Representative, as described in this Agreement, will continue in force until all rights and obligations of Equityholders and their respective successors and permitted assigns under this Agreement terminate, expire or are fully performed.

(d) A majority-in-interest of Equityholders and their respective successors and permitted assigns will have the right, exercisable from time to time upon written notice delivered to Representative and Purchaser, to remove Representative, with or without cause, and to appoint an Equityholder (or, in the case of an Equityholder that is a corporation, partnership, limited liability company, or trust, an officer, manager, employee, or partner of such Equityholder) to fill a vacancy caused by the death, resignation or removal of Representative.

(e) The Representative may resign at any time. If Representative resigns or is removed or otherwise ceases to function in his, her or its capacity as such for any reason whatsoever, and no successor is appointed pursuant to Section 8.3 within 30 calendar days, then Purchaser will have the right to appoint an Equityholder or a successor or permitted assign thereof to act as Representative to serve as described in this Agreement.

Section 8.4 Actions by Equityholders. Each Equityholder, on behalf of himself, herself or itself and such Equityholder's successors and permitted assigns, agrees that, notwithstanding the foregoing, at the request of Purchaser, such Equityholder and such Equityholder's successors and permitted assigns will take all actions necessary or appropriate to consummate the Transactions (including delivery of such Equityholder's Shares and acceptance of the Merger Consideration therefor) individually on such Equityholder's own behalf and on behalf of such Equityholder's successors and permitted assigns, and to deliver any other documents required of Equityholders and their respective successors and permitted assigns pursuant to the terms hereof.

Section 8.5 Indemnification of Representative. The Representative will incur no liability of any kind with respect to any action or omission by the Representative in connection with its services pursuant to this Agreement and any agreements ancillary hereto, except in the event of liability directly resulting from the Representative's gross negligence or willful misconduct. The Representative shall not be liable for any action or omission pursuant to the advice of counsel. The Equityholders shall indemnify, defend and hold harmless the Representative from and against any and all Losses, liabilities, damages, claims, penalties, fines, forfeitures, actions, fees, costs and expenses (including the reasonable, documented, out-of-pocket fees and expenses of counsel and experts and their staffs and all expense of document location, duplication and shipment) (collectively, "**Representative Losses**") arising out of or in connection with the Representative's execution and performance of this Agreement and any agreements ancillary hereto, in each case as such Representative Loss is suffered or incurred; *provided*, that in the event that any such Representative Loss is finally adjudicated to have been directly caused by the gross negligence or willful misconduct of the Representative, the Representative will reimburse the Equityholders the amount of such indemnified Representative Loss to the extent attributable to such gross negligence or willful misconduct. If not paid directly to the Representative by the Equityholders, any such Representative Losses may be recovered by the Representative from the funds in the Representative Expense Fund; *provided*, that while this Section 8.5 allows the Representative to be paid from the aforementioned source of funds, this does not relieve the Equityholders from their obligation to promptly pay such Representative Losses as they are suffered or incurred, nor does it prevent the Representative from seeking any remedies available to it at law or otherwise. In no event will the Representative be required to advance its own funds on behalf of the Equityholders or otherwise. Notwithstanding anything in this Agreement to the contrary, any restrictions or limitations on liability or indemnification obligations of the Equityholders set forth elsewhere in this Agreement are not intended to be applicable to the indemnities provided to the Representative under this Section 8.5. The foregoing indemnities will survive the Closing, the resignation or removal of the Representative or the termination of this Agreement.

Section 8.6 Representative Expense Fund. The Representative Expense Fund will be used for the purposes of paying directly, or reimbursing the Representative for, any third party expenses pursuant to this Agreement and the agreements ancillary hereto. The Equityholders will not receive any interest or earnings on the Representative Expense Fund and irrevocably transfer and assign to the Representative any ownership right that they may otherwise have had in any such interest or earnings. The Representative will not be liable for any loss of principal of the Representative Expense Fund other than as a result of its gross negligence or willful misconduct. The Representative will hold these funds separate from its corporate funds, will not use these funds for its operating expenses or any other corporate purposes and will not voluntarily make these funds available to its creditors in the event of bankruptcy. As soon as practicable following the completion of the Representative's responsibilities, the Representative will deliver any remaining balance of the Representative Expense Fund to the Paying Agent for further distribution to the Equityholders. For tax purposes, the Representative Expense Fund will be treated as having been received and voluntarily set aside by the Equityholders at the time of Closing.

ARTICLE IX
TERMINATION

Section 9.1 General. The Parties will have the rights and remedies with respect to the termination or enforcement of this Agreement that are set forth in this Article IX.

Section 9.2 Right to Terminate. This Agreement and the Transactions may be terminated at any time prior to the Closing by prompt notice given in accordance with Section 11.3:

(a) by the mutual written consent of Purchaser and the Company;

(b) by either Purchaser or the Company if the Closing has not occurred at or before 11:59 p.m. Eastern time on [*]; *provided*, *however*, that the right to terminate this Agreement under this Section 9.2(b) will not be available to any Party whose failure to fulfill any of its obligations under this Agreement has been the cause of or resulted in the failure of the Closing to occur on or prior to such date;

(c) by Purchaser in the event of any breach by the Company of the Company's agreements, covenants, representations or warranties contained herein, in a manner that would prevent the satisfaction of the conditions to Closing set forth in Section 6.2 and such breach has not been cured within 30 calendar days after receipt of written notice from Purchaser setting forth in reasonable detail the basis for the breach and requesting such breach to be cured; *provided*, that Purchaser shall not be entitled to terminate the Agreement pursuant to this Section 9.2(c) if the failure of the Closing to be consummated by such date is caused by Purchaser's or Merger Sub's breach of any of its obligations under the Agreement.

(d) by the Company in the event of any breach by Purchaser or Merger Sub of any of their respective agreements, covenants, representations or warranties contained herein in a manner that would prevent the satisfaction of the conditions to Closing set forth in Section 6.1 and such breach has not been cured within 30 calendar days after receipt of notice from the Company requesting such breach to be cured *provided*, that the Company shall not be entitled to terminate the Agreement pursuant to this Section 9.2(d) if the failure of the Closing to be consummated by such date is caused by the Company's breach of any of its obligations under the Agreement; or

(e) by Purchaser or the Company if (i) there is then in effect a final, non-appealable Order of a court of competent jurisdiction in effect precluding consummation of the Transactions; *provided*, *however*, that the right to terminate this Agreement under this Section 9.2(e)(i) will not be available to any Party whose failure to fulfill any of its obligations under this Agreement has been the cause of or resulted

in the Order; or (ii) any Law has been enacted or promulgated by any Governmental Authority that prohibits the consummation of the Transactions; and

(f) by Purchaser if, within [*] after the execution and delivery of this Agreement, the Company Stockholder Consent shall not have been delivered to Purchaser.

Section 9.3 Remedies Upon Termination. If this Agreement is validly terminated pursuant to Section 9.2, then each of the Parties will be relieved of their respective duties and obligations under this Agreement to the extent that such duties and obligations would otherwise arise after the date of such termination, except as set forth in Section 9.4, and no Party will have any claim against any other Party, unless the circumstances giving rise to the termination of this Agreement were caused by a Party's willful breach of a material representation, warranty, agreement or covenant set forth in this Agreement or Fraud, in which event termination of this Agreement will not be deemed or construed as limiting or denying any legal or equitable right or remedy of the non-breaching Party. If following the termination of this Agreement any Proceeding is commenced by any Party to pursue any legal or equitable right or remedy against any other Party whose willful breach of a material representation, warranty, agreement or covenant herein or Fraud results in the termination of this Agreement, then all fees, costs and expenses, including reasonable attorneys' fees and court costs, incurred by the prevailing Party in such Proceeding will be reimbursed by the losing Party; *provided* that, if a Party to such Proceeding prevails in part, and loses in part, the court, arbitrator or other adjudicator presiding over such Proceeding will award a reimbursement of the fees, costs and expenses incurred by such Party on an equitable basis.

Section 9.4 Certain Other Effects of Termination. In the event of the termination of this Agreement by either the Company or Purchaser as provided in Section 9.2:

(a) each Party, if so requested by any other Party, will destroy promptly all documents furnished to it by such other Party (or any Subsidiary, division, associate or Affiliate of such other Party) in connection with the Transactions, whether so obtained before or after the execution of this Agreement, and any copies thereof (except for copies of documents publicly available or that are subject to a *bona fide* document retention or electronic archiving system) that may have been made, and will use commercially reasonable efforts to cause its representatives and any representatives of financial institutions and investors and others to whom such documents were furnished promptly to destroy such documents and any copies thereof any of them may have made; and

(b) the Confidentiality Agreement will survive termination of this Agreement and will remain in full force and effect in accordance with its terms.

ARTICLE X
INDEMNIFICATION

Section 10.1 Indemnification by the Stockholders and Optionholders. Subject to the other provisions of this Article X, from and after the Closing, each Stockholder (other than any Dissenting Stockholder), Optionholder and each Promised Optionholder (each, an "**Indemnifying Equityholder**"), severally and not jointly, based on their respective Pro Rata Share, shall indemnify and hold Purchaser, its Affiliates, their respective successors and assigns (including, from and after the Closing, the Company Group) and each of their respective officers (or equivalents), directors (or equivalents), employees, stockholders, partners, members or other equity holders, agents and representatives (each, a "**Purchaser Indemnified Party**") harmless from and against any and all Losses suffered or incurred by any such Purchaser Indemnified Party to the extent arising from, relating to or otherwise in connection with the following:

(a) any breach or inaccuracy of any representation or warranty set forth in Article III made as of the date of this Agreement and as of the Closing Date (in each case, as such representations and warranties are modified by the Disclosure Schedule) or in any certificate or instrument delivered by or on behalf of the Company pursuant to this Agreement;

(b) any breach or failure to perform any covenant or agreement of the Company, contained in this Agreement or any certificates delivered by or on behalf of the Company;

(c) any claim by a Person seeking to assert or based upon: (i) any rights under the Governing Documents of the Company Group; (ii) any issues arising from the Allocation Schedule, any inaccuracy, error or omission therein, or any action taken or not taken by the Representative or for any act or omission taken or not taken by Purchaser or Merger Sub solely in reliance upon the actions taken or not taken or decisions, communications or writings made, given or executed by the Representative in connection with the Allocation Schedule, including any failure of the Representative to correctly calculate the amounts owing to a Equityholder; (iii) any breach of fiduciary duty by the Company Group's directors or officers (or equivalents) prior to the Closing; and (iv) any Transaction Expenses of the Company Group in excess of $[*] that were not reflected in the calculation of Merger Consideration.

Section 10.2 Indemnification by Purchaser. Subject to the other provisions of this Article X, from and after the Closing, Purchaser shall indemnify and hold the Stockholders, the Optionholders, the Promised Optionholders, and, if applicable, each of their respective officers (or equivalents), directors (or equivalents), employees, stockholders, partners, members or other equity holders, agents and representatives (each, an "**Equityholder Indemnified Party**") harmless from and against any and all Losses suffered or incurred by any such Equityholder Indemnified Party to the extent arising from, relating to or otherwise in connection with the following:

(a) any breach or inaccuracy of any representation or warranty of Purchaser or Merger Sub set forth in Article IV made as of the date of this Agreement and as of the Closing Date or in any certificate or instrument delivered by or on behalf of Purchaser or Merger Sub pursuant to this Agreement; or

(b) any breach or failure to perform any covenant or agreement of Purchaser or Merger Sub contained in this Agreement or other Transaction Document.

Section 10.3 Limitations on Indemnification. Notwithstanding anything to the contrary herein and subject to Section 11.17:

(a) Solely for purposes of determining whether a representation or warranty has been breached and for calculating the amount of aggregate Losses recoverable under Section 10.1(a), all representations and warranties of the Company in Article III (other than Section 3.7) shall be construed as if all qualifications as to materiality, including any reference to "Material Adverse Effect" (and variations thereof), were omitted from such representations and warranties.

(b) Except (x) with respect to claims for equitable relief pursuant to Section 11.17 or (y) in the case of Fraud, the remedies provided under this Article X shall be the sole and exclusive remedies available with respect to claims of an Indemnified Party (whether at law or in equity) under or arising out of this Agreement or otherwise relating to the transactions contemplated hereby, whether for breach of representation, warranty, covenant or agreement or otherwise.

(c) The Purchaser Indemnified Parties have the right to payment by the Indemnifying Equityholders under Section 10.1(a) only if, and only to the extent that, the Purchaser Indemnified Parties

have incurred (i) as to all matters giving rise to indemnification under Section 10.1(a), indemnifiable Losses in excess of an amount equal to $[*] (the "**Indemnifiable Losses Deductible**"), in which case the Purchaser Indemnified Parties shall be entitled to recover all indemnifiable Losses in excess of the Indemnifiable Losses Deductible from the Indemnifying Equityholders and (ii) as to any individual item giving rise to indemnification under Section 10.1(a), an amount equal to $[*] (the "**Mini-Basket**"). However, the Purchaser Indemnified Parties' right to payment by the Indemnifying Equityholders with respect to Fraud is not subject to the Indemnifiable Losses Deductible or the Mini-Basket.

(d) No Indemnifying Equityholder will have any liability under or in connection with this Agreement, or the Transactions, in excess of its Pro Rata Share of the amounts held under the Escrow Agreement, except with respect to Losses arising from Fraud.

(e) Subject to the limitations set forth in this Section 10.3, no Indemnifying Equityholder will have any liability under or in connection with this Agreement or the Transactions for any Losses to the extent arising from Fraud committed by any other Indemnifying Equityholder in his, her or its capacity as an Equityholder.

(f) The aggregate recovery from any Indemnifying Equityholder for Losses under or in connection with this Agreement and the Escrow Agreement will not exceed such Indemnifying Equityholder's Pro Rata Share of the aggregate consideration set forth in the Allocation Schedule actually received by such Indemnifying Equityholder.

Section 10.4 Indemnification Claims.

(a) In order for an Indemnified Party to be entitled to any indemnification provided for under Section 10.1 or 10.2 in respect of, arising out of or involving a Third Party Claim, such Indemnified Party must notify the Indemnifying Party in writing of the Third Party Claim within 20 Business Days after receipt by such Indemnified Party of notice of the Third Party Claim; *provided*, *however*, that failure to give such notification shall not affect the indemnification provided under Section 10.1 or 10.2 except to the extent the Indemnifying Party has been actually prejudiced as a result of such failure. Thereafter, the Indemnified Party shall deliver to the Indemnifying Party, within ten Business Days after the Indemnified Party's receipt thereof, copies of all notices and documents (including court papers) received by the Indemnified Party relating to the Third Party Claim. The Indemnified Party alone shall be entitled to conduct and control the defense of such Third Party Claim; *provided*, *however*, that the Indemnified Party shall (i) keep the Indemnifying Party reasonably informed of the status, incurred and expected costs and other material information (including, to the extent consistent with any confidentiality obligations and with the preservation of all applicable privileges, defense strategy, relevant documents and records) related to the defense of such Third Party Claim on a reasonable basis (and as may from time to time be reasonably requested by the Indemnifying Party during the pendency of the Third Party Claim), (ii) not incur unreasonable legal or other expert fees in connection with the defense of such Third Party Claim and (iii) consider any reasonable requests or input from the Indemnifying Party regarding defense or settlement strategies. The Indemnified Party shall not be entitled to be indemnified or held harmless under Section 10.1 or 10.2 for such Third Party Claim if it shall settle such Third Party Claim without the prior written consent of the Indemnifying Party, unless the Indemnified Party has sought such consent and such consent has been unreasonably withheld or delayed, it being agreed that the Indemnifying Party shall not unreasonably withhold or delay such consent, and shall provide such reasonable cooperation and participation in settlement efforts as may be requested by the Indemnified Party.

(b) In order for an Indemnified Party to be entitled to any indemnification provided for under this Agreement other than in respect of, arising out of or involving a Third Party Claim, such Indemnified Party shall deliver written notice of such claim (a "**Claim Notice**") with reasonable promptness to the Indemnifying Party; *provided*, *however*, that failure to give such notification shall not affect the indemnification provided under Section 10.1 or Section 10.2 except to the extent the Indemnifying Party has been actually prejudiced as a result of such failure. Each Claim Notice shall contain a reasonable non-binding estimate of the Losses against which such Indemnified Party seeks indemnification or reimbursement, to the extent that such an estimate can be made (the amount of such Losses, as such amount may be modified by the Indemnified Party from time to time, the "**Claimed Amount**"). If the Indemnifying Party does not notify the Indemnified Party, in writing, within 30 calendar days following its receipt of a Claim Notice that the Indemnifying Party disputes the liability claimed by the Indemnified Party under Section 10.1 or Section 10.2, such claim specified by the Indemnified Party in such notice shall be conclusively deemed a liability for which the Indemnified Party is entitled to indemnification under Section 10.1 or Section 10.2 and the Indemnified Party shall be entitled to recover the Claimed Amount stated in such Claim Notice. If the Indemnifying Party has timely disputed the liability with respect to such claim, as provided above, the Indemnifying Party and the Indemnified Party shall proceed in good faith to negotiate a resolution of such dispute.

Section 10.5 Survival of Representations, Warranties and Covenants. Each Party's representations, warranties and covenants in this Agreement shall survive the Closing. Each Party's representations and warranties shall expire on the date that is [*] from the Closing Date. If an Indemnified Party delivers, before expiration of a representation, warranty or covenant, written notice in accordance with Section 10.4, then the applicable representation, warranty or covenant shall survive until, but only for

purposes of, the resolution of any claims arising from or related to the matter covered by such notice. The rights to indemnification set forth in this Article X shall not be affected by any investigation conducted by or on behalf of the Indemnified Party or any knowledge acquired by the Indemnified Party, whether before or after the date of this Agreement or the Closing Date, with respect to the inaccuracy or non-compliance with any representation, warranty, covenant or obligation which is the subject of indemnification hereunder. Nothing in this Section 10.5 shall be construed to limit the survival of covenants, agreements and obligations that by their terms are to be performed or observed after the Closing or for which another time period is specified in this Agreement. It is the express intent of the Parties hereto that, if the applicable survival period for an item as contemplated by this Section 10.5 is shorter than the statute of limitations that would otherwise have been applicable to such item, then, by contract, the applicable statute of limitations with respect to such item shall be reduced to the shortened survival period contemplated hereby. The Parties hereto further acknowledge that the time periods set forth in this Section 10.5 for the assertion of claims under this Agreement are the result of arm's-length negotiation between the Parties and that they intend for the time periods to be enforced as agreed by the Parties.

Section 10.6 Manner of Payment; Release of Escrow.

(a) Subject to Section 10.3(d), any indemnification obligations of the Indemnifying Equityholders to any Purchaser Indemnified Parties pursuant to this Article X shall be satisfied by release of funds to the Purchaser Indemnified Parties from the Escrow Fund pursuant to the Escrow Agreement, which release shall accordingly reduce the Escrow Fund.

(b) A Purchaser Indemnified Party claiming against the Escrow Fund in accordance with Section 10.6(a) shall, concurrently with the delivery of the Claim Notice called for by Section 10.4(b), deliver a copy of such Claim Notice to the Escrow Agent, and the Representative, if the Representative is disputing the liability claimed by the Purchaser Indemnified Party, shall concurrently with the delivery of notice of such dispute to Purchaser pursuant to Section 10.4(b), deliver a copy of such notice to the Escrow Agent. If the Representative fails to dispute the Claimed Amount and such claim is conclusively deemed a liability for which the Purchaser Indemnified Party is entitled to indemnification in accordance with Section 10.4(b), then the Escrow Agent shall be permitted to disburse the Claimed Amount to the Purchaser Indemnified Party from the Escrow Fund in accordance with the terms of the Escrow Agreement. If the Representative disputes the Claimed Amount and thereafter the Representative and the Purchaser Indemnified Party resolve such dispute, joint written instructions setting forth such resolution shall be furnished by the Representative and Purchaser to the Escrow Agent.

(c) Within two (2) Business Days after the date that is [*] after the Closing Date (the "**Escrow Release Date**"), if the amount of the Escrow Amount remaining in the Escrow Fund on the Escrow Release Date exceeds the sum of the Claimed Amounts associated with all *bona fide* claims for indemnification or reimbursement made by the Purchaser Indemnified Parties against the Escrow Fund that have been properly asserted, have not been finally resolved and/or paid, in each case, prior to the Escrow Release Date (each, an "**Unresolved Escrow Claim**"), Purchaser and Representative shall deliver joint written instructions to the Escrow Agent to disburse to the Paying Agent from the Escrow Fund the amount by which the remaining Escrow Amount on the Escrow Release Date exceeds the sum of such Claimed Amounts for further payment to the Equityholders in accordance with the Allocation Schedule.

(d) Following the Escrow Release Date, if an Unresolved Escrow Claim is finally resolved, within two (2) Business Days after the final resolution of such Unresolved Escrow Claim, Purchaser and Representative shall deliver joint written instructions to the Escrow Agent instructing the Escrow Agent to (i) disburse to any Purchaser Indemnified Party from the Escrow Fund all amounts payable to such

Purchaser Indemnified Party (if any) in respect of such Unresolved Escrow Claim and (ii) disburse to the Paying Agent from the Escrow Fund an amount equal to the amount by which the Claimed Amount of such Unresolved Escrow Claim exceeds the disbursement referred to in clause (i), for further payment to the Equityholders in accordance with the Allocation Schedule.

(e) As promptly as practicable after the Escrow Agent's disbursement to Paying Agent of any amounts from the Escrow Fund pursuant to this Section 10.6, Paying Agent will deliver to each Equityholder an amount equal to such Equityholder's Pro Rata Share of such dispersed amounts from the Escrow Fund attributable to such Equityholder's Shares; *provided* that any portion of such dispersed Escrow Fund that is for payment to Vested Optionholders, Accelerated Optionholders or Promised Optionholders (in each case, other than with respect to No-Withholding Options) shall be delivered to the Surviving Corporation for payment in accordance with Section 10.6(f).

(f) On or before the first regularly scheduled payroll period that is at least two (2) Business Days following receipt of any dispersed amounts from the Escrow Fund from the Paying Agent on behalf of the former Vested Optionholders, Accelerated Optionholders and Promised Optionholders, the Surviving Corporation shall pay and deliver to each former holder of Vested Options, Accelerated Options and Promised Options (other than with respect to No-Withholding Options) an amount equal to such Equityholder's Pro Rata Share of such dispersed Escrow Fund attributable to the Vested Options, Accelerated Options and Promised Options, in each case, net of applicable withholding.

Section 10.7 No Duplication.

(a) For purposes of this Agreement, Losses shall be calculated after giving effect to any amounts actually recovered from third parties, including amounts recovered under insurance policies (for the avoidance of doubt, excluding any self-insurance program or similar arrangement) with respect to such Losses, and the net of any costs to recover such amounts; *provided*, *however*, that no Indemnified Party shall have any affirmative obligation to pursue any such claim against any third party or to pursue recovery under any policy of insurance.

(b) Any Losses for indemnification under this Agreement shall be determined without duplication of recovery due to the facts giving rise to such Losses constituting a breach of more than one representation, warranty, covenant or agreement. In the event a Purchaser Indemnified Party actually recovers Losses pursuant to this Article X, no other Purchaser Indemnified Party may recover the same Losses in respect of a claim for indemnification under this Agreement

(c) Upon becoming aware of an event that could reasonably give rise to any indemnifiable Losses, each Purchaser Indemnified Party agrees to use commercially reasonable efforts to mitigate any such Losses for which such Purchaser Indemnified Party is entitled to indemnification pursuant to this Article X in accordance with applicable Law.

ARTICLE XI
MISCELLANEOUS

Section 11.1 Transaction Expenses. Except as otherwise provided herein and whether or not the Transactions are consummated, each Party shall be solely responsible for and shall bear all of its own costs and expenses incident to its obligations under and in respect of this Agreement and the Transactions, including any such costs and expenses incurred by any Party in connection with the negotiation, preparation and performance of and compliance with the terms of this Agreement (including the fees and expenses of legal counsel, accountants, investment bankers or other representatives and consultants); [*].

Section 11.2 Publicity. At any time prior to the Closing, except as otherwise required by Law or applicable securities exchange rules, press releases and other public announcements concerning the Transactions will be made only with the prior agreement of the Company and Purchaser (and in any event, the Parties will use all reasonable efforts to consult and agree with each other with respect to the content of any such required press release or other publicity prior to the Closing); *provided*, *however*, that the Company and Purchaser agree to publish the joint press release in the form attached hereto as Exhibit I promptly following the execution hereof and agree that each Party shall be permitted to continue to use such joint press release, including the specific content contained therein, without the need to obtain the prior written consent of the other Parties hereto. Notwithstanding anything else to the contrary contained herein, nothing shall prevent a Stockholder that is a venture capital or private equity fund (or its representatives), from communicating to its current or potential investors the existence and terms of this Agreement, including the amount of the Merger Consideration, the Escrow Fund or the Representative Expense Fund, but only to the extent (a) such communications to current or potential investors (i) relate to the economic returns on investment, (ii) are permitted under the terms of such Stockholder's governing fund documents in effect as of the date of this Agreement and (iii) are made in connection with such Stockholder's or its representative's fundraising and reporting activities (on such Stockholder's behalf) required as part of its ordinary course of business and consistent with past practice and (b) such current or potential investors are subject to obligations of confidentiality.

Section 11.3 Notices. All notices required or permitted to be given hereunder will be in writing and may be delivered by hand, by electronic transmission in .PDF format or similar format, by nationally recognized private courier, or by United States mail; *provided*, that in each case the notice or other communication is sent to the physical address or email address set forth beneath the name of such Party below (or to such other physical address or email address as such Party shall have specified in a writing delivered to the other Parties herein). Notices delivered by mail will be deemed given two (2) Business Days after being deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested. Notices delivered by hand will be deemed delivered when actually delivered. Notices given by nationally recognized private courier will be deemed delivered on the date delivery is promised by the courier. Notices given by electronic transmission will be deemed given on the first Business Day following transmission; *provided*, *however*, that a notice delivered by electronic transmission that has not been confirmed or acknowledged (including any response to such transmission) by recipient will only be effective if such notice is also delivered by hand, deposited in the United States mail, postage prepaid, registered or certified mail, or given by nationally recognized private courier on or before two (2) Business Days after its delivery by electronic transmission. All notices will be addressed as follows:

(a) if to Purchaser or Merger Sub, to:

Vertex Pharmaceuticals Incorporated
Attn: Business Development
50 Northern Avenue
Boston, Massachusetts 02210
Email: [*]

with copies, which will not constitute notice, to:

Vertex Pharmaceuticals Incorporated
Attn: Corporate Legal
50 Northern Avenue

Boston, Massachusetts 02210
Email: [*]

and

Skadden, Arps, Slate, Meagher & Flom LLP
500 Boylston Street
Boston, Massachusetts 02116
Attention: Graham Robinson
Faiz Ahmad
Email: Graham.Robinson@skadden.com
Email: Faiz.Ahmad@skadden.com

(b) if to the Company, to:

Semma Therapeutics, Inc.
100 Technology Square, Floor 3
Cambridge, Massachusetts 02139
Attention: Chief Executive Officer
Email: [*]

with a copy, which will not constitute notice, to:

Goodwin Procter LLP
100 Northern Avenue
Boston, Massachusetts 02210
Attention: Kingsley L. Taft
Danielle M. Lauzon
Email: ktaft@goodwinlaw.com
Email: dlauzon@goodwinlaw.com

(c) if to Representative, to:

Shareholder Representative Services LLC
950 17th Street, Suite 1400
Denver, Colorado 80202
Attention: Managing Director
Email: [*]
Facsimile: [*]
Telephone: [*]

with a copy, which will not constitute notice, to:

Goodwin Procter LLP
100 Northern Avenue
Boston, Massachusetts 02210
Attention: Kingsley L. Taft

Danielle M. Lauzon
Email: ktaft@goodwinlaw.com
Email: dlauzon@goodwinlaw.com

Section 11.4 Entire Agreement; Amendments. This Agreement, the Disclosure Schedule and the other Transaction Documents constitute the entire agreement among the Parties and supersede all other prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter hereof and thereof. Each exhibit and schedule to this Agreement will be considered incorporated into this Agreement. Any amendments, or alternative or supplementary provisions, to this Agreement must be made in writing and duly executed by (a) Purchaser and (b) (i) the Company (if prior to the Closing) or (ii) the Representative (if after the Closing).

Section 11.5 Non-Waiver. The failure in any one or more instances of a Party to insist upon performance of any of the terms, covenants or conditions of this Agreement or to exercise any right or privilege in this Agreement conferred, or the waiver by such Party of any breach of any of the terms, covenants or conditions of this Agreement, will not be construed as a subsequent waiver of any such terms, covenants, conditions, rights or privileges, but the same will continue and remain in full force and effect as if no such forbearance or waiver had occurred. No waiver will be effective unless it is in writing and signed by Purchaser and the Company (if prior to the Closing) or the Representative (if after the Closing).

Section 11.6 Counterparts. This Agreement may be executed and delivered by each Party in separate counterparts, each of which when so executed and delivered will be deemed an original and all of which taken together will constitute one and the same Agreement.

Section 11.7 Delivery by Electronic Transmission. This Agreement and any other Transaction Document, and any amendments hereto or thereto, to the extent signed and delivered by means of a .PDF or other electronic transmission, will be treated in all manner and respects as an original contract and will be considered to have the same binding legal effects as if it were the original signed version thereof delivered in person. At the request of any Party or any party to any such contract, each other Party or party thereto will re-execute original forms thereof and deliver them to all other Parties or parties thereto. No Party or any party to any such contract will raise the use of a .PDF or other electronic transmission to deliver a signature or the fact that any signature or contract was transmitted or communicated through the use of a .PDF or other electronic transmission as a defense to the formation of a contract and each such Party forever waives any such defense.

Section 11.8 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable Law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable Law in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, and, for purposes of such jurisdiction, such provision or portion thereof will be struck from the remainder of this Agreement, which will remain in full force and effect. This Agreement will be reformed, construed and enforced in such jurisdiction so as to best give effect to the intent of the Parties under this Agreement.

Section 11.9 Applicable Law. This Agreement and any controversy related to or arising, directly or indirectly, out of, caused by or resulting from this Agreement will be governed by and construed in accordance with the domestic Laws of the State of Delaware (including with respect to the applicable statute of limitations), without giving effect to any choice or conflict of law provision or rule (whether of the State

of Delaware or any other jurisdiction) that would cause the application of the Laws of any jurisdiction other than the State of Delaware.

Section 11.10 Third Party Beneficiaries. This Agreement is solely for the benefit of the Parties, and, except as set forth herein, no provision of this Agreement will be deemed to confer any remedy, claim or right upon any third party. Without limiting the generality of the foregoing, the Parties expressly confirm their agreement that the Covered Persons and the Indemnified Parties will also enjoy the benefits of indemnities made herein, and in the case of the Covered Persons, the benefits of Section 5.9, which, in each case, are expressly stated to be in their favor. In this regard, the Parties agree that such Persons will have the right to enforce those provisions directly against the applicable Party that has agreed to provide such indemnities. Without limiting the generality of the foregoing, the Leadership Members (as defined in Schedule V hereto) will enjoy the benefits of Section 2.6(b) of the Disclosure Schedule, which, in each case, are expressly stated to be in their favor. In this regard, the Parties agree that such Persons will have the right to enforce those provisions of Section 2.6(b) of the Disclosure Schedule against the Purchaser directly.

Section 11.11 Binding Effect; Benefit. This Agreement will inure to the benefit of and be binding upon the Parties, and their successors and permitted assigns.

Section 11.12 Assignment. This Agreement and each of the respective rights and obligations of the Parties hereto may not be assigned by Purchaser, Merger Sub or the Company without the prior written consent of the other Parties; *provided*, Purchaser may, with the prior written consent of any other Party, assigns the Agreement and any of its rights, interests or obligations hereunder to any of its wholly owned Subsidiaries, but no such assignment shall relieve Purchaser of any of its obligations under this Agreement.

Section 11.13 Waiver of Trial by Jury. Each of the Parties hereby irrevocably waives the right to a jury trial in connection with any Proceeding arising out of or relating to this Agreement or the Transactions (including any Proceeding seeking enforcement of such Party's rights under this Agreement).

Section 11.14 Consent to Jurisdiction. Each of the Parties irrevocably agrees that any Proceeding arising out of or relating to this Agreement or the Transactions brought by any Party or its Affiliates against any other Party or its Affiliates will be brought and determined in the Court of Chancery of the State of Delaware; *provided* that if jurisdiction is not then available in the Court of Chancery of the State of Delaware, then any such Proceeding may be brought in any federal court located in the State of Delaware or any other Delaware state court. Each of the Parties hereby irrevocably submits to the jurisdiction of the aforesaid courts for itself and with respect to its property, generally and unconditionally, with regard to any such Proceeding arising out of or relating to this Agreement or the Transactions. Each of the Parties agrees not to commence any Proceeding relating thereto except in the courts described above in Delaware, other than Proceedings in any court of competent jurisdiction to enforce any Order rendered by any such court in Delaware as described herein. Each of the Parties further agrees that notice as provided herein will constitute sufficient service of process and the Parties further waive any argument that such service is insufficient. Each of the Parties hereby irrevocably and unconditionally waives, and agrees not to assert, by way of motion or as a defense, counterclaim or otherwise, in any Proceeding arising out of or relating to this Agreement or the Transactions, (a) any claim that it is not personally subject to the jurisdiction of the courts in Delaware as described herein for any reason, (b) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and (c) that (i) the Proceeding in any such court is brought in an inconvenient forum, (ii) the venue of such Proceeding is improper or (iii) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

Section 11.15 Governmental Reporting. Notwithstanding anything to the contrary in this Agreement, nothing in this Agreement will be construed to mean that a Party or other Person must make or file, or cooperate in the making or filing of, any return or report to any Governmental Authority in any manner that such Person or such Party reasonably believes or reasonably is advised is not in accordance with Law.

Section 11.16 Limitation on Warranties. Except for and without limiting the representations and warranties expressly set forth in Article III (which, for the avoidance of doubt, are qualified by any related item in the Disclosure Schedule) the Company is not making and will not be deemed to have made, and neither the Company nor any Equityholder (or any other Person) will have or be subject to any liability arising out of, or relating to or resulting from, any other representations and warranties, written or oral, common law or statutory, express or implied (including with respect to non-infringement, merchantability or suitability or fitness for a particular purpose), as to the accuracy or completeness of, or the distribution to, or use by Purchaser or Merger Sub, of any advice, document, or other information regarding the Shares, the Company or the business, financial condition and assets (including the condition, value, quality or suitability of any assets) or liabilities of the Company, including Forward-Looking Statements (any of the foregoing, an "**Extra-Contractual Statement**"). Purchaser represents, warrants and acknowledges that, except as expressly provided in Article III, none of any Equityholder, the Company, or Representative have made, and each Equityholder, the Company, and Representative hereby expressly disclaim and negate, and each of Purchaser and its Affiliates hereby expressly waives and is not relying on any Extra-Contractual Statement (including any express or implied warranty relating to the Shares or any assets (tangible, intangible or mixed) of the Company, including implied warranties of fitness, non-infringement, merchantability or suitability or fitness for a particular purpose), and each of Purchaser and its Affiliates hereby expressly waives and relinquishes any and all rights, claims and causes of action in connection with, the accuracy completeness or materiality of any Extra-Contractual Statement heretofore furnished or made available to Purchaser or its representatives or Affiliates by or on behalf of any Equityholder or the Company (it being intended that no such prior Extra-Contractual Statement will survive the execution and delivery of this Agreement).

Section 11.17 Specific Performance.

(a) The Parties hereto agree that irreparable harm would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached, and that money damages or other legal remedies would not be an adequate remedy for any such harm. The Parties hereto agree that unless and until this Agreement is terminated in accordance with Section 9.2 and any dispute over the right to termination has been finally resolved, (i) the Parties hereto shall be entitled to an injunction or injunctions from a court of competent jurisdiction as set forth in Section 11.14 to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement (other than Purchaser's and Merger Sub's obligation to effect the Closing, which shall be governed by the next sentence), without bond or other security being required, and (ii) the right of specific enforcement is an integral part of the Transactions, including the Merger, and without that right, none of the Company, Purchaser or Merger Sub would have entered into this Agreement. The Parties hereto further agree that unless and until this Agreement is terminated in accordance with Section 9.2 and any dispute over the right to termination has been finally resolved, the Company shall be entitled to an injunction, specific performance or other equitable remedy to specifically enforce Purchaser's and Merger Sub's obligations to effect the Closing on the terms and conditions set forth herein in the event that the conditions set forth in Section 6.1 and Section 6.2 (other than those conditions that by their nature are to be satisfied at the Closing; *provided* that each such condition is then capable of being satisfied at a Closing on such date, other than solely by virtue of Purchaser's failure to effect the Closing) have been satisfied or waived (the "**Specific Performance Conditions**"). Each of the Parties hereto agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other of such Party has an adequate remedy at

law or that any such injunction or award of specific performance or other equitable relief is not an appropriate remedy for any reason; *provided* that solely with respect to the equitable remedy to specifically enforce Purchaser's or Merger Sub's obligation to effect the Closing, Purchaser and Merger Sub may oppose the granting of specific performance only on the basis that one of the Specific Performance Conditions has not been satisfied. The Parties hereto further agree that (i) by seeking the remedies provided for in this Section 11.17, a Party shall not in any respect waive its right to seek any other form of relief that may be available to a Party under this Agreement (including monetary damages) for breach of any of the provisions of this Agreement or in the event that this Agreement has been terminated or in the event that the remedies provided for in this Section 11.17 are not available or otherwise are not granted, and (ii) nothing set forth in this Section 11.17 shall require any Party hereto to institute any Proceeding for (or limit any Party's right to institute any Proceeding for) specific performance under this Section 11.17 prior or as a condition to exercising any termination right under Article IX (and pursuing damages after such termination), nor shall the commencement of any Proceeding pursuant to this Section 11.17 or anything set forth in this Section 11.17 restrict or limit any Party's right to terminate this Agreement in accordance with the terms of Article IX or pursue any other remedies under this Agreement that may be available at any time. In any Proceeding seeking monetary damages against a Party or to compel a Party to specifically perform its obligations hereunder, the substantially non-prevailing Party in such Proceeding (after a final, non-appealable judgment of a court of competent jurisdiction) shall promptly reimburse the substantially prevailing Party its costs and expenses (including reasonable attorneys' fees and disbursements) in connection with such Proceeding.

Section 11.18 Legal Representation.

(a) Each of the Parties acknowledges and agrees, on its own behalf and on behalf of its directors, members, partners, officers, employees, and Affiliates that Goodwin Procter LLP currently serves as counsel to the Company, the Representative, certain Equityholders and their respective Affiliates (individually and collectively, "**Seller Group**"), in connection with the negotiation, preparation, execution and delivery of this Agreement, the other Transaction Documents, the consummation of the Transactions or in connection with any claims for indemnification against the Equityholders. There may come a time, including after consummation of the Transactions, when the interests of Seller Group or Representative, on the one hand, and the Company, on the other hand, may no longer be aligned or when, for any reason, Seller Group, Representative, Goodwin Procter LLP, or the Company believes that Goodwin Procter LLP can or should no longer represent each of Seller Group or Representative, on the one hand, and the Company, on the other hand. Purchaser, the Surviving Corporation, and the Company hereby agree that Goodwin Procter LLP (or any successor) may represent the Seller Group or Representative in the future in connection with issues that may arise under this Agreement and any claims that may be made pursuant to this Agreement, including a dispute that arises after the Closing between Purchaser (and/or the Company) and Representative, even though the interests of the Representative may be directly adverse to Purchaser or the Company, and even though Goodwin Procter LLP may have represented the Company in a matter substantially related to such dispute or may be handling ongoing matters for the Company. Goodwin Procter LLP (or any successor) may serve as counsel to all or a portion of the Seller Group or any director, member, partner, officer, employee, representative, or Affiliate of the Seller Group, in connection with any litigation, claim or obligation arising out of or relating to this Agreement, or the Transactions. Each of the Parties hereto consents thereto, and waives any conflict of interest arising therefrom, and each such Party shall cause any Affiliate thereof to consent to waive any conflict of interest arising from such representation. Each of the Parties hereto acknowledges that such consent and waiver is voluntary, that it has been carefully considered, and that the Parties have consulted with counsel or have been advised they should do so in this connection.

(b) Notwithstanding anything to the contrary contained herein, the Parties intend that all communications at or prior to the Closing between the Company, any member of the Seller Group, or

any of them (collectively, the "**Target Group**"), on the one hand, and any of their attorneys, on the other hand, to the extent relating to the negotiation of the Transactions and any alternative transactions (collectively, the "**Protected Communication**"), and all associated rights to assert, waive and otherwise administer the attorney-client privilege and right of confidentiality of any member of the Target Group (the "**Associated Rights**"), will, from and after the Closing, rest exclusively with Representative and will not be transferred, assigned, conveyed or delivered, by operation of law or otherwise, to Purchaser or any of its Affiliates or any successor or assign of any of the foregoing (collectively, the "**Purchaser Group**"). Accordingly, the Parties hereby agree that, as of immediately prior to the Closing, for the consideration set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged: (i) all Protected Communication and Associated Rights are, and will be deemed for all purposes, transferred, assigned, conveyed and delivered in full to Representative, and (ii) no member of the Purchaser Group will have any right, title, interest or benefit in or to any of the Protected Communication or any Associated Rights. Without limiting the foregoing, the Parties acknowledge the decision of the Delaware Chancery Court in *Great Hill Equity Partners IV, LP, et al. v. SIG Growth Equity Fund, I, LLP, et al.* (Civil Action No. 7905-CS, November 15, 2013) and desire to expressly exclude the Protected Communication and Associated Rights from the assets, rights, privileges and benefits of the Target Group that might otherwise be transferred or assigned to any member of the Purchaser Group by operation of law or otherwise. Notwithstanding the foregoing, in the event that a dispute arises between Purchaser, the Surviving Corporation or any of their respective Subsidiaries and a third party (other than a Party to this Agreement or any of their respective Affiliates) after the Closing, the Surviving Corporation (including on behalf of its Subsidiaries) may assert the attorney-client privilege to prevent disclosure of confidential communications by Goodwin Procter LLP to such third party; *provided* that neither the Surviving Corporation nor any of its Subsidiaries may waive such privilege without the prior written consent of the Representative or the Stockholders, as applicable.

(c) Purchaser hereby agrees, on its own behalf and on behalf of the other members of the Purchaser Group, from and after the Closing, that Representative, at the sole cost and expense of the Equityholders (i) will have the right to take possession and control of all Protected Communication effective as of the Closing and (ii) if and to the extent Representative fails to take such possession and control (which failure will not, alone or in association with any other act or omission, be deemed a waiver of any of their rights under this Section 11.18), Representative will have the right to access and copy, from time to time, any Protected Communication in the possession or control of any member of the Purchaser Group from and after the Closing, during normal business hours and on not less than 24 hours prior written notice, as Representative (as applicable) determines, in its reasonable discretion, may be necessary or desirable in connection with any post-Closing matter, whether or not such matter is known to any member of the Purchaser Group. If and to the extent that, at any time from and after the Closing, any member of the Purchaser Group will have any right or opportunity to assert or waive an attorney-client privilege or right of confidentiality with respect to any Protected Communication, each member of the Purchaser Group will not, and will cause the other members of the Purchaser Group not to, waive such privilege or right of confidentiality without the prior written consent of Representative (which consent may be withheld, conditioned or delayed in its sole discretion).

(*The remainder of this page is intentionally left blank.*)

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date indicated in the first sentence of this Agreement.

VERTEX PHARMACEUTICALS INCORPORATED

By: /s/ Jeffrey Leiden
Name: Jeffrey Leiden
Title: Chairman, President and Chief Executive Officer

VERTEX DISC INC.

By: /s/ Jeffrey Leiden
Name: Jeffrey Leiden
Title: President

SEMMA THERAPEUTICS, INC.

By: /s/ Bastiano Sanna
Name: Bastiano Sanna
Title: President and Chief Executive Officer

SHAREHOLDER REPRESENTATIVE SERVICES LLC, solely in its capacity as Representative

By: /s/ Sam Riffe
Name: Sam Riffe
Title: Managing Director

EXHIBIT A
COMPANY STOCKHOLDER CONSENT
[See attached]

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXHIBIT B
CERTIFICATE OF MERGER

CERTIFICATE OF MERGER

OF

VERTEX DISC INC.

INTO

SEMMA THERAPEUTICS, INC.

Pursuant to Section 251 of the General
Corporation Law of the State of Delaware

Semma Therapeutics, Inc., a Delaware corporation, does hereby certify:

FIRST: The names and states of incorporation of the constituent corporations to this merger (the "Merger") are as follows:

Vertex Disc Inc.	Delaware
Semma Therapeutics, Inc.	Delaware

SECOND: An Agreement and Plan of Merger, which was entered into on August [•], 2019 (the "Agreement of Merger"), has been approved, adopted, executed and acknowledged by each of the constituent corporations in accordance with Section 251 of the General Corporation Law of the State of Delaware.

THIRD: The name of the corporation surviving the Merger is Semma Therapeutics, Inc., a Delaware corporation (the "Surviving Corporation").

FOURTH: The Second Amended and Restated Certificate of Incorporation of the Surviving Corporation shall be amended and restated to read in its entirety as set forth in Exhibit A attached hereto.

FIFTH: The executed Agreement of Merger is on file at an office of the Surviving Corporation, Semma Therapeutics, Inc., 100 Technology Square, Floor 3, Cambridge, Massachusetts 02139. A copy will be provided, upon request and without cost, to any stockholder of either constituent corporation.

SIXTH: The Merger shall be effective upon the filing of this Certificate of Merger with the office of the Secretary of State of the State of Delaware.

IN WITNESS WHEREOF, Semma Therapeutics, Inc. has caused this Certificate of Merger to be executed in its corporate name this [•] day of [•], 2019.

SEMMA THERAPEUTICS, INC.
By:
Name:
Title:

Exhibit A

Amended and Restated Certificate of Incorporation

EXHIBIT C
SURVIVING CORPORATION CERTIFICATE OF INCORPORATION
[See attached]

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

SEMMA THERAPEUTICS, INC.

FIRST: The name of the corporation is Semma Therapeutics, Inc. (the "Corporation").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, Wilmington, County of New Castle, 19801. The name of its registered agent at that address is The Corporation Trust Company.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of the State of Delaware as set forth in Title 8 of the Delaware Code (the "GCL").

FOURTH: The total number of shares of stock which the Corporation shall have authority to issue is 1,000 shares of Common Stock, each having a par value of $0.0001.

FIFTH: The following provisions are inserted for the management of the business and the conduct of the affairs of the Corporation, and for further definition, limitation and regulation of the powers of the Corporation and of its directors and stockholders:

(1) The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

(2) The directors shall have concurrent power with the stockholders to make, alter, amend, change, add to or repeal the By-Laws of the Corporation.

(3) The number of directors of the Corporation shall be as from time to time fixed by, or in the manner provided in, the By-Laws of the Corporation. Election of directors need not be by written ballot unless the By-Laws so provide.

(4) No director shall be personally liable to the Corporation or any of its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the GCL or (iv) for any transaction from which the director derived an improper personal benefit. Any repeal or modification of this Article FIFTH by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or

modification with respect to acts or omissions occurring prior to such repeal or modification.

(5) In addition to the powers and authority hereinbefore or by statute expressly conferred upon them, the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, subject, nevertheless, to the provisions of the GCL, this Certificate of Incorporation, and any By-Laws adopted by the stockholders; provided, however, that no By-Laws hereafter adopted by the stockholders shall invalidate any prior act of the directors which would have been valid if such By-Laws had not been adopted.

SIXTH: The Corporation shall indemnify its directors and officers to the fullest extent authorized or permitted by law, as now or hereafter in effect, and such right to indemnification shall continue as to a person who has ceased to be a director or officer of the Corporation and shall inure to the benefit of his or her heirs, executors and personal and legal representatives; provided, however, that, except for proceedings to enforce rights to indemnification, the Corporation shall not be obligated to indemnify any director or officer (or his or her heirs, executors or personal or legal representatives) in connection with a proceeding (or part thereof) initiated by such person unless such proceeding (or part thereof) was authorized or consented to by the Board of Directors. The right to indemnification conferred by this Article SIXTH shall include the right to be paid by the Corporation the expenses incurred in defending or otherwise participating in any proceeding in advance of its final disposition.

The Corporation may, to the extent authorized from time to time by the Board of Directors, provide rights to indemnification and to the advancement of expenses to employees and agents of the Corporation similar to those conferred in this Article SIXTH to directors and officers of the Corporation.

The rights to indemnification and to the advance of expenses conferred in this Article SIXTH shall not be exclusive of any other right which any person may have or hereafter acquire under this Certificate of Incorporation, the By-Laws of the Corporation, any statute, agreement, vote of stockholders or disinterested directors or otherwise.

Any repeal or modification of this Article SIXTH by the stockholders of the Corporation shall not adversely affect any rights to indemnification and to the advancement of expenses of a director or officer of the Corporation existing at the time of such repeal or modification with respect to any acts or omissions occurring prior to such repeal or modification.

SEVENTH: Meetings of stockholders may be held within or without the State of Delaware, as the By-Laws may provide. The books of the Corporation may be kept (subject to any provision contained in the GCL) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the By-Laws of the Corporation.

EIGHTH: The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

EXHIBIT D
SURVIVING CORPORATION BYLAWS
[See attached]

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXHIBIT E
ESCROW AGREEMENT
[See attached]

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXHIBIT F
PAYING AGENT AGREEMENT
[See attached]

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EXHIBIT G
TRANSMITTAL LETTER
[See attached]

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXHIBIT H
FIRPTA CERTIFICATE
[See attached]

[*] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM IF PUBLICLY DISCLOSED.

EXHIBIT I
JOINT PRESS RELEASE

Vertex to Acquire Semma Therapeutics With a Goal of Developing Curative Cell-Based Treatments for Type 1 Diabetes

-Semma's unique investigational approach combines robust production process of pancreatic islet cells with proprietary delivery system to restore insulin secretion in type 1 diabetes patients-

-Semma to be acquired for $950 million in cash-

BOSTON & CAMBRIDGE, Mass.--(BUSINESS WIRE)--Sep. 3, 2019-- Vertex Pharmaceuticals Incorporated (NASDAQ: VRTX) today announced that the company has entered into a definitive agreement under which Vertex will acquire Semma Therapeutics, a privately held biotechnology company pioneering the use of stem cell-derived human islets as a potentially curative treatment for type 1 diabetes, for $950 million in cash. Semma has demonstrated a differentiated approach to treat type 1 diabetes, a serious disease affecting over one million people in the United States alone. Semma has made two major scientific advances: the ability to produce large quantities of functional human pancreatic beta cells that restore insulin secretion and ameliorate hypoglycemia in animal models and a novel device that encapsulates and protects these cells from the immune system, enabling durable implantation without the need for ongoing immunosuppressive therapy.

This press release features multimedia. View the full release here: https://www.businesswire.com/news home/20190903005227/en/

"This acquisition aligns perfectly with our strategy of investing in scientific innovation to create transformative medicines for people with serious diseases in specialty markets," said Jeffrey Leiden, M.D., Ph.D., Chairman, President and Chief Executive Officer of Vertex. "We are excited to work with the talented scientists at Semma to build on their significant progress toward providing effective and potentially curative cell therapy options for people living with type 1 diabetes. We see a substantial opportunity to transform the treatment paradigm for type 1 diabetes, a specialty disease cared for by endocrinologists, both by advancing the development and manufacturing of the cells themselves, as well as through the highly innovative cell/device combination."

"The therapeutic approach pioneered by Semma has the potential to address the causal human biology of type 1 diabetes, a serious disease inadequately controlled by existing therapies. Unlike insulin injections and insulin pumps, islet cell transplantation can provide physiologic regulation of blood glucose thereby potentially ameliorating or preventing both the hyperglycemic and hypoglycemic episodes associated with the current standards of care," said David Altshuler, M.D., Ph.D., Executive Vice President, Global Research and Chief Scientific Officer of Vertex. "Their compelling proof-of-concept data in animals demonstrates the opportunity to develop transformative and potentially curative therapies to treat people with type 1 diabetes. In addition, the acquisition of Semma continues to expand the Vertex toolbox of cutting edge technologies and capabilities, and bolsters our team of leading scientists."

“Type 1 diabetes is a disease that afflicts millions of people worldwide and has no curative therapies available,” said Bastiano Sanna, Ph.D., President and Chief Executive Officer of Semma. “Vertex has a proven track record of serial innovation and a deep commitment to developing transformative therapies for patients in need. Being a part of Vertex will allow the Semma team to rapidly and effectively advance our cell therapy and delivery approaches to patients who need them.”

“Semma was founded to dramatically improve the lives of patients with type 1 diabetes,” said Douglas Melton, Ph.D., Scientific Founder of Semma. “Vertex is ideally suited to accelerate the achievement of this goal.”

About Semma Therapeutics

Semma was founded by Douglas Melton, Ph.D. and others to develop transformative therapies for patients who currently depend on insulin injections. The company is focused on advancing Dr. Melton’s method of generating billions of functional, insulin-producing beta cells grown from stem cells in the laboratory, which develop in islet-like clusters. Initial preclinical work in animal models of diabetes has shown that transplantation of these cells by infusion into the liver is sufficient to control blood glucose levels. This breakthrough technology has been exclusively licensed to Semma for the development of a cell-based therapy for diabetes.

In addition to pursing direct intra-hepatic transplantation of these islet cells, ongoing research at Semma is focused on combining these proprietary cells with a state-of-the-art cell device and immune protection strategy that can protect these cells from the patient’s immune system and allow the beta cells to function as they do in non-diabetic individuals. Implantation of the islet cell-filled device has the potential to replace the missing beta cells in a diabetic patient without requiring patient immunosuppression. Semma is working to bring this new therapeutic option to the clinic and improve the lives of patients with diabetes.

Semma recently announced the achievement of preclinical proof-of-concept for these two lead programs based on data in which they tested human stem cell-derived islets (SC-islets) in both non-human primates and pigs. These data were presented in a plenary session at the International Society for Stem Cell Research (ISSCR) in June 2019. To date, Semma’s cell therapy approach is the only islet cell transplantation program to have demonstrated both positive c-peptide release (a marker of insulin secretion), as well as positive glycemic control of experimentally induced diabetes.

Transaction Terms

Under the terms of the acquisition, Vertex will acquire all outstanding shares of Semma for $950 million in cash, and Semma will become a separate operating subsidiary of Vertex. Dr. Sanna will join Vertex as President of Semma. Also, Dr. Melton will continue in his role as Chair of Semma’s Scientific Advisory Board and provide oversight and guidance on the research and development of the programs.

The companies anticipate the acquisition will close in the fourth quarter of 2019, subject to certain conditions, including the expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act and other customary conditions. Vertex will provide any appropriate updates to its current 2019 financial guidance in conjunction with its third quarter 2019 earnings release or upon closing the transaction, whichever occurs later.

Vertex Special Note Regarding Forward-Looking Statements

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, including, without limitation, Dr. Leiden's statements in the second paragraph of the press release, Dr. Altshuler's statements in the third paragraph of the press release, Dr. Sanna's statements in the fourth paragraph of the press release, Dr. Melton's statements in the fifth paragraph of the press release, and statements regarding the timing of the potential closing of the transaction and the potential benefits of the acquisition. While Vertex believes the forward-looking statements contained in this press release are accurate, these forward-looking statements represent Vertex's beliefs only as of the date of this press release and there are a number of factors that could cause actual events or results to differ materially from those indicated by such forward-looking statements. Those risks and uncertainties include, among other things, the transaction is subject to certain conditions, including the expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act, Vertex may not realize the potential benefits of the acquisition, and the other risks listed under Risk Factors in Vertex's annual report and quarterly reports filed with the Securities and Exchange Commission and available through the company's website at www.vrtx.com. Vertex disclaims any obligation to update the information contained in this press release as new information becomes available.

View source version on businesswire.com: https://www.businesswire.com/news/home/20190903005227/en/

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CREDIT AGREEMENT

Dated as of September 17, 2019

among

VERTEX PHARMACEUTICALS INCORPORATED,
as the Company and a Borrower,

THE SUBSIDIARIES OF THE COMPANY PARTY HERETO
as Designated Foreign Borrowers or Subsidiary Guarantors,

BANK OF AMERICA, N.A.,
as Administrative Agent, Swingline Lender and an L/C Issuer,

and

THE LENDERS PARTY HERETO

BofA SECURITIES, INC.,
CITIBANK, N.A.,
JPMORGAN CHASE BANK, N.A.,
SUNTRUST ROBINSON HUMPHREY, INC., and
WELLS FARGO SECURITIES, LLC,
as Joint Lead Arrangers and Joint Bookrunners,

CITIBANK, N.A.,
JPMORGAN CHASE BANK, N.A.,
SUNTRUST BANK, and
WELLS FARGO BANK, NATIONAL ASSOCIATION,
as Co-Syndication Agents,

and

BARCLAYS BANK PLC,
CITIZENS BANK, N.A.,
HSBC BANK USA, NATIONAL ASSOCIATION,
KEYBANK NATIONAL ASSOCIATION, and
MUFG BANK, LTD.,
as Co-Documentation Agents

The Borrowers hereby acknowledge that, under the Credit Reporting Act 2013 (Ireland), lenders are required to provide personal and credit information for credit applications and credit agreements of €500 and above to the Central Credit Register. This information will be held on the Central Credit Register and may be used by other lenders when making decisions on your credit applications and credit agreements.

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Exhibit O Form of Designated Foreign Borrower Notice

CREDIT AGREEMENT

This **CREDIT AGREEMENT** is entered into as of September 17, 2019, among **VERTEX PHARMACEUTICALS INCORPORATED**, a Massachusetts corporation (the "Company"), **VERTEX PHARMACEUTICALS (EUROPE) LIMITED**, a private limited company incorporated in England and Wales with registered number 02907620 ("Vertex Europe"), **VERTEX PHARMACEUTICALS (IRELAND) LIMITED**, a private company limited by shares incorporated in Ireland with registered number 502558 ("Vertex Ireland"), any other Foreign Subsidiaries of the Company party hereto pursuant to Section 2.16 (together with Vertex Europe and Vertex Ireland, collectively, the "Designated Foreign Borrowers", and each, a "Designated Foreign Borrower", and the Designated Foreign Borrowers together with the Company, collectively, the "Borrowers", and each, a "Borrower"), the Subsidiaries of the Company as are or may from time to time become parties to this Agreement as Subsidiary Guarantors (defined herein), the Lenders (defined herein), and **BANK OF AMERICA, N.A.**, as Administrative Agent, Swingline Lender and an L/C Issuer.

PRELIMINARY STATEMENTS:

WHEREAS, the Borrowers have requested that the Lenders, the Swingline Lender and the L/C Issuers make loans and other financial accommodations to the Borrowers in an aggregate amount of $500,000,000, in the form of a revolving credit facility.

WHEREAS, the Lenders, the Swingline Lender and the L/C Issuers have agreed to make such loans and other financial accommodations to the Loan Parties on the terms and subject to the conditions set forth herein.

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto covenant and agree as follows:

ARTICLE I
DEFINITIONS AND ACCOUNTING TERMS

1.01 Defined Terms**.**

As used in this Agreement, the following terms shall have the meanings set forth below:

"Acquisition" means the acquisition, whether through a single transaction or a series of related transactions, of (a) a majority of the Voting Stock or other controlling ownership interest in another Person (including the purchase of an option, warrant or convertible or similar type security to acquire such a controlling interest at the time it becomes exercisable by the holder thereof), whether by purchase of such equity or other ownership interest or upon the exercise of an option or warrant for, or conversion of securities into, such equity or other ownership interest, or (b) assets of another Person which constitute all or substantially all of the assets of such Person or of a division, line of business or other business unit of such Person.

"Additional Commitment Lender" has the meaning specified in Section 2.19(c).

"Additional Obligations" means (a) all obligations arising under Guaranteed Cash Management Agreements and Guaranteed Hedge Agreements and (b) all costs and expenses incurred in connection with enforcement and collection of the foregoing, including the fees, charges and disbursements of counsel, in each case whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest, expenses and fees that accrue after the commencement by or against any Loan Party or any Affiliate thereof of any proceeding under any Debtor Relief Laws naming such Person as the debtor in such proceeding, regardless of whether such interest, expenses and fees are allowed claims in such proceeding; provided that (x) Additional Obligations shall be guaranteed pursuant to the Guaranty only until such time as the Guaranty terminates pursuant to Section 10.06 and (y) any release of Guarantors and/or Designated Foreign Borrowers effected in a manner not prohibited by this Agreement and the other Loan Documents shall not require the consent of holders of obligations under any Guaranteed Cash Management Agreements or any Guaranteed Hedge Agreements; provided further that Additional Obligations of a Loan Party shall exclude any Excluded Swap Obligations with respect to such Loan Party.

"Adjusted Consolidated Leverage Ratio" has the meaning specified in Section 7.11(a).

"Administrative Agent" means Bank of America (as defined below) (or any of its designated branch offices or affiliates), in its capacity as administrative agent under any of the Loan Documents, or any successor administrative agent.

"Administrative Agent's Office" means, with respect to any currency, the Administrative Agent's address and, as appropriate, account as set forth on Schedule 1.01(a) with respect to such currency, or such other address or account with respect to such currency as the Administrative Agent may from time to time notify the Company and the Lenders.

"Administrative Questionnaire" means an Administrative Questionnaire in substantially the form of Exhibit A or any other form approved by the Administrative Agent.

"Affiliate" means, with respect to a specified Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with the Person specified.

"Aggregate Revolving Commitments" means the Revolving Commitments of all the Lenders.

"Agreement" means this Credit Agreement, including all schedules, exhibits and annexes hereto as amended, restated, amended and restated, supplemented or otherwise modified from time to time in accordance with the terms hereof.

"Agreement Currency" has the meaning specified in Section 11.23.

"Alternative Currency" means each of the following currencies: Australian Dollars, Canadian Dollars, Euro, Sterling, and Swiss Francs, together with each other currency (other than

Dollars) that is approved in accordance with Section 1.09; provided that for each Alternative Currency, such requested currency is an Eligible Currency.

"Alternative Currency Equivalent" means, at any time, with respect to any amount denominated in Dollars, the equivalent amount thereof in the applicable Alternative Currency as determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, at such time on the basis of the Spot Rate (determined in respect of the most recent Revaluation Date) for the purchase of such Alternative Currency with Dollars.

"Alternative Currency Sublimit" means an amount equal to the lesser of (a) $100,000,000 and (b) the Aggregate Revolving Commitments. The Alternative Currency Sublimit is part of, and not in addition to, the Aggregate Revolving Commitments.

"Applicable Designated Foreign Borrower Documents" has the meaning specified in Section 5.23(a).

"Applicable Percentage" means, with respect to any Revolving Lender at any time, the percentage (carried out to the ninth decimal place) of the Revolving Facility represented by such Revolving Lender's Revolving Commitment or, as the context may require, Revolving Commitment of any applicable Class at such time, subject (in each case) to adjustment as provided in Section 2.15. If the Revolving Commitments of all of the Revolving Lenders to make Revolving Loans and the obligation of the L/C Issuers to make L/C Credit Extensions have been terminated pursuant to Section 8.02, or if the Revolving Commitments have expired, then the Applicable Percentage of each Revolving Lender in respect of any Class of the Revolving Facility shall be determined based on the Applicable Percentage of such Revolving Lender in respect of the Revolving Facility most recently in effect (including, with respect to any such Class), giving effect to any subsequent assignments. The Applicable Percentage of each Lender is set forth opposite the name of such Lender on Schedule 1.01(b) as of the Closing Date (and as automatically updated pursuant to Section 2.18 or 2.19) or in the Assignment and Assumption pursuant to which such Lender becomes a party hereto or in any documentation executed by such Lender pursuant to Section 2.18 or 2.19.

"Applicable Rate" means, for any day, the rate per annum set forth below opposite the applicable Level then in effect (based on the Consolidated Leverage Ratio), it being understood that the Applicable Rate for (a) Revolving Loans that are Base Rate Loans shall be the percentage set forth under the column "Base Rate Loans", (b) Revolving Loans that are Eurocurrency Rate Loans shall be the percentage set forth under the column "Eurocurrency Rate Loans & Letter of Credit Fee", (c) the Letter of Credit Fee shall be the percentage set forth under the column "Eurocurrency Rate Loans & Letter of Credit Fee", and (d) the Commitment Fee shall be the percentage set forth under the column "Commitment Fee":

Level	Consolidated Leverage Ratio	Eurocurrency Rate Loans & Letter of Credit Fee	Base Rate Loans	Commitment Fee
I	< 1.00 to 1.00	1.125%	0.125%	0.125%
II	≥ 1.00 to 1.00 but < 2.00 to 1.00	1.250%	0.250%	0.150%
III	≥ 2.00 to 1.00 but < 3.00 to 1.00	1.375%	0.375%	0.175%
IV	≥ 3.00 to 1.00	1.500%	0.500%	0.200%

Any increase or decrease in the Applicable Rate resulting from a change in the Consolidated Leverage Ratio shall become effective as of the first Business Day immediately following the date a Compliance Certificate is delivered pursuant to Section 6.02(a); provided, however, that if a Compliance Certificate is not delivered when due in accordance with such Section, then, upon the request of the Required Lenders, Level IV shall apply, in each case as of the first Business Day after the date on which such Compliance Certificate was required to have been delivered and in each case shall remain in effect until the first Business Day following the date on which such Compliance Certificate is delivered.

Notwithstanding anything to the contrary contained in this definition, (x) the determination of the Applicable Rate for any period shall be subject to the provisions of Section 2.10(b), (y) the initial Applicable Rate shall be set forth in Level I until the first Business Day immediately following the date a Compliance Certificate is delivered pursuant to Section 6.02(a) for the fiscal year ending December 31, 2019, and (z) the Applicable Rate with respect to Credit Extensions under Extended Revolving Commitments of any Revolving Extension Series shall be as set forth in the Revolving Extension Amendment relating thereto. Any adjustment in the Applicable Rate shall be applicable to all Credit Extensions then existing or subsequently made or issued.

"Applicable Revolving Percentage" means, with respect to any Revolving Lender at any time, such Revolving Lender's Applicable Percentage in respect of the Revolving Facility (or, as the context may require, the Applicable Percentage in respect of the Revolving Facility reflecting a specified Class of Revolving Commitments) at such time.

"Applicable Time" means, with respect to any Borrowings and payments in any Alternative Currency, the local time in the place of settlement for such Alternative Currency as may be determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, to be necessary for timely settlement on the relevant date in accordance with normal banking procedures in the place of payment.

"Applicant Foreign Borrower" has the meaning specified in Section 2.16(b).

"Appropriate Lender" means, at any time, (a) with respect to the Revolving Facility, a Lender that has a Revolving Commitment or holds Revolving Loans thereunder (or as applicable and as the context shall require, a Lender that has a Class of Revolving Commitments or holds a specified

Class of Revolving Loans) at such time, (b) with respect to the Letter of Credit Sublimit, (i) the L/C Issuers and (ii) if any Letters of Credit have been issued pursuant to Section 2.03, the Revolving Lenders and (c) with respect to the Swingline Sublimit, (i) the Swingline Lender and (ii) if any Swingline Loans are outstanding pursuant to Section 2.04(a), the Revolving Lenders.

"Approved Fund" means any Fund that is administered or managed by (a) a Lender, (b) an Affiliate of a Lender or (c) an entity or an Affiliate of an entity that administers or manages a Lender.

"Arrangers" means (a) BofA Securities, Inc., (b) Citibank, N.A., (c) JPMorgan Chase Bank, N.A., (d) Suntrust Robinson Humphrey, Inc., and (e) Wells Fargo Securities, LLC, in their respective capacities as joint lead arrangers and joint bookrunners.

"Article 55 BRRD" means Article 55 of Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investments firms.

"Assignment and Assumption" means an assignment and assumption entered into by a Lender and an Eligible Assignee (with the consent of any party whose consent is required by Section 11.06(b)(iii)), and accepted by the Administrative Agent, in substantially the form of Exhibit B or any other form (including an electronic documentation form generated by use of an electronic platform) approved by the Administrative Agent.

"Attributable Indebtedness" means, on any date and without duplication, (a) in respect of any Capitalized Lease of any Person, the capitalized amount thereof that would appear on a balance sheet of such Person prepared as of such date in accordance with GAAP (excluding Capitalized Leases in respect of the Specified Leased Properties), (b) in respect of any Synthetic Lease Obligation, the capitalized amount of the remaining lease or similar payments under the relevant lease or other applicable agreement or instrument that would appear on a balance sheet of such Person prepared as of such date in accordance with GAAP if such lease or other agreement or instrument were accounted for as a Capitalized Lease, and (c) in respect of any Sale and Leaseback Transaction, the present value (discounted in accordance with GAAP at the debt rate implied in the applicable lease) of the obligations of the lessee for rental payments during the term of such lease.

"Audited Financial Statements" means the audited Consolidated balance sheet of the Company and its Restricted Subsidiaries for the fiscal year ended December 31, 2018, and the related Consolidated statements of income or operations, shareholders' equity and cash flows for such fiscal year of the Company and its Restricted Subsidiaries, including the notes thereto.

"Australian Dollar" means the lawful currency of Australia.

"Availability Period" means, in respect of any Class of Revolving Commitments, the period from and including the Closing Date (or, if later, the effective date for such Class of Revolving Commitments) to the earliest of (a) the Maturity Date for such Class, (b) the date of termination of the Revolving Commitments pursuant to Section 2.06, and (c) the date of termination of the Revolving Commitment of each Revolving Lender to make Revolving Loans and of the obligation of each L/C Issuer to make L/C Credit Extensions pursuant to Section 8.02.

"Bail-In Action" means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority in respect of any liability of an EEA Financial Institution.

"Bail-In Legislation" means (a) with respect to any EEA Member Country implementing Article 55 BRRD, the implementing law for such EEA Member Country from time to time which is described in the EU Bail-In Legislation Schedule and (b) in relation to any state other than such an EEA Member Country or (to the extent that the United Kingdom is not such an EEA Member Country) the United Kingdom, any analogous law or regulation from time to time which requires contractual recognition of any Write-Down and Conversion Powers contained in that law or regulation.

"Bank of America" means Bank of America, N.A. and its successors.

"Bankruptcy Code" means Title 11 of the United States Code (11 U.S.C. Section 101 et. seq.) as now or hereafter in effect, or any successor statute thereto.

"Base Rate" means for any day a fluctuating rate of interest per annum equal to the highest of (a) the Federal Funds Rate plus 0.50%, (b) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its "prime rate," and (c) the Eurocurrency Rate plus 1.00%, provided that if the Base Rate shall be less than zero, such rate shall be deemed zero for purposes of this Agreement. The "prime rate" is a rate set by Bank of America based upon various factors including Bank of America's costs and desired return, general economic conditions and other factors, and is used as a reference point for pricing some loans, which may be priced at, above, or below such announced rate. Any change in such prime rate announced by Bank of America shall take effect at the opening of business on the day specified in the public announcement of such change.

"Base Rate Loan" means a Revolving Loan that bears interest based on the Base Rate. All Base Rate Loans are available only to the Company and shall be denominated in Dollars.

"Beneficial Ownership Certification" has the meaning specified in Section 4.01(i).

"Beneficial Ownership Regulation" has the meaning specified in Section 4.01(i).

"BHC Act Affiliate" of a party means an "affiliate" (as such term is defined under, and interpreted in accordance with, 12 U.S.C. 1841(k)) of such party.

"Borrower" and "Borrowers" have the meanings specified in the introductory paragraph hereto.

"Borrower Materials" has the meaning specified in Section 6.02.

"Borrowing" means a Revolving Borrowing or a Swingline Borrowing, as the context may require.

"Business Day" means any day other than a Saturday, Sunday or other day on which commercial banks are authorized to close under the Laws of, or are in fact closed in, the state where

the Administrative Agent's Office with respect to Obligations denominated in Dollars is located and:

(a) if such day relates to any interest rate settings as to a Eurocurrency Rate Loan denominated in Dollars, any issuance, fundings, disbursements, settlements and payments in Dollars in respect of any Eurocurrency Rate Loan or Letter of Credit denominated in Dollars, or any other dealings in Dollars to be carried out pursuant to this Agreement in respect of any such Credit Extension, means any such day that is also a London Banking Day;

(b) if such day relates to any interest rate settings as to a Eurocurrency Rate Loan denominated in Euro, any issuance, fundings, disbursements, settlements and payments in Euro in respect of any Eurocurrency Rate Loan or Letter of Credit denominated in Euro, or any other dealings in Euro to be carried out pursuant to this Agreement in respect of any such Credit Extension, means a TARGET Day;

(c) if such day relates to any interest rate settings as to a Eurocurrency Rate Loan denominated in a currency other than Dollars or Euro, means any such day on which dealings in deposits in the relevant currency are conducted by and between banks in the London or other applicable offshore interbank market for such currency; and

(d) if such day relates to any issuance, fundings, disbursements, settlements and payments in a currency other than Dollars or Euro in respect of any Eurocurrency Rate Loan or Letter of Credit denominated in a currency other than Dollars or Euro, or any other dealings in any currency other than Dollars or Euro to be carried out pursuant to this Agreement in respect of any such Credit Extension (other than any interest rate settings), means any such day on which banks are open for foreign exchange business in the principal financial center of the country of such currency.

"Canadian Dollar" and "CAD" means the lawful currency of Canada.

"Capitalized Leases" means all leases that have been or should be, in accordance with GAAP, recorded as capitalized leases, subject to Section 1.03(c).

"Capped Call Transactions" means one or more call options referencing the Company's Equity Interests purchased by the Company in connection with the issuance of Convertible Bond Indebtedness with a strike or exercise price (howsoever defined) initially equal to the conversion price (howsoever defined) of the related Convertible Bond Indebtedness (subject to rounding) and limiting the amount deliverable to the Company upon exercise thereof based on a cap or upper strike price (howsoever defined).

"Captive Insurance Subsidiary" means any Subsidiary of the Company that is subject to regulation as an insurance company (or any Subsidiary thereof) under, and in accordance with, applicable Law.

"Cash Collateralize" means to pledge and deposit with or deliver to the Administrative Agent, for the benefit of one or more of the L/C Issuers or Swingline Lender (as applicable) or the

Lenders, as collateral for L/C Obligations, the Obligations in respect of Swingline Loans, or obligations of the Revolving Lenders to fund participations in respect of either thereof (as the context may require), cash or deposit account balances pursuant to documentation in form and substance reasonably satisfactory to the Administrative Agent and such L/C Issuer or Swingline Lender (as applicable). "Cash Collateral" and "Cash Collateralization" shall have a meaning correlative to the foregoing and shall include the proceeds of such cash collateral and other credit support.

"Cash Equivalents" means any of the following types of Investments, to the extent owned by the Company or any of its Restricted Subsidiaries free and clear of all Liens (other than Permitted Liens):

(a) readily marketable obligations issued or directly and fully guaranteed or insured by the United States or any agency or instrumentality thereof having maturities of not more than three hundred sixty days (360) days from the date of acquisition thereof; provided that the full faith and credit of the United States is pledged in support thereof;

(b) time deposits with, or insured certificates of deposit or bankers' acceptances of, any commercial bank that (i) (A) is a Lender or (B) is organized under the laws of the United States, any state thereof or the District of Columbia or is the principal banking Subsidiary of a bank holding company organized under the laws of the United States, any state thereof or the District of Columbia, and is a member of the Federal Reserve System, (ii) issues (or the parent of which issues) commercial paper rated as described in clause (c) of this definition and (iii) has combined capital and surplus of at least $1,000,000,000, in each case with maturities of not more than one hundred eighty (180) days from the date of acquisition thereof;

(c) commercial paper issued by any Person organized under the laws of any state of the United States and rated at least "Prime-1" (or the then equivalent grade) by Moody's or at least "A-1" (or the then equivalent grade) by S&P, in each case with maturities of not more than one hundred eighty (180) days from the date of acquisition thereof;

(d) Investments, classified in accordance with GAAP as current assets of the Company or any of its Restricted Subsidiaries, in money market investment programs registered under the Investment Company Act of 1940, which are administered by financial institutions that have the highest rating obtainable from either Moody's or S&P, and the portfolios of which are limited solely to Investments of the character, quality and maturity described in clauses (a), (b) and (c) of this definition;

(e) repurchase obligations for underlying securities of the types described in clauses (a) and (b) entered into with any financial institution or recognized securities dealer meeting the qualifications specified in clause (b) above;

(f) solely with respect to any Restricted Subsidiary that is a Foreign Subsidiary, (x) such local currencies in those countries in which such Foreign Subsidiary transacts business from time to time in the ordinary course of business and (y) Investments of comparable tenor and credit quality to those described in the foregoing clauses (a) through

(e) customarily utilized in countries in which such Foreign Subsidiary operates for short term cash management purposes; and

(g) other Investments held by the Company and its Restricted Subsidiaries in accordance with the Company's Investment Policy.

"Cash Management Agreement" means any agreement to provide treasury or cash management services, including deposit accounts, overnight draft, credit cards, debit cards, p-cards (including purchasing cards and commercial cards), funds transfer, automated clearinghouse, zero balance accounts, returned check concentration, controlled disbursement, lockbox, account reconciliation and reporting and trade finance services and other cash management services.

"Cash Management Bank" means any Person in its capacity as a party to a Cash Management Agreement that, (a) at the time it enters into a Cash Management Agreement with a Loan Party or any Subsidiary, is a Lender or an Affiliate of a Lender, or (b) at the time it (or its Affiliate) becomes a Lender, is a party to a Cash Management Agreement with a Loan Party or any Subsidiary, in each case in its capacity as a party to such Cash Management Agreement (even if such Person ceases to be a Lender or such Person's Affiliate ceased to be a Lender); provided, however, that for any of the foregoing to be included as a "Guaranteed Cash Management Agreement" on any date of determination by the Administrative Agent, the applicable Cash Management Bank (other than the Administrative Agent or an Affiliate of the Administrative Agent) must have delivered a Guaranteed Party Designation Notice to the Administrative Agent prior to such date of determination.

"CF Asset Subsidiary" means each Restricted Subsidiary of the Company that (i) owns, possesses the right to use, or controls any Intellectual Property, or (ii) owns or controls any of the material economic rights derived from any Intellectual Property, in each case with respect to clause (i) or (ii), covering the Cystic Fibrosis Drug Franchise Assets. For the avoidance of doubt, Restricted Subsidiaries of the Company that provide commercial distribution services shall not constitute "CF Asset Subsidiaries" pursuant to clause (ii) above as a result of intercompany distributor relationships in the ordinary course of business and any reimbursement arrangements pursuant thereto. As of the Closing Date, Vertex Europe, Vertex Ireland and Vertex Pharmaceuticals (Cayman II) Limited, a Cayman Islands company are the only CF Asset Subsidiaries.

"CFC" means a Person that is a controlled foreign corporation within the meaning of Section 957 of the Code.

"CFF" means Cystic Fibrosis Foundation (as successor in interest to Cystic Fibrosis Foundation Therapeutics Incorporated).

"CFF Amendment" means that certain Amendment #7 to the CFF R&D Agreement, dated as of October 13, 2016, by and among the Company and CFF, and any agreements ancillary thereto.

"CFF R&D Agreement" means that certain Research, Development and Commercialization Agreement, dated as of May 24, 2004 between the Company and CFF, as amended.

"CFF Royalty Payments" means royalty payments paid pursuant to the CFF R&D Agreement (as amended by the CFF Amendment) by the Company to CFF, if any, on net sales of compounds.

"Change in Law" means the occurrence, after the Closing Date, of any of the following: (a) the adoption or taking effect of any law, rule, regulation or treaty, (b) any change in any law, rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority; provided that notwithstanding anything herein to the contrary, (i) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (ii) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III or CRD IV, shall in each case be deemed to be a "Change in Law", regardless of the date enacted, adopted or issued.

"Change of Control" means an event or series of events by which:

(a) any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, but excluding any employee benefit plan of such person or its Subsidiaries, and any person or entity acting in its capacity as trustee, agent or other fiduciary or administrator of any such plan) becomes the "beneficial owner" (as defined in Rules 13d-3 and 13d-5 under the Securities Exchange Act of 1934, except that a person or group shall be deemed to have "beneficial ownership" of all securities that such person or group has the right to acquire, whether such right is exercisable immediately or only after the passage of time (such right, an "option right")), directly or indirectly, of thirty-five percent (35)% or more of the Equity Interests of the Company entitled to vote for members of the board of directors or equivalent governing body of the Company on a fully-diluted basis (and taking into account all such securities that such "person" or "group" has the right to acquire pursuant to any option right); or

(b) during any period of twelve (12) consecutive months, a majority of the members of the board of directors or other equivalent governing body of the Company cease to be composed of individuals (i) who were members of that board or equivalent governing body on the first day of such period, (ii) whose election or nomination to that board or equivalent governing body was approved by individuals referred to in clause (i) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body or (iii) whose election or nomination to that board or other equivalent governing body was approved by individuals referred to in clauses (i) and (ii) above constituting at the time of such election or nomination at least a majority of that board or equivalent governing body.

"Class" means (a) when used in respect of any Loan or Borrowing, whether such Loan or the Loans comprising such Borrowing are Revolving Loans (other than under Extended Revolving Commitments), Revolving Loans under Extended Revolving Commitments of a given Revolving Extension Series, or Swingline Loans, and (b) when used in respect of any Revolving Commitment,

whether such Revolving Commitment is a Revolving Commitment (other than an Extended Revolving Commitment) or an Extended Revolving Commitment of a given Revolving Extension Series. Revolving Extension Series that have different terms and conditions (together with the Revolving Commitments in respect thereof) from any Existing Revolving Tranche, or from other Revolving Extension Series, as applicable, shall be construed to be in separate and distinct Classes.

"Closing Date" means the date hereof.

"Code" means the Internal Revenue Code of 1986.

"Commodity Exchange Act" means the Commodity Exchange Act (7 U.S.C. § 1 *et seq.*), as amended from time to time, and any successor statute.

"Company" has the meaning specified in the introductory paragraph hereto.

"Compliance Certificate" means a certificate substantially in the form of Exhibit C.

"Connection Income Taxes" means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

"Consolidated" means, when used with reference to financial statements or financial statement items of the Company and its Restricted Subsidiaries or any other Person, such statements or items on a consolidated basis in accordance with the consolidation principles of GAAP.

"Consolidated EBITDA" means, for any Measurement Period, the sum of the following determined on a Consolidated basis, without duplication, for the Company and its Restricted Subsidiaries in accordance with GAAP:

(a) Consolidated Net Income for such Measurement Period, plus

(b) each of the following to the extent deducted (or, in the case of clause (xiv)(A) below, not otherwise included) in calculating such Consolidated Net Income (without duplication):

(i) Consolidated Interest Charges,

(ii) the provision for federal, state, local and foreign income taxes payable,

(iii) depreciation and amortization expense,

(iv) non-cash expenses related to stock-based compensation, benefits or incentives (net of any cash payments related to stock-based compensation, benefits or incentives),

(v) non-cash charges, expenses and losses (including any non-cash charges attributable to impairment of goodwill or other intangible assets or impairment of long-lived assets but excluding any such non-cash charges or losses to the extent (A) there were cash charges with respect to such charges and losses in past accounting periods or (B) there is a

reasonable expectation that there will be cash charges with respect to such charges and losses in future accounting periods),

(vi) R&D Collaboration Payments,

(vii) Lease Restructuring Expenses in an aggregate amount not to exceed $5,000,000 during the term of this Agreement,

(viii) (A) one-time non-recurring transaction fees, costs and expenses, integration, reorganization and restructuring costs and facility consolidation and closing costs incurred in connection with reorganizations and restructurings, provided that such fees, costs and expenses are incurred within twelve (12) months of the occurrence of such applicable triggering event, (B) one-time non-recurring severance costs and expenses, payments to employees on account of their equity ownership and compensation charges incurred in connection with reorganizations and restructurings, provided that such costs, expenses and charges are incurred within twelve (12) months of the occurrence of such applicable triggering event, (C) one-time non-recurring expenses related to the transactions contemplated by this Agreement and any other one-time non-recurring expenses or charges related to any equity offering, Investment, Acquisition, Disposition, divestiture or merger, consolidation, amalgamation or other business combination, in each case, not prohibited under this Agreement, or the incurrence, amendment or modification of Indebtedness permitted to be incurred under this Agreement (including a refinancing thereof) (in each case, whether or not successful), and (D) such other amounts as the Administrative Agent shall approve in its reasonable discretion, provided however that the aggregate amount added back pursuant to this clause (viii) in calculating Consolidated EBITDA for any Measurement Period shall not exceed 12.5% of Consolidated EBITDA for such Measurement Period (determined prior to giving effect to such adjustments),

(ix) any earnouts, milestone payments, royalty payments, working capital adjustments and other contingent payment obligations incurred under any Acquisition or other Investment,

(x) net after-tax losses (including all fees and expenses or charges relating thereto) on any sale or disposition of any asset of the Company or any of its Restricted Subsidiaries outside of the ordinary course of business and net after-tax losses from discontinued operations,

(xi) net after-tax losses (including all fees and expenses or charges relating thereto) on the retirement or extinguishment of Indebtedness,

(xii) the effects of adjustments pursuant to GAAP resulting from purchase accounting in relation to Investments not prohibited by this Agreement, or the amortization or write-off of any amounts thereof, net of taxes, in each case, which do not represent a cash item in such period or any future period,

(xiii) to the extent classified as such under ASU 2016-01, any net unrealized, non-cash losses associated with the Company's strategic investments in the ordinary course of business, and

(xiv) (A) proceeds of business interruption insurance in an amount representing the earnings for the applicable period that such proceeds are intended to replace (whether or not received so long as such Person in good faith expects to receive the same within four fiscal quarters of the occurrence of the event for which any such claim is made (it being understood that to the extent not actually received within such fiscal quarters, such proceeds shall be deducted in calculating Consolidated EBITDA for such fiscal quarters)) and (B) the amount of any fee, cost, expense or reserve to the extent actually reimbursed or reimbursable by third parties pursuant to indemnification or reimbursement provisions or similar agreements or insurance (so long as the Company in good faith expects to receive reimbursement for such fee, cost, expense or reserve within the next four fiscal quarters of the occurrence of the event for which any such reimbursement is sought (it being understood that to the extent not actually received within such fiscal quarters, such amounts shall be deducted in calculating Consolidated EBITDA for such fiscal quarters)); provided, however, that (1) the aggregate amount added or added back, as the case may be, pursuant to this clause (x) shall not exceed $50,000,000 during the term of this Agreement and (2) with respect to any claim for business interruption or reimbursement made against any insurer, such insurer has been notified to the potential claim and does not dispute coverage, less

(c) without duplication and to the extent reflected as a gain or otherwise included in the calculation of Consolidated Net Income for such Measurement Period, (i) non-cash gains (excluding any such non-cash gains to the extent (A) there were cash gains with respect to such gains in past accounting periods or (B) there is a reasonable expectation that there will be cash gains with respect to such gains in future accounting periods, but including nonrecurring or unusual gains), (ii) amounts received in respect of upfront, earnout or milestone payments or other similar contingent amounts in connection with any Disposition, (iii) net after-tax gains (less any fees and expenses or charges relating thereto) on any sale or disposition of any asset of the Company or any of its Restricted Subsidiaries outside of the ordinary course of business and net after-tax gains from discontinued operations, (iv) net after-tax gains (less any fees and expenses or charges relating thereto) on the retirement or extinguishment of Indebtedness and (v) to the extent classified as such under ASU 2016-01, any net unrealized, non-cash gains associated with the Company's strategic investments in the ordinary course of business.

Notwithstanding the foregoing to the contrary, in determining Consolidated EBITDA for any Measurement Period, (I) the net impact of (w) variable interest entities that the Company is required to consolidate pursuant to FASB ASC 810, (x) gains or losses associated with the revaluation of earnouts, milestones or other similar contingent obligations incurred in connection with any Investment (including upfront, earnout or milestone payments) and (y) net unrealized losses/gains from embedded derivatives that require the application of Accounting Standard Codification Topic 815 and related pronouncements (*i.e.*, related revenues minus related expenses and or reversals of accruals), shall, in each case of clauses (w) – (y), be excluded, (II) interest, depreciation and amortization related to the Specified Leased Properties shall be treated as operating expenses, and

(III) notwithstanding any accounting principles or standards to the contrary, including Accounting Standards Codification Topic 730 and related pronouncements, for the purposes of calculating Consolidated EBITDA, (x) CFF Royalty Payments shall be characterized as a royalty expense and (y) Quarterly Reimbursement Payments shall be characterized as a reduction to research and development expense.

"Consolidated Funded Indebtedness" means, as of any date of determination, for the Company and its Restricted Subsidiaries on a Consolidated basis, the sum of (a) the outstanding principal amount of all obligations, whether current or long-term, for borrowed money (including Obligations hereunder) and all obligations evidenced by bonds, debentures, notes, loan agreements or other similar instruments; (b) all purchase money Indebtedness; (c) unreimbursed obligations under letters of credit (including standby and commercial), bankers' acceptances, bank guaranties, surety bonds and similar instruments; (d) all obligations in respect of the deferred purchase price of property or services (other than trade accounts payable in the ordinary course of business, but including all earnouts, milestone payments, royalty payments, working capital adjustments and other contingent payment obligations (including all R&D Collaboration Payments) that (x) are, or are required to be, classified as liabilities on the financial statements of the Company and its Restricted Subsidiaries in accordance with GAAP and (y) are, or will be, due and payable on or prior to the date that is 91 days after the Latest Maturity Date in effect at the time of incurrence thereof); (e) all Attributable Indebtedness; (f) all mandatory obligations to purchase, redeem, retire, defease or otherwise make any payment prior to the Latest Maturity Date in effect at the time of issuance thereof in respect of any Equity Interests or any warrant, right or option to acquire such Equity Interest, valued, in the case of a redeemable preferred interest, at the greater of its voluntary or involuntary liquidation preference plus accrued and unpaid dividends; (g) without duplication, all Guarantees with respect to outstanding Indebtedness of the types specified in clauses (a) through (f) above of Persons other than the Company or any Restricted Subsidiary; and (h) all Indebtedness of the types referred to in clauses (a) through (g) above of any partnership or joint venture (other than a joint venture that is itself a corporation or limited liability company) in which the Company or a Restricted Subsidiary is a general partner or joint venturer, unless such Indebtedness is expressly made non-recourse to the Company or such Restricted Subsidiary; provided that "Consolidated Funded Indebtedness" shall not include any intercompany Indebtedness among the Company and/or its Restricted Subsidiaries. To the extent Specified CFF Payments qualify as Consolidated Funded Indebtedness, such Specified CFF Payments shall nonetheless be excluded from Consolidated Funded Indebtedness to the extent that such Specified CFF Payments are not settled in cash.

"Consolidated Interest Charges" means, for any Measurement Period, an amount equal to the following, in each case, of or by the Company and its Restricted Subsidiaries on a Consolidated basis for such Measurement Period: (a) the sum of (i) all interest, premium payments, debt discount, fees, charges and related expenses in connection with borrowed money (including capitalized interest) or in connection with the deferred purchase price of assets, in each case to the extent treated as interest in accordance with GAAP, and (ii) the portion of rent expense under Capitalized Leases that is treated as interest in accordance with GAAP, minus (b) to the extent included in clause (a)(i) above, (i) non-cash amounts attributable to amortization of financing costs paid in a previous period, (ii) non-cash amounts attributable to amortization of debt discounts or accrued interest payable in kind for such period, (iii) any break funding payment made pursuant to Section 3.05,

and (iv) any imputed interest expense (including any interest, yield, rent or break funding payment (or similar obligations) paid or payable) in respect of any operating lease, including in respect of any leases of the Specified Leased Properties.

"Consolidated Interest Coverage Ratio" means, as of any date of determination, the ratio of (a) Consolidated EBITDA for the most recently completed Measurement Period to (b) Consolidated Interest Charges for the most recently completed Measurement Period.

"Consolidated Leverage Ratio" means, as of any date of determination, the ratio of (a) Consolidated Funded Indebtedness as of such date to (b) Consolidated EBITDA for the most recently completed Measurement Period.

"Consolidated Net Income" means, at any date of determination, the net income (or loss) of the Company and its Restricted Subsidiaries on a Consolidated basis for the most recently completed Measurement Period; provided that Consolidated Net Income shall exclude (a) extraordinary non-cash gains and extraordinary non-cash losses for such Measurement Period, (b) the net income of any Restricted Subsidiary that is not a Subsidiary Guarantor during such Measurement Period to the extent that the declaration or payment of dividends or similar distributions by such Restricted Subsidiary of such income is not permitted by operation of the terms of its Organization Documents or any agreement, instrument or Law applicable to such Restricted Subsidiary during such Measurement Period, except that the Company's equity in any net loss of any such Restricted Subsidiary for such Measurement Period shall be included in determining Consolidated Net Income, and (c) any income (or loss) for such Measurement Period of any Person if such Person is not a Restricted Subsidiary, except that the Company's equity in the net income of any such Person for such Measurement Period shall be included in Consolidated Net Income up to the aggregate amount of cash actually distributed by such Person during such Measurement Period to the Company or a Restricted Subsidiary as a dividend or other distribution (and in the case of a dividend or other distribution to a Restricted Subsidiary, such Restricted Subsidiary is not precluded from further distributing such amount to the Company as described in clause (b) of this proviso).

"Consolidated Net Worth" means, at any date of determination, the consolidated stockholders' equity of the Company and its Restricted Subsidiaries on a Consolidated basis at such date.

"Contractual Obligation" means, as to any Person, any provision of any security issued by such Person or of any agreement, instrument or other undertaking to which such Person is a party or by which it or any of its property is bound.

"Control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise. "Controlling" and "Controlled" have meanings correlative thereto.

"Convertible Bond Hedge Transactions" means one or more call options referencing the Company's Equity Interests purchased by the Company in connection with the issuance of Convertible Bond Indebtedness with a strike or exercise price (howsoever defined) initially equal

to the conversion or exchange price (howsoever defined) of the related Convertible Bond Indebtedness (subject to rounding).

"Convertible Bond Indebtedness" means Indebtedness having a feature which entitles the holder thereof to convert all or a portion of such Indebtedness into Equity Interests of the Company (and cash in lieu of fractional Equity Interests) and/or cash (in an amount determined by reference to the price of Equity Interests of the Company).

"Copyright License" means any agreement now or hereafter in existence, providing for the grant to any Person of any rights (including, without limitation, the grant of rights for a party to be designated as an author or owner and/or to enforce, defend, use, display, copy, manufacture, distribute, exploit and sell, make derivative works, and require joinder in suit and/or receive assistance from another party) in a Copyright.

"Copyrights" means, collectively, all of the following of any Person: (i) all copyrights, works protectable by copyright, copyright registrations and copyright applications anywhere in the world, (ii) all derivative works, counterparts, extensions and renewals of any of the foregoing, (iii) all income, royalties, damages and payments now or hereafter due and/or payable under any of the foregoing or with respect to any of the foregoing, including, without limitation, damages or payments for past, present and future infringements, violations or misappropriations of any of the foregoing, (iv) the right to sue for past, present and future infringements, violations or misappropriations of any of the foregoing and (v) all rights corresponding to any of the foregoing throughout the world.

"Cost of Acquisition" means, with respect to any Acquisition, as at the date of entering into any agreement therefor, the sum of the following (without duplication): (a) the value of the Equity Interests of the Company or any Subsidiary to be transferred in connection with such Acquisition, (b) the amount of any cash and Fair Market Value of other property (excluding property described in clause (a) and the unpaid principal amount of any debt instrument) given as consideration in connection with such Acquisition, (c) the amount (determined by using the face amount or the amount payable at maturity, whichever is greater) of any Indebtedness incurred, assumed or acquired by the Company or any Subsidiary in connection with such Acquisition, and (d) all additional purchase price amounts in the form of earnouts, milestone payments, royalty payments, working capital adjustments and other contingent obligations that would be recorded on the financial statements of the Company and its Subsidiaries in accordance with GAAP in connection with such Acquisition. For purposes of determining the Cost of Acquisition for any transaction, the Equity Interests of the Company shall be valued in accordance with GAAP.

"CRD IV" means (a) Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and (b) Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms.

"Covered Entity" means any of the following: (a) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b), (b) a "covered bank" as that term is

defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b) or (c) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Credit Extension" means each of the following: (a) a Borrowing and (b) an L/C Credit Extension.

"Credit Parties" means, collectively, the Administrative Agent, the Lenders, the L/C Issuers, each Hedge Bank, each Cash Management Bank, the Indemnitees and each co-agent or sub-agent appointed by the Administrative Agent from time to time pursuant to Section 9.05.

"Cystic Fibrosis Drug Franchise Assets" means (a) all approved products manufactured, sold and/or distributed by the Company or any of its Subsidiaries in any country related to the treatment of patients with cystic fibrosis, including, ivacaftor (tradename KALYDECO), lumacaftor in combination with ivacaftor (tradename ORKAMBI) and tezacaftor in combination with ivacaftor (tradenames SYMDEKO (US) and SYMKEVI (EU)) and any drug candidates related to the treatment of cystic fibrosis for which the Company has submitted an application for regulatory approval in any country, including the triple-combination of elexacaftor in combination with ivacaftor and tezacaftor and (b) all proceeds, Intellectual Property, permits and other assets of the Company or any of its Subsidiaries related thereto.

"Debtor Relief Laws" means the Bankruptcy Code of the United States, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, examinership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions from time to time in effect.

"Default" means any event or condition that constitutes an Event of Default or that, with the giving of any notice, the passage of time, or both, would be an Event of Default.

"Default Rate" means (a) with respect to any Obligation for which a rate is specified, a rate per annum equal to two percent (2%) in excess of the rate otherwise applicable thereto and (b) with respect to any Obligation for which a rate is not specified or available, a rate per annum equal to the Base Rate plus the Applicable Rate for Revolving Loans that are Base Rate Loans plus two percent (2%), in each case, to the fullest extent permitted by applicable Law.

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"Defaulting Lender" means, subject to Section 2.15(b), any Lender that (a) has failed to (i) fund all or any portion of its Loans within two (2) Business Days of the date such Loans were required to be funded hereunder unless such Lender notifies the Administrative Agent and the Company in writing that such failure is the result of such Lender's good faith determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in such writing) has not been satisfied, or (ii) pay to the Administrative Agent, any L/C Issuer, the Swingline Lender or any other Lender any other amount required to be paid by it hereunder (including in respect of its participation in Letters of Credit or Swingline Loans) within two (2) Business Days of the date when due, (b) has notified

the Company, the Administrative Agent, any L/C Issuer or the Swingline Lender in writing that it does not intend to comply with its funding obligations hereunder, or has made a public statement to that effect (unless such writing or public statement relates to such Lender's obligation to fund a Loan hereunder and states that such position is based on such Lender's good faith determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three (3) Business Days after written request by the Administrative Agent or the Company, to confirm in writing to the Administrative Agent and the Company that it will comply with its prospective funding obligations hereunder (provided that such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Administrative Agent and the Company), or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any Debtor Relief Law, (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity or (iii) become the subject of a Bail-In Action; provided that a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any Equity Interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above, and the effective date of such status, shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender (subject to Section 2.15(b)) as of the date established therefor by the Administrative Agent in a written notice of such determination, which shall be delivered by the Administrative Agent to the Company, the L/C Issuers, the Swingline Lender and each other Lender promptly following such determination.

"Designated Foreign Borrower" and "Designated Foreign Borrowers" have the meanings specified in the introductory paragraph hereto.

"Designated Foreign Borrower Notice" means the notice substantially in the form of Exhibit O attached hereto.

"Designated Foreign Borrower Request and Assumption Agreement" means the notice substantially in the form of Exhibit N attached hereto.

"Designated Foreign Borrower Requirements" has the meaning specified in Section 2.16(b).

"Designated Jurisdiction" means any country, region or territory to the extent that such country, region or territory is the subject or target of comprehensive Sanctions.

"Disposition" or "Dispose" means the sale, transfer, license, lease or other disposition (including any Sale and Leaseback Transaction) of any property by any Loan Party or any Restricted

Subsidiary, including any sale, assignment, transfer or other disposal, with or without recourse, of any notes or accounts receivable or any rights and claims associated therewith, but excluding any Involuntary Disposition.

"Disqualified Institution" means, on any date, (a) any Person set forth on Schedule 11.06, (b) competitors of the Company or any of its Subsidiaries which have been designated by the Company as a "Disqualified Institution" by written notice to the Administrative Agent and the Lenders, (c) any Affiliate of any such Person identified in clauses (a) and (b) to the extent such Affiliate is either (i) clearly identifiable on the basis of its name or (ii) designated by the Company as a "Disqualified Institution" by written notice to the Administrative Agent and the Lenders; provided that (1) no Person shall be a Disqualified Institution hereunder pursuant to clauses (b) or (c)(ii) until a period of two (2) Business Days has elapsed after the date on which such written designation with respect to such Person shall have been posted to the Platform and (2) "Disqualified Institutions" shall exclude (x) any bona fide fixed income investors, banks (or similar financial institutions) and debt funds and (y) any Person that the Company has designated as no longer being a "Disqualified Institution" by written notice delivered to the Administrative Agent and the Lenders from time to time.

"Disqualified Stock" means, with respect to any Person, any Equity Interests of such Person that, by its terms (or by the terms of any security or other Equity Interest into which it is convertible or for which it is exchangeable) or upon the happening of any event or condition or pursuant to any agreement, (a) matures or is mandatorily redeemable (other than solely for Qualified Stock), pursuant to a sinking fund obligation or otherwise (except as a result of a Change of Control or asset sale so long as any rights of the holders thereof upon the occurrence of a Change of Control or asset sale event shall be subject to the prior occurrence of the Facility Termination Date), (b) is redeemable at the option of the holder thereof (other than solely for Qualified Stock) (except as a result of a Change of Control or asset sale so long as any rights of the holders thereof upon the occurrence of a Change of Control or asset sale event shall be subject to the prior occurrence of the Facility Termination Date), in whole or in part, (c) provides for the scheduled mandatory payments of dividends in cash or (d) is or may be convertible into or exchangeable for Indebtedness or any other Equity Interest that would constitute Disqualified Stock, in each case, prior to the date that is ninety-one (91) days after the Latest Maturity Date in effect at the time of issuance thereof; provided, that Equity Interests issued pursuant to a plan for the benefit of employees of Company or its Subsidiaries or by any such plan to such employees shall not constitute Disqualified Stock solely because it may be required to be repurchased by Company or its Subsidiaries in order to satisfy applicable statutory or regulatory obligations.

"Dollar" and "$" mean lawful money of the United States.

"Dollar Equivalent" means, at any time, (a) with respect to any amount denominated in Dollars, such amount, and (b) with respect to any amount denominated in any Alternative Currency, the equivalent amount thereof in Dollars as determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, at such time on the basis of the Spot Rate (determined in respect of the most recent Revaluation Date) for the purchase of Dollars with such Alternative Currency.

"Domestic Subsidiary" means any Subsidiary that is organized under the laws of any political subdivision of the United States.

"DQ List" has the meaning specified in Section 11.06(h)(iv).

"EEA Financial Institution" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in clause (a) of this definition, or (c) any financial institution established in an EEA Member Country which is a Subsidiary of an institution described in clauses (a) or (b) of this definition and is subject to consolidated supervision with its parent.

"EEA Member Country" means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

"EEA Resolution Authority" means any public administrative authority or any Person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

"Eligible Assignee" means any Person that meets the requirements to be an assignee under Section 11.06 (subject to such consents, if any, as may be required under Section 11.06(b)(iii)). For the avoidance of doubt, any Disqualified Institution is subject to Section 11.06(h).

"Eligible Currency" means any lawful currency other than Dollars that is readily available, freely transferable and convertible into Dollars in the international interbank market available to the Lenders in such market and as to which a Dollar Equivalent may be readily calculated. If, after the designation by the Lenders of any currency as an Alternative Currency, any change in currency controls or exchange regulations, or any change in the national or international financial, political or economic conditions imposed in the country in which such currency is issued, results in, in the reasonable opinion of the Administrative Agent (in the case of any Loans to be denominated in an Alternative Currency) or the applicable L/C Issuer (in the case of any Letter of Credit to be denominated in an Alternative Currency), (a) such currency no longer being readily available, freely transferable and convertible into Dollars, (b) a Dollar Equivalent no longer being readily calculable with respect to such currency, (c) providing such currency no longer being practicable for the Lenders in their reasonable business judgment or (d) such currency no longer being a currency in which the Required Lenders or the applicable L/C Issuer, as applicable, are or is willing to make such Credit Extensions in their or its reasonable business judgment (each of the foregoing clauses, a "Disqualifying Event"), then the Administrative Agent shall promptly notify the Lenders and the Company, and such country's currency shall no longer be an Alternative Currency until such time as the Disqualifying Event(s) no longer exist. Within five (5) Business Days after receipt of such notice from the Administrative Agent, the Borrowers shall repay all Loans in such currency to which the Disqualifying Event applies or convert such Loans into the Dollar Equivalent of Loans in Dollars, subject to the other terms contained herein.

"Environmental Laws" means any and all federal, state, local, and foreign statutes, laws, regulations, ordinances, rules, judgments, orders, decrees, Environmental Permits, concessions,

grants, franchises, licenses, agreements or enforceable governmental restrictions relating to pollution and the protection of the environment or the release of any Hazardous Materials into the environment or into public waste management systems.

"Environmental Liability" means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities), of the Company, any other Loan Party or any of their respective Subsidiaries directly or indirectly resulting from or based upon (a) violation of any Environmental Law, (b) the generation, use, handling, transportation, storage, treatment or disposal of any Hazardous Materials, (c) exposure to any Hazardous Materials, (d) the release or threatened release of any Hazardous Materials into the environment or (e) any contract, agreement or other consensual arrangement pursuant to which liability is assumed or imposed with respect to any of the foregoing.

"Environmental Permit" means any permit, approval, identification number, license or other authorization required under any Environmental Law.

"Equity Interests" means, with respect to any Person, all of the shares of capital stock of (or other ownership or profit interests in) such Person, all of the warrants, options or other rights for the purchase or acquisition from such Person of shares of capital stock of (or other ownership or profit interests in) such Person, all of the securities convertible into or exchangeable for shares of capital stock of (or other ownership or profit interests in) such Person or warrants, rights or options for the purchase or acquisition from such Person of such shares (or such other interests), and all of the other ownership or profit interests in such Person (including partnership, member or trust interests therein), whether voting or nonvoting, and whether or not such shares, warrants, options, rights or other interests are outstanding on any date of determination, provided, however, that Convertible Bond Indebtedness which is permitted under Section 7.02 and convertible into or exchangeable or exercisable for any Equity Interests and Capped Call Transactions, Convertible Bond Hedge Transactions and Warrant Transactions entered into as a part of, or in connection with, an issuance of such Convertible Bond Indebtedness shall not be deemed an Equity Interest hereunder prior to the actual conversion or exercise thereof in full (or, in the case of a partial conversion, the applicable portion thereof) into shares of capital stock of (or other ownership or profit interests in) such Person.

"ERISA" means the Employee Retirement Income Security Act of 1974.

"ERISA Affiliate" means any trade or business (whether or not incorporated) under common control with the Company within the meaning of Section 414(b) or (c) of the Code (and Sections 414(m) and (o) of the Code for purposes of provisions relating to Section 412 of the Code).

"ERISA Event" means (a) a Reportable Event with respect to a Pension Plan; (b) the withdrawal of the Company or any ERISA Affiliate from a Multiple Employer Plan subject to Section 4063 of ERISA during a plan year in which such entity was a "substantial employer" as defined in Section 4001(a)(2) of ERISA or a cessation of operations that is treated as such a withdrawal under Section 4062(e) of ERISA; (c) a complete or partial withdrawal by the Company or any ERISA Affiliate from a Multiemployer Plan or notification that a Multiemployer Plan is insolvent; (d) the filing of a notice of intent to terminate a Pension Plan or the treatment of a Pension Plan amendment as a termination under Section 4041 or 4041A of ERISA; (e) the institution by the

PBGC of proceedings to terminate a Pension Plan; (f) any event or condition which constitutes grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any Pension Plan; (g) the determination that any Pension Plan or Multiemployer Plan is considered an at-risk plan or a plan in endangered or critical status within the meaning of Sections 430, 431 and 432 of the Code or Sections 303, 304 and 305 of ERISA; (h) the imposition of any liability under Title IV of ERISA, other than for PBGC premiums due but not delinquent under Section 4007 of ERISA, upon the Company or any ERISA Affiliate or (i) a failure by the Company or any ERISA Affiliate to meet all applicable requirements under the Pension Funding Rules in respect of a Pension Plan, whether or not waived, or the failure by the Company or any ERISA Affiliate to make any required contribution to a Multiemployer Plan.

"EU Bail-In Legislation Schedule" means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor person), as in effect from time to time.

"Euro" and "€" mean the single currency of the Participating Member States.

"Eurocurrency Rate" means:

(a) for any Interest Period, with respect to any Credit Extension:

(i) denominated in a LIBOR Quoted Currency, the rate per annum equal to the London Interbank Offered Rate as administered by ICE Benchmark Administration (or any other Person that takes over the administration of such rate) ("LIBOR"), as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent in its reasonable discretion from time to time) (in such case, the "LIBOR Rate") at or about 11:00 a.m. (London time) on the Rate Determination Date, for deposits in the relevant currency, with a term equivalent to such Interest Period;

(ii) denominated in Canadian Dollars, the rate per annum equal to the Canadian Dollar Offered Rate ("CDOR"), or a comparable or successor rate which rate is approved by the Administrative Agent, as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent in its reasonable discretion from time to time) (in such case, the "CDOR Rate") at or about 10:00 a.m. (Toronto, Ontario time) on the Rate Determination Date with a term equivalent to such Interest Period;

(iii) denominated in Australian Dollars, the rate per annum equal to the Bank Bill Swap Reference Bid Rate ("BBSY"), or a comparable or successor rate which rate is approved by the Administrative Agent, as published on the applicable Bloomberg screen page (or such other commercially available source providing such quotations as may be designated by the Administrative Agent in its reasonable discretion from time to time) at or about 10:30 a.m. (Melbourne, Australia time) on the Rate Determination Date with a term equivalent to such Interest Period; and

(b) for any interest rate calculation with respect to a Base Rate Loan on any date, the rate per annum equal to the LIBOR Rate, at or about 11:00 a.m. (London time) determined two (2) Business Days prior to such date for Dollar deposits being delivered in the London interbank market for deposits in Dollars with a term of one (1) month commencing that day;

provided that, (i) to the extent a comparable or successor rate is approved by the Administrative Agent in its reasonable discretion in connection with any rate set forth in this definition, the approved rate shall be applied in a manner consistent with market practice; provided, further that, to the extent such market practice is not administratively feasible for the Administrative Agent, such approved rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent and (ii) if the Eurocurrency Rate shall be less than zero, such rate shall be deemed zero for purposes of this Agreement.

"Eurocurrency Rate Loan" means a Loan that bears interest at a rate based on clause (a) of the definition of "Eurocurrency Rate". Eurocurrency Rate Loans may be denominated in Dollars or in an Alternative Currency. All Loans denominated in an Alternative Currency or made to a Designated Foreign Borrower must be Eurocurrency Rate Loans.

"Event of Default" has the meaning specified in Section 8.01.

"Excluded Subsidiary" means (a) each Foreign Subsidiary, (b) each CFC, (c) each Subsidiary, substantially all of the assets of which are Equity Interests or Indebtedness of one or more Foreign Subsidiaries, (d) each Immaterial Subsidiary, (e) each Subsidiary that is not a Wholly Owned Subsidiary (for so long as such Subsidiary remains a non-Wholly Owned Subsidiary), (f) each Subsidiary that is prohibited from Guaranteeing the applicable Obligations by any applicable Law or by any agreement or other undertaking to which such Subsidiary is a party (with any Person, other than any Affiliate) or by which its property or assets is bound existing on the Closing Date, (or, with respect to any Subsidiary acquired by the Company or a Restricted Subsidiary after the Closing Date (and so long as such agreement or other undertaking is not with any Affiliate, was not incurred in contemplation of such Acquisition and is disclosed to the Administrative Agent), on the date such Subsidiary is so acquired) or that would require consent, approval, license or authorization of a Governmental Authority or any Person (other than an Affiliate) to Guarantee the Obligations (unless (x) such consent, approval, license or authorization has been received or (y) such prohibition or restriction is terminated or rendered unenforceable or otherwise deemed ineffective by any other applicable Law), (g) each Unrestricted Subsidiary, (h) each Massachusetts Security Corporation, (i) each not for profit Subsidiary, (j) each Captive Insurance Subsidiary, and (k) any other Subsidiary with respect to which, in the reasonable judgment of the Administrative Agent and the Company reasonably agree that the cost or other consequences (including adverse tax consequences) of providing a Guarantee shall be excessive in view of the benefits to be obtained by the Lenders therefrom.

"Excluded Swap Obligation" means, with respect to any Loan Party, any Swap Obligation if, and to the extent that, all or a portion of the Guaranty of such Loan Party of such Swap Obligation or any Guarantee thereof is or becomes illegal under the Commodity Exchange Act or any rule, regulation or order of the Commodity Futures Trading Commission (or the application or official interpretation thereof) by virtue of such Loan Party's failure for any reason to constitute an "eligible

contract participant" as defined in the Commodity Exchange Act (determined after giving effect to Section 10.11 and any other "keepwell, support or other agreement" for the benefit of such Loan Party and any and all guarantees of such Loan Party's Swap Obligations by other Loan Parties) at the time the Guaranty of such Loan Party becomes effective with respect to such Swap Obligation. If a Swap Obligation arises under a Master Agreement governing more than one Swap Contract, such exclusion shall apply only to the portion of such Swap Obligation that is attributable to Swap Contracts for which such Guaranty is or becomes excluded in accordance with the first sentence of this definition.

"Excluded Taxes" means any of the following Taxes imposed on or with respect to any Recipient or required to be withheld or deducted from a payment to a Recipient, (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed as a result of such Recipient being organized under the laws of, or having its principal office or, in the case of any Lender, its Lending Office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (ii) that are Other Connection Taxes, (b) in the case of a Lender, U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or Revolving Commitment pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan or Revolving Commitment (other than pursuant to an assignment request by the Company under Section 11.13) or (ii) such Lender changes its Lending Office, except in each case to the extent that, pursuant to Section 3.01(a)(ii), (a)(iii) or (c), amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its Lending Office, (c) Taxes attributable to such Recipient's failure to comply with Section 3.01(e), (d) any U.S. federal withholding Taxes imposed pursuant to FATCA, (e) any Irish withholding Tax which arises solely because (i) the Lender is not (or has ceased to be) an Irish Qualifying Lender other than as a result of any change after the date it became a Lender under this Agreement in (or in the interpretation, administration or application of) any Irish Tax Treaty, or any published practice or published concession of any relevant authority or (ii) the Lender is an Irish Treaty Lender and the Company is able to demonstrate that the payment could have been made to the Lender without any deduction or withholding of any tax imposed by Ireland had that Lender complied with its obligations under Section 3.01(f), (f) any United Kingdom taxes required to be deducted or withheld (a "UK Tax Deduction") from a payment of interest under any Loan Document if on the date on which the payment falls due: (i) the payment could have been made to the relevant Lender without a UK Tax Deduction if the Lender had been a UK Qualifying Lender, but on that date that Lender is not or has ceased to be a UK Qualifying Lender other than as a result of any change after the date it became a Lender under this Agreement in (or in the interpretation, administration, or application of) any law or Treaty, or any published practice or published concession of any relevant taxing authority; or (ii) the relevant Lender is a UK Qualifying Lender solely by virtue of sub-paragraph (b) of the definition of UK Qualifying Lender and that relevant Lender has not given a UK Tax Confirmation to the Company and the payment could have been made to the relevant Lender without a UK Tax Deduction if that Lender had given a UK Tax Confirmation to the Company, on the basis that the UK Tax Confirmation would have enabled the relevant Loan Party to have formed a reasonable belief that the payment was an "excepted payment" for the purpose of section 930 of the UK Taxes Act; or (iii) the relevant Lender is a UK Qualifying Lender solely by virtue of sub-paragraph (b) of the definition of UK Qualifying Lender and an

officer of HMRC has given (and not revoked) a direction (a "UK Direction") under section 931 of the UK Taxes Act which relates to that payment and that Lender has received from the relevant Loan Party a certified copy of that UK Direction and the payment could have been made to the Lender without any UK Tax Deduction if that UK Direction had not been made, and (g) the bank levy as set out in the Finance Act 2011 of the United Kingdom as in force (other than with respect to rates) at the date of this Agreement.

"Existing Borrower" has the meaning specified in Section 7.04(a)(v).

"Existing Credit Agreement" means that certain Credit Agreement, dated as of October 13, 2016, among the Company, Bank of America as administrative agent thereunder, and a syndicate of lenders and l/c issuers, as amended by that certain First Amendment to Credit Agreement dated as of February 9, 2017 and in effect immediately prior to the Closing Date.

"Existing Letters of Credit" means those certain letters of credit set forth on Schedule 1.01(c).

"Existing Maturity Date" has the meaning specified in Section 2.19(a).

"Existing Revolving Tranche" has the meaning specified in Section 2.19(a).

"Extended Revolving Commitments" has the meaning specified in Section 2.19(a).

"Extending Revolving Lenders" has the meaning specified in Section 2.19(b).

"Facility Termination Date" means the date as of which all of the following shall have occurred: (a) the Aggregate Revolving Commitments have terminated, (b) all Obligations have been paid in full (other than contingent indemnification and contingent expense reimbursement obligations), and (c) all Letters of Credit have terminated or expired (other than Letters of Credit that have been Cash Collateralized or as to which other arrangements with respect thereto satisfactory to the Administrative Agent and the applicable L/C Issuer shall have been made).

"Fair Market Value" means, with respect to any asset or property, the price, as determined in good faith by the Company, that could be negotiated in an arms'-length transaction between a willing seller and a willing buyer, neither of whom is under undue pressure or compulsion to complete the transaction (as determined in good faith by the Company).

"FASB ASC" means the Accounting Standards Codification of the Financial Accounting Standards Board.

"FATCA" means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version of such Code sections that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code and any fiscal or regulatory legislation or rules adopted pursuant to any intergovernmental agreement, treaty or convention among Governmental Authorities and implementing such Sections of the Code.

"Federal Funds Rate" means, for any day, the rate per annum calculated by the Federal Reserve Bank of New York based on such day's federal funds transactions by depository institutions (as determined in such manner as the Federal Reserve Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the federal funds effective rate; provided that if the Federal Funds Rate as so determined would be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement.

"Fee Letter" means the letter agreement, dated as of August 5, 2019, between the Company, the Administrative Agent and BofA Securities, Inc. in connection with this Agreement and the other Loan Documents.

"Foreign Government Scheme or Arrangement" has the meaning specified in Section 5.12(d).

"Foreign Lender" means, with respect to any Borrower, (a) if such Borrower is a U.S. Person, a Lender that is not a U.S. Person, and (b) if such Borrower is not a U.S. Person, a Lender that is resident or organized under the laws of a jurisdiction other than that in which such Borrower is resident for tax purposes. For purposes of this definition, the United States, each State thereof and the District of Columbia shall be deemed to constitute a single jurisdiction.

"Foreign Plan" has the meaning specified in Section 5.12(d).

"Foreign Subsidiary" means any Subsidiary that is not a Domestic Subsidiary.

"FRB" means the Board of Governors of the Federal Reserve System of the United States.

"Fronting Exposure" means, at any time there is a Defaulting Lender, (a) with respect to the L/C Issuers, such Defaulting Lender's Applicable Percentage of the outstanding L/C Obligations other than L/C Obligations as to which such Defaulting Lender's participation obligation has been reallocated to other Revolving Lenders or Cash Collateralized in accordance with the terms hereof, and (b) with respect to the Swingline Lender, such Defaulting Lender's Applicable Percentage of Swingline Loans other than Swingline Loans as to which such Defaulting Lender's participation obligation has been reallocated to other Revolving Lenders or Cash Collateralized in accordance with the terms hereof.

"Fund" means any Person (other than a natural Person) that is (or will be) engaged in making, purchasing, holding or otherwise investing in commercial loans and similar extensions of credit in the ordinary course of its activities.

"Funding Indemnity Letter" means a funding indemnity letter, substantially in the form of Exhibit J.

"GAAP" means generally accepted accounting principles in the United States set forth from time to time in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants and statements and pronouncements of the

Financial Accounting Standards Board (or agencies with similar functions of comparable stature and authority within the accounting profession) including, without limitation, the FASB Accounting Standards Codification, that are applicable to the circumstances as of the date of determination, consistently applied and subject to Section 1.03.

"Governmental Authority" means the government of the United States or any other nation, or of any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including, the Financial Conduct Authority, the Prudential Regulation Authority and any supra-national bodies such as the European Union or the European Central Bank).

"Guarantee" means, as to any Person, (a) any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Indebtedness of the kind described in clauses (a) through (g) of the definition thereof or other obligation payable or performable by another Person (the "primary obligor") in any manner, whether directly or indirectly, and including any obligation of such Person, direct or indirect, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation, (ii) to purchase or lease property, securities or services for the purpose of assuring the obligee in respect of such Indebtedness or other obligation of the payment or performance of such Indebtedness or other obligation, (iii) to maintain working capital, equity capital or any other financial statement condition or liquidity or level of income or cash flow of the primary obligor so as to enable the primary obligor to pay such Indebtedness or other obligation, or (iv) entered into for the purpose of assuring in any other manner the obligee in respect of such Indebtedness or other obligation of the payment or performance thereof or to protect such obligee against loss in respect thereof (in whole or in part), or (b) any Lien on any assets of such Person securing any Indebtedness of the kind described in clauses (a) through (g) of the definition thereof or other obligation of any other Person, whether or not such Indebtedness or other obligation is assumed or expressly undertaken by such Person (or any right, contingent or otherwise, of any holder of such Indebtedness to obtain any such Lien). The amount of any Guarantee shall be deemed to be an amount equal to the stated or determinable amount of the related primary obligation, or portion thereof, in respect of which such Guarantee is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by the guaranteeing Person in good faith. The term "Guarantee" as a verb has a corresponding meaning.

"Guaranteed Cash Management Agreement" means any Cash Management Agreement between any Loan Party or any of its Subsidiaries and any Cash Management Bank.

"Guaranteed Hedge Agreement" means any interest rate, currency, foreign exchange, or commodity Swap Contract not prohibited under Article VII between any Loan Party or any of its Subsidiaries and any Hedge Bank.

"Guaranteed Obligations" has the meaning specified in Section 10.01.

"Guaranteed Party Designation Notice" means a notice from any Lender or an Affiliate of a Lender substantially in the form of Exhibit G.

"Guarantors" means, collectively, (a) the Subsidiary Guarantors with respect to all Obligations and Additional Obligations, in each case, unless and until such Person ceases to be a Subsidiary Guarantor in accordance with the terms hereof, (b) the Company with respect to (i) Additional Obligations owing by any of its Subsidiaries, (ii) any Swap Obligation of a Specified Loan Party (determined before giving effect to Sections 10.01 and 10.11) under the Guaranty, and (iii) Obligations of the Designated Foreign Borrowers, and (c) to the extent (i) permitted by applicable Law and (ii) no material adverse tax consequence would result therefrom, each Designated Foreign Borrower with respect to Obligations of each other Designated Foreign Borrower.

"Guaranty" means, collectively, the Guarantee made by the Guarantors under Article X in favor of the Credit Parties, together with each other guaranty delivered pursuant to Section 6.12.

"Hazardous Materials" means all explosive or radioactive substances or wastes and all hazardous or toxic substances, wastes or other pollutants, including petroleum or petroleum distillates, natural gas, natural gas liquids, asbestos or asbestos-containing materials, polychlorinated biphenyls, radon gas, toxic mold, infectious or medical wastes and all other substances, wastes, chemicals, pollutants, contaminants or compounds of any nature in any form regulated pursuant to any Environmental Law.

"Hedge Bank" means any Person in its capacity as a party to a Swap Contract that, (a) at the time it enters into a Swap Contract, is a Lender or an Affiliate of a Lender, or (b) at the time it (or its Affiliate) becomes a Lender, is a party to a Swap Contract, in each case, in its capacity as a party to such Swap Contract (even if such Person ceases to be a Lender or such Person's Affiliate ceased to be a Lender); provided, that for any of the foregoing to be included as a "Guaranteed Hedge Agreement" on any date of determination by the Administrative Agent, the applicable Hedge Bank (other than the Administrative Agent or an Affiliate of the Administrative Agent) must have delivered a Guaranteed Party Designation Notice to the Administrative Agent prior to such date of determination.

"Honor Date" has the meaning set forth in Section 2.03(c).

"IFRS" means international accounting standards within the meaning of IAS Regulation 1606/2002 to the extent applicable to the relevant financial statements delivered under or referred to herein.

"Immaterial Subsidiary" means any Subsidiary that is not a Material Subsidiary.

"Increasing Revolving Lender" has the meaning specified in Section 2.18(a).

"Incremental Revolving Facility" has the meaning specified in Section 2.18(a).

"Indebtedness" means, as to any Person at a particular time, without duplication, all of the following, whether or not included as indebtedness or liabilities in accordance with GAAP:

(a) all obligations of such Person for borrowed money and all obligations of such Person evidenced by bonds, debentures, notes, loan agreements or other similar instruments;

(b) the maximum amount of all direct or contingent obligations of such Person arising under letters of credit (including standby and commercial), bankers' acceptances, bank guaranties, surety bonds and similar instruments;

(c) net obligations of such Person under any Swap Contract;

(d) all obligations (including, without limitation, earnouts, milestone payments, royalty payments, working capital adjustments, all R&D Collaboration Payments and other contingent obligations) of such Person to pay the deferred purchase price of property or services (other than (i) trade accounts payable in the ordinary course of business, including recurring royalty payments reflected in the cost of goods sold and (ii) earnouts, milestone payments, royalty payments, working capital adjustments, R&D Collaboration Payments and other contingent obligations that are not required to be, and are not, classified as liabilities on the financial statements of the Company and its Restricted Subsidiaries in accordance with GAAP);

(e) indebtedness (excluding prepaid interest thereon) secured by a Lien on property owned or being purchased by such Person (including indebtedness arising under conditional sales or other title retention agreements), whether or not such indebtedness shall have been assumed by such Person or is limited in recourse; provided that the amount of such indebtedness that is non-recourse to the Loan Parties or their Restricted Subsidiaries shall be the lesser of (A) the Fair Market Value of such property at such date of determination as determined in good faith by such Person, and (B) the aggregate unpaid amount of such indebtedness;

(f) all Attributable Indebtedness of such Person;

(g) all obligations of such Person to purchase, redeem, retire, defease or otherwise make any payment in respect of any Equity Interest in such Person or any other Person or any warrant, right or option to acquire such Equity Interest, valued, in the case of a redeemable preferred interest, at the greater of its voluntary or involuntary liquidation preference plus accrued and unpaid dividends; and

(h) all Guarantees of such Person in respect of any of the foregoing.

For all purposes hereof, the Indebtedness of any Person shall include the Indebtedness of any partnership or joint venture (other than a joint venture that is itself a corporation or limited liability company) in which such Person is a general partner or a joint venturer, unless such Indebtedness is expressly made non-recourse to such Person. The amount of any net obligation under any Swap Contract on any date shall be deemed to be the Swap Termination Value thereof as of such date. For the avoidance of doubt, "Indebtedness" does not include obligations representing

deferred compensation to employees of the Company and its Subsidiaries incurred in the ordinary course of business.

"Indemnified Taxes" means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any obligation of any Loan Party under any Loan Document and (b) to the extent not otherwise described in clause (a), Other Taxes.

"Indemnitees" has the meaning specified in Section 11.04(b).

"Information" has the meaning specified in Section 11.07.

"Intellectual Property" means, collectively, all of the following owned or controlled by any Person: (a) all systems software and applications software (including source code and object code), all documentation for such software, including, without limitation, user manuals, flowcharts, functional specifications, operations manuals, and all formulas, processes, ideas and know-how embodied in any of the foregoing that are developed by such Person, (b) concepts, discoveries, improvements and ideas, know-how, technology, reports, design information, trade secrets, practices, specifications, test procedures, maintenance manuals, research and development, inventions (whether or not patentable), blueprints, drawings, data, customer lists, catalogs, and all physical embodiments of any of the foregoing that are developed by such Person, and (c) Patents and Patent Licenses, Copyrights and Copyright Licenses, Trademarks and Trademark Licenses.

"Intercompany Debt" has the meaning specified in Section 7.02.

"Intercompany Subordination Agreement" means, collectively, each subordination agreement by and among the Administrative Agent, the Loan Parties and their Restricted Subsidiaries, each in form and substance reasonably satisfactory to the Administrative Agent and pursuant to which each of the Loan Parties and their Restricted Subsidiaries agree to subordinate any intercompany Indebtedness owed by any Loan Party to any such Person that is not a Loan Party to the prior payment of all Guaranteed Obligations.

"Interest Payment Date" means, (a) as to any Eurocurrency Rate Loan, the last day of each Interest Period applicable to such Loan and the Maturity Date for such Class of Loans; provided, however, that if any Interest Period for a Eurocurrency Rate Loan exceeds three (3) months, the respective dates that fall every three (3) months after the beginning of such Interest Period shall also be Interest Payment Dates; (b) as to any Base Rate Loan, the last Business Day of each March, June, September and December and the Maturity Date for such Class of Loans; and (c) as to any Swingline Loan, the last Business Day of each March, June, September and December and the latest Maturity Date for any Class of Revolving Commitments maintained by the Swingline Lender (in its capacity as a Revolving Lender).

"Interest Period" means, as to each Eurocurrency Rate Loan, the period commencing on the date such Eurocurrency Rate Loan is disbursed or converted to or continued as a Eurocurrency Rate Loan and ending on the date one (1), two (2), three (3) or six (6) months thereafter (in each case, subject to availability) for the interest rate applicable to the relevant currency, as selected by the applicable Borrower in its Loan Notice, or such other period that is twelve (12) months or less

requested by the applicable Borrower (in each case, subject to availability) and consented to by all of the Appropriate Lenders; provided that:

(a) any Interest Period that would otherwise end on a day that is not a Business Day shall be extended to the next succeeding Business Day unless such Business Day falls in another calendar month, in which case such Interest Period shall end on the next preceding Business Day;

(b) any Interest Period that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Business Day of the calendar month at the end of such Interest Period; and

(c) no Interest Period shall extend beyond the next earliest Maturity Date.

"Investment" means (a) as to any Person, any direct or indirect acquisition or investment by such Person, whether by means of (i) the purchase or other acquisition of Equity Interests of another Person, (ii) a loan, advance or capital contribution to, Guarantee or assumption of debt of, or purchase or other acquisition of any other debt or interest in, another Person (including any partnership or joint venture interest in such other Person and any arrangement pursuant to which the investor guaranties Indebtedness of such other Person), or (iii) the purchase or other acquisition (in one transaction or a series of transactions) of assets of another Person which constitute all or substantially all of the assets of such Person or of a division, line of business or other business unit of such Person or (b) any R&D Collaboration Payment. For purposes of covenant compliance, the amount of any Investment shall be the amount actually invested (without adjustment for subsequent increases or decreases in the value of such Investment).

"Investment Policy" means the investment policy of the Company and its Subsidiaries approved and duly adopted by the board of directors (or other governing body, including any authorized committee of the board of directors) of the Company, as in effect on the Closing Date (or as otherwise approved by such board of directors or governing body from time to time).

"Involuntary Disposition" means any loss of, damage to or destruction of, or any condemnation or other taking for public use of, any property of any Loan Party or any Subsidiary.

"IP Rights" has the meaning specified in Section 5.21.

"Irish Qualifying Lender" means a Lender which is beneficially entitled to the interest payable to that Lender in respect of an advance under this Agreement and is (a) a bank within the meaning of section 246 of the Taxes Act which is carrying on bona fide banking business in Ireland for the purposes of section 246(3)(a) of the Taxes Act, (b) (i) a body corporate which, by virtue of the law of a Relevant Territory is resident for the purposes of tax in that Relevant Territory, where that Relevant Territory imposes a tax that generally applies to interest receivable in that Relevant Territory by bodies corporate from sources outside that Relevant Territory or (ii) a body corporate where interest payable in respect of an advance (A) is exempted from the charge to income tax under a double taxation agreement having force of law under the procedures set out in section 826

(1) of the Taxes Act or (B) would be exempted from the charge to Irish income tax under an Irish Tax Treaty entered into on or before the payment date of that interest if that Irish Tax Treaty had the force of law under the provisions set out in section 826(1) of the Taxes Act at that date, (iii) a U.S. company, provided the U.S. company is incorporated in the U.S. and is taxed in the U.S. on its worldwide income or (iv) a U.S. limited liability company where (1) the ultimate recipients of the interest would themselves be Irish Qualifying Lenders under sub-paragraphs (i), (ii) or (iii) of this clause (b) and (2) business is conducted through the U.S. limited liability company for market reasons and not for tax avoidance purposes; provided in each case at (i), (ii) (iii) or (iv) the Lender is not carrying on a trade or business in Ireland through a branch or agency with which interest payment is connected, (c) a body corporate, (i) which advances money in the ordinary course of a trade which includes the lending of money; and (ii) where the interest on monies so advanced is taken into account in computing the trading income of such body corporate; and (iii) such body corporate has complied with the notification requirements under section 246(5)(a) of the Taxes Act or (d) a qualifying company within the meaning of section 110 of the Taxes Act or (e) an investment undertaking within the meaning of section 739B of the Taxes Act or (f) an Irish Treaty Lender.

"Irish Treaty Lender" means, a Lender, other than a Lender falling within clause (b) of the definition of Irish Qualifying Lender, which (a) is treated as a resident of an Irish Treaty State for the purposes of an Irish Tax Treaty, (b) does not carry on a business in Ireland through a permanent establishment with which that Lender's participation in this Agreement is effectively connected and (c) fulfils any other conditions which must be fulfilled under an Irish Tax Treaty by residents of that Irish Treaty State for such residents to obtain full exemption from tax imposed by Ireland on interest payable under a Loan Document.

"Irish Treaty State" means a jurisdiction having a double taxation treaty with Ireland (an "Irish Tax Treaty"), which has the force of law and which makes provision for full exemption from tax imposed by Ireland on interest.

"IRS" means the United States Internal Revenue Service.

"ISP" means, with respect to any Letter of Credit, the "International Standby Practices 1998" published by the Institute of International Banking Law & Practice, Inc. (or such later version thereof as may be in effect at the time of issuance).

"Issuer Documents" means with respect to any Letter of Credit, the Letter of Credit Application, and any other document, agreement and instrument entered into by an L/C Issuer and the Company (or any Restricted Subsidiary) or in favor of such L/C Issuer and relating to such Letter of Credit.

"Joinder Agreement" means a joinder agreement substantially in the form of Exhibit D executed and delivered in accordance with the provisions of Section 6.12.

"Judgment Currency" has the meaning specified in Section 11.23.

"Latest Maturity Date" means, at any date of determination, the latest Maturity Date applicable to any Class of Loans or Revolving Commitments hereunder at such time, in each case then in effect on such date of determination.

"Laws" means, collectively, all international, foreign, federal, state and local statutes, treaties, rules, guidelines, regulations, ordinances, codes and administrative or judicial precedents or authorities, including the interpretation or administration thereof by any Governmental Authority charged with the enforcement, interpretation or administration thereof, and all applicable administrative orders, directed duties, requests, licenses, authorizations and permits of, and agreements with, any Governmental Authority, in each case whether or not having the force of law.

"L/C Advance" means, with respect to each Revolving Lender, such Lender's funding of its participation in any L/C Borrowing in accordance with its Applicable Revolving Percentage. All L/C Advances shall be denominated in Dollars.

"L/C Borrowing" means an extension of credit resulting from a drawing under any Letter of Credit which has not been reimbursed on the date when made or refinanced as a Revolving Borrowing. All L/C Borrowings shall be denominated in Dollars.

"L/C Credit Extension" means, with respect to any Letter of Credit, the issuance thereof or extension of the expiry date thereof, or the increase of the amount thereof.

"L/C Issuer" means with respect to a particular Letter of Credit, (a) Bank of America, through itself or through one of its designated Affiliates or branch offices, in its capacity as issuer of such Letter of Credit, or any successor issuer thereof, (b) such other Lender selected by the Company (that is reasonably acceptable to the Administrative Agent) pursuant to Section 2.03(l) from time to time to issue such Letter of Credit (provided that no Lender shall be required to become an L/C Issuer pursuant to this clause (b) without such Lender's consent), or any successor issuer thereof or (c) any Lender selected by the Company (that is reasonably acceptable to the Administrative Agent) to replace a Lender who is a Defaulting Lender at the time of such Lender's appointment as an L/C Issuer (provided that no Lender shall be required to become an L/C Issuer pursuant to this clause (c) without such Lender's consent), or any successor issuer thereof.

"L/C Obligations" means, as at any date of determination, the Dollar Equivalent of the aggregate amount (a) available to be drawn under all outstanding Letters of Credit plus (b) of all Unreimbursed Amounts (including all L/C Borrowings). For purposes of computing the amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.06. For all purposes of this Agreement, if on any date of determination a Letter of Credit has expired by its terms but any amount may still be drawn thereunder by reason of the operation of Rule 3.14 of the ISP, such Letter of Credit shall be deemed to be "outstanding" in the amount so remaining available to be drawn.

"Lease Restructuring Expenses" means, collectively, the amount by which the aggregate rental expense exceeds the sublease rental income from the leased real properties of the Company where such sublease real property arrangements are entered into by the Company or any of its Restricted Subsidiaries from time to time.

"Lender" means each of the Persons identified as a "Lender" on the signature pages hereto, each other Person that becomes a "Lender" in accordance with this Agreement and, their successors and assigns and, unless the context requires otherwise, includes the Swingline Lender. The term "Lender" shall include any Designated Lender who has funded any Credit Extension.

"Lending Office" means, as to the Administrative Agent, any L/C Issuer or any Lender, the office or offices of such Person described as such in such Person's Administrative Questionnaire, or such other office or offices as such Person may from time to time notify the Company and the Administrative Agent; which office may include any Affiliate of such Person or any domestic or foreign branch of such Person or such Affiliate.

"Letter of Credit" means any letter of credit issued hereunder and shall include the Existing Letters of Credit. A Letter of Credit may be a commercial letter of credit or a standby letter of credit. Letters of Credit may be issued in Dollars or in an Alternative Currency.

"Letter of Credit Application" means an application and agreement for the issuance or amendment of a Letter of Credit in the form from time to time in use by the applicable L/C Issuer.

"Letter of Credit Expiration Date" means, as to any applicable L/C Issuer, the day that is seven (7) days prior to the Maturity Date for the applicable Class of Revolving Commitments maintained by such L/C Issuer (in its capacity as a Revolving Lender hereunder) (or, if such day is not a Business Day, the next preceding Business Day).

"Letter of Credit Fee" has the meaning specified in Section 2.03(h).

"Letter of Credit Report" means a certificate substantially in the form of Exhibit L or any other form approved by the Administrative Agent.

"Letter of Credit Sublimit" means an amount equal to the lesser of (a) $50,000,000 and (b) the Aggregate Revolving Commitments. The Letter of Credit Sublimit is part of, and not in addition to, the Revolving Facility.

"LIBOR" has the meaning specified in the definition of Eurocurrency Rate.

"LIBOR Quoted Currency" means Dollars, Euro, Sterling and Swiss Franc, in each case as long as there is a published LIBOR rate with respect thereto.

"LIBOR Screen Rate" means the LIBOR quote on the applicable screen page the Administrative Agent designates to determine LIBOR (or such other commercially available source providing such quotations as may be designated by the Administrative Agent from time to time).

"LIBOR Successor Rate" has the meaning specified in Section 3.03(c).

"LIBOR Successor Rate Conforming Changes" has the meaning specified in Section 3.03(f).

"Lien" means any mortgage, pledge, hypothecation, collateral assignment, collateral deposit arrangement, encumbrance, lien (statutory or otherwise), charge, or similar preference, priority or other security interest or preferential arrangement in the nature of a security interest of any kind or nature whatsoever (including any conditional sale or other title retention agreement, any easement, right of way or other encumbrance on title to real property and any financing lease having substantially the same economic effect as any of the foregoing but excluding precautionary liens and filings made in respect of operating leases and assets subject thereto).

"Loan" means an extension of credit by a Lender to any Borrower under Article II in the form of a Revolving Loan or a Swingline Loan.

"Loan Documents" means, collectively, (a) this Agreement, (b) the Revolving Notes, (c) the Guaranty, (d) the Fee Letter, (e) each Issuer Document, (f) each Joinder Agreement, (g) any agreement creating or perfecting rights in Cash Collateral pursuant to the provisions of Section 2.14, (h) the Intercompany Subordination Agreement, (i) each Designated Foreign Borrower Request and Assumption Agreement and (j) all other agreements and documents now or hereafter executed, acknowledged and/or delivered by or on behalf of any Loan Party pursuant to the foregoing designated as a Loan Document (but specifically excluding any Guaranteed Hedge Agreement or any Guaranteed Cash Management Agreement); provided, however, that for purposes of Section 11.01, "Loan Documents" shall mean this Agreement and the Guaranty.

"Loan Notice" means a notice of (a) a Borrowing, (b) a conversion of Loans from one Type to the other, or (c) a continuation of Eurocurrency Rate Loans, pursuant to Section 2.02(a), which shall be substantially in the form of Exhibit E or such other form as may be approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer of the Company.

"Loan Parties" means, collectively, each Borrower and each Subsidiary Guarantor.

"London Banking Day" means any day on which dealings in Dollar deposits are conducted by and between banks in the London interbank market.

"Massachusetts Security Corporation" means a Person that qualifies as a Massachusetts "security corporation" under Mass. Gen. L. c. 63, §38B, but only to the extent, and during the time period, it so qualifies.

"Master Agreement" has the meaning set forth in the definition of "Swap Contract."

"Material Acquisition" means any Acquisition for which the Cost of Acquisition is equal to or greater than $300,000,000.

"Material Adverse Effect" means (a) a material adverse change in, or a material adverse effect upon, the operations, business or financial condition of the Borrowers and their Restricted Subsidiaries taken as a whole; (b) a material impairment of the rights and remedies of the Administrative Agent or any Lender under the Loan Documents; or (c) a material adverse effect

upon ability of the Loan Parties to perform their payment obligations under the Loan Documents, taken as a whole.

"Material Indebtedness" means any Indebtedness in an aggregate principal amount in excess of the Threshold Amount.

"Material Intellectual Property" means, as of any particular date of determination, (a) Intellectual Property that are Cystic Fibrosis Drug Franchise Assets and (b) other Intellectual Property of the Loan Parties and their Subsidiaries where the failure to maintain such Intellectual Property would reasonably be expected to have Material Adverse Effect; provided, however, that any Intellectual Property that would otherwise be considered Material Intellectual Property, which are developed or acquired by the Company or its Subsidiaries after the Closing Date, shall be considered to be Material Intellectual Property as of the date of determination described above.

"Material Subsidiary" means, at any date of determination, any Subsidiary of the Company that (a) together with its Subsidiaries, generates revenue equal to or greater than 5% of Consolidated revenue on a Pro Forma Basis for the Measurement Period most recently ended, (b) together with its Subsidiaries, has total assets (including Equity Interests in other Subsidiaries and excluding investments that are eliminated in consolidation) equal to or greater than 5% of Consolidated total assets as of the end of such Measurement Period, or (c) is otherwise designated as a "Material Subsidiary" at such time pursuant to the proviso to this definition; provided, however, that if at any time there are Subsidiaries which are not classified or designated as "Material Subsidiaries" but which, together with their respective Subsidiaries, collectively (i) generate revenue equal to or greater than 10% of Consolidated revenue on a Pro Forma Basis for the Measurement Period most recently ended or (ii) have total assets (including Equity Interests in other Subsidiaries and excluding investments that are eliminated in consolidation) equal to or greater than 10% of Consolidated total assets as of the end of such Measurement Period, then the Company shall promptly designate one or more of such Subsidiaries as "Material Subsidiaries" such that, after giving effect to such designation, Subsidiaries which are not classified or designated as "Material Subsidiaries" shall, together with their respective Subsidiaries, collectively (A) generate revenue less than 10% of Consolidated revenue on a Pro Forma Basis for the Measurement Period most recently ended and (B) have total assets (including Equity Interests in other Subsidiaries and excluding investments that are eliminated in consolidation) less than 10% of Consolidated total assets as of the end of such Measurement Period.

"Maturity Date" means, as the context may require, (a) with respect to Revolving Commitments (except Extended Revolving Commitments), September 17, 2024, and (b) with respect to any Class of Extended Revolving Commitments, the maturity date set forth in the Revolving Extension Amendment with respect to such Class of Extended Revolving Commitments; provided, however, that, in each case, if such date is not a Business Day, the Maturity Date shall be the next preceding Business Day.

"Measurement Period" means, at any date of determination, the most recently completed four (4) fiscal quarters of the Company (or, for purposes of determining Pro Forma Compliance, the most recently completed four (4) fiscal quarters of the Company for which financial statements have been delivered pursuant to Section 6.01).

"Medicaid" means that government-sponsored entitlement program under Title XIX, P.L. 89-97 of the Social Security Act, which provides federal grants to states for medical assistance based on specific eligibility criteria, as set forth on Section 1396, et seq. of Title 42 of the United States Code.

"Medicare" means that government-sponsored insurance program under Title XVIII, P.L. 89-97, of the Social Security Act, which provides for a health insurance system for eligible elderly and disabled individuals, as set forth at Section 1395, et seq. of Title 42 of the United States Code.

"Minimum Collateral Amount" means, at any time, (a) with respect to Cash Collateral consisting of cash or deposit account balances provided to reduce or eliminate Fronting Exposure during any period when a Lender constitutes a Defaulting Lender, an amount equal to 100% of the Fronting Exposure of the L/C Issuers with respect to Letters of Credit issued and outstanding at such time and (b) with respect to Cash Collateral consisting of cash or deposit account balances provided in accordance with the provisions of Section 2.14(a)(i), (a)(ii) or (a)(iii), an amount equal to 103% of the Outstanding Amount of all L/C Obligations.

"Moody's" means Moody's Investors Service, Inc. and any successor thereto.

"Multiemployer Plan" means any employee benefit plan of the type described in Section 4001(a)(3) of ERISA, to which the Company or any ERISA Affiliate makes or is obligated to make contributions, or during the preceding five (5) plan years, has made or been obligated to make contributions.

"Multiple Employer Plan" means a Plan which has two or more contributing sponsors (including the Company or any ERISA Affiliate) at least two of whom are not under common control, as such a plan is described in Section 4064 of ERISA.

"Non-Consenting Lender" means any Lender that either (a) does not approve any consent, waiver or amendment that (i) requires the approval of all Lenders or all affected Lenders, or all Lenders or all affected Lenders, in accordance with the terms of Section 11.01 and (ii) has been approved by the Required Lenders or (b) does not consent to a request by the Company to extend the Maturity Date pursuant to Section 2.19.

"Non-Defaulting Lender" means, at any time, each Lender that is not a Defaulting Lender at such time.

"Non-Extension Notice Date" has the meaning specified in Section 2.03(b)(iv).

"Non-LIBOR Quoted Currency" means any currency other than a LIBOR Quoted Currency.

"Notice of Additional L/C Issuer" means a certificate substantially in the form of Exhibit M or any other form approved by the Administrative Agent.

"Notice of Loan Prepayment" means a notice of prepayment with respect to a Loan, which shall be substantially in the form of Exhibit K or such other form as may be reasonably approved

by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer.

"Obligations" means all advances to, and debts, liabilities, obligations, covenants and duties of, any Loan Party arising under any Loan Document or otherwise with respect to any Loan or Letter of Credit, in each case whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest, expenses and fees that accrue after the commencement by or against any Loan Party or any Affiliate thereof pursuant to any proceeding under any Debtor Relief Laws naming such Person as the debtor in such proceeding, regardless of whether such interest, expenses and fees are allowed claims in such proceeding; provided that Obligations of a Loan Party shall exclude any Excluded Swap Obligations with respect to such Loan Party.

"OFAC" means the Office of Foreign Assets Control of the United States Department of the Treasury.

"Organization Documents" means, (a) with respect to any corporation, the certificate or articles of incorporation and the bylaws (or equivalent or comparable constitutive documents with respect to any non-U.S. jurisdiction); (b) with respect to any limited liability company, the certificate or articles of formation or organization and operating agreement or limited liability company agreement (or equivalent or comparable documents with respect to any non-U.S. jurisdiction); (c) with respect to any partnership, joint venture, trust or other form of business entity, the partnership, joint venture or other applicable agreement of formation or organization (or equivalent or comparable documents with respect to any non-U.S. jurisdiction) and (d) with respect to all entities, any agreement, instrument, filing or notice with respect thereto filed in connection with its formation or organization with the applicable Governmental Authority in the jurisdiction of its formation or organization (or equivalent or comparable documents with respect to any non-U.S. jurisdiction).

"Other Connection Taxes" means, with respect to any Recipient, Taxes imposed as a result of a present or former connection between such Recipient and the jurisdiction imposing such Tax (other than connections arising from such Recipient having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

"Other Taxes" means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 3.06).

"Outstanding Amount" means (a) with respect to Revolving Loans (including any Class thereof) and Swingline Loans on any date, the Dollar Equivalent amount of the aggregate outstanding

principal amount thereof after giving effect to any borrowings and prepayments or repayments of Revolving Loans and Swingline Loans, as the case may be, occurring on such date; and (b) with respect to any L/C Obligations on any date, the Dollar Equivalent amount of the aggregate outstanding amount of such L/C Obligations on such date after giving effect to any L/C Credit Extension occurring on such date and any other changes in the aggregate amount of the L/C Obligations as of such date, including as a result of any reimbursements by any Borrower of Unreimbursed Amounts.

"Overnight Rate" means, for any day, (a) with respect to any amount denominated in Dollars, the greater of (i) the Federal Funds Rate and (ii) an overnight rate determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, in accordance with banking industry rules on interbank compensation, and (b) with respect to any amount denominated in an Alternative Currency, an overnight rate determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, in accordance with banking industry rules on interbank compensation.

"Participant" has the meaning specified in Section 11.06(d).

"Participant Register" has the meaning specified in Section 11.06(d).

"Participating Member State" means any member state of the European Union that has the Euro as its lawful currency in accordance with legislation of the European Union related to Economic and Monetary Union.

"Patent License" means any agreement, now or hereafter in existence, providing for the grant to any Person of any rights (including, without limitation, the right for a party to be designated as an owner and/or to enforce, defend, make, have made, make improvements, manufacture, use, sell, import, export, and require joinder in suit and/or receive assistance from another party) in a Patent.

"Patents" means collectively, all of the following of any Person: (a) all patents, all inventions and patent applications anywhere in the world, (b) all improvements, counterparts, reissues, divisional, re-examinations, extensions, continuations (in whole or in part) and renewals of any of the foregoing and improvements thereon, (c) all income, royalties, damages or payments now or hereafter due and/or payable under any of the foregoing or with respect to any of the foregoing, including, without limitation, damages or payments for past, present or future infringements, violations or misappropriations of any of the foregoing, (d) the right to sue for past, present and future infringements, violations or misappropriations of any of the foregoing and (e) all rights corresponding to any of the foregoing throughout the world.

"Patriot Act" has the meaning specified in Section 11.19.

"PBGC" means the Pension Benefit Guaranty Corporation.

"Pension Funding Rules" means the rules of the Code and ERISA regarding minimum required contributions (including any installment payment thereof) to Pension Plans and

Multiemployer Plans and set forth in Sections 412, 430, 431, 432 and 436 of the Code and Sections 302, 303, 304 and 305 of ERISA.

"Pension Plan" means any employee pension benefit plan (including a Multiple Employer Plan, but other than a Multiemployer Plan) that is maintained or is contributed to by the Company and any ERISA Affiliate and is either covered by Title IV of ERISA or is subject to Pension Funding Rules.

"Permitted Liens" has the meaning set forth in Section 7.01.

"Permitted Restructuring" means a transaction or series of transactions pursuant to which one or more Restricted Subsidiaries of the Company (other than any Designated Foreign Borrower) are converted, restructured or reorganized due to changes or potential changes in any relevant legal or regulatory framework, whether by (i) transfer, (ii) acquisition, (iii) contribution, (iv) merger, (v) consolidation, (vi) voluntary dissolution, (vii) liquidation, (viii) recapitalization, (ix) change in identity, form, place of organization, incorporation, domicile or, to the extent relevant and subject to Section 5.23(d), centre of main interests (as that term is used in Article 3(1) of the Regulation), or (x) otherwise, in each case the result of which may cause a direct or indirect sale, assignment or transfer of Equity Interests and/or other assets between and among the Company and/or various Restricted Subsidiaries of the Company, and in each case to the extent the Administrative Agent (acting in its reasonable credit judgment) approves such Permitted Restructuring.

"Person" means any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority or other entity.

"Plan" means any employee benefit plan within the meaning of Section 3(3) of ERISA (including a Pension Plan), maintained for employees of the Company or any ERISA Affiliate or any such Plan to which the Company or any ERISA Affiliate is required to contribute on behalf of any of its employees.

"Platform" has the meaning specified in Section 6.02.

"Priority Indebtedness" means (a) Indebtedness (other than Obligations) of any Loan Party secured by a Lien on any assets of such Loan Party, (b) Indebtedness of any Restricted Subsidiary that is not a Loan Party, and (c) Guarantees of the Company or any Restricted Subsidiary in respect of Indebtedness of any Unrestricted Subsidiary; provided that, the definition of "Priority Indebtedness" shall not include any Guarantees of the Company issued with respect to any operating lease payment obligations of any of the Subsidiaries of the Company.

"Pro Forma Basis" and "Pro Forma Effect" means, for any transaction specified herein, including any Disposition (including of all or substantially all of a division or a line of business), Acquisition, or Investment, or incurrence or assumption of Indebtedness, whether actual or proposed, for purposes of determining compliance with the terms of this Agreement and the other Loan Documents (including, the financial covenants set forth in Section 7.11), each such transaction or proposed transaction shall be given pro forma effect as if such events (including all Credit Extensions made in connection therewith) occurred on the first day of the most recent Measurement

Period ended on or before the occurrence of such event, and, for the avoidance of any doubt, shall include the following pro forma adjustments:

(a) in the case of an actual or proposed Disposition or the designation of any Restricted Subsidiary as an Unrestricted Subsidiary, all income statement items (whether positive or negative) attributable to the assets or the Person subject to such Disposition or such designation shall be excluded from the results of the Company and its Restricted Subsidiaries for such Measurement Period to the extent occurring prior to the date of such transaction;

(b) in the case of an actual or proposed Acquisition or any Subsidiary Redesignation, income statement items (whether positive or negative) attributable to the property, line of business or the Person subject to such Acquisition or such Subsidiary Redesignation shall be included in the results of the Company and its Restricted Subsidiaries for such Measurement Period;

(c) interest accrued during the relevant Measurement Period on, and the principal of, any Indebtedness repaid or to be repaid or refinanced in such transaction shall be excluded from the results of the Company and its Restricted Subsidiaries for such Measurement Period; and

(d) any Indebtedness or Investment actually or proposed to be incurred or assumed in such transaction shall be deemed to have been incurred as of the first day of the applicable Measurement Period, and interest on any Indebtedness shall be deemed to have accrued from such day on such Indebtedness at the applicable rates provided therefor (and in the case of interest that does or would accrue at a formula or floating rate, at the rate in effect at the time of determination) and shall be included in the results of the Company and its Restricted Subsidiaries for such Measurement Period.

"Pro Forma Compliance" means, with respect to any transaction, such transaction complies with the financial covenants set forth in Section 7.11 after giving Pro Forma Effect, based upon the results of operations for the most recently completed Measurement Period, to (a) such transaction and (b) all other transactions (including any Credit Extensions) which are contemplated or required to be given Pro Forma Effect hereunder that have occurred on or after the first day of the relevant Measurement Period.

"Public Lender" has the meaning specified in Section 6.02.

"QFC" has the meaning assigned to the term "qualified financial contract" in, and shall be interpreted in accordance with, 12 U.S.C. 5390(c)(8)(D).

"Qualified ECP Guarantor" means, at any time, each Loan Party with total assets exceeding $10,000,000 or that qualifies at such time as an "eligible contract participant" under the Commodity Exchange Act and can cause another Person to qualify as an "eligible contract participant" at such time under Section 1a(18)(A)(v)(II) of the Commodity Exchange Act.

"Qualified Stock" means any Equity Interest that is not Disqualified Stock.

"Quarterly Reimbursement Payments" means non-refundable quarterly reimbursements of certain of the Company's research and development expenses.

"R&D Collaboration Payments" means one-time non-recurring up-front payments and milestone payments payable by the Company and its Restricted Subsidiaries under research and development licensing agreements, collaboration agreements or development agreements of the Company and its Subsidiaries relating to product candidates of the Company and its Subsidiaries.

"Rate Determination Date" means two (2) Business Days prior to the commencement of such Interest Period (or such other day as is generally treated as the rate fixing day by market practice in such interbank market, as determined by the Administrative Agent; provided that, to the extent such market practice is not administratively feasible for the Administrative Agent, then "Rate Determination Date" means such other day as otherwise reasonably determined by the Administrative Agent.

"Real Property" means any means any owned or leased real property of a Loan Party or its Subsidiaries.

"Recipient" means the Administrative Agent, any Lender, any L/C Issuer or any other recipient of any payment to be made by or on account of any obligation of any Loan Party hereunder.

"Register" has the meaning specified in Section 11.06(c).

"Regulation" has meaning specified in Section 5.23(c).

"Related Parties" means, with respect to any Person, such Person's Affiliates and the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of such Person and of such Person's Affiliates.

"Relevant Territory" means (a) a member state of the European Communities other than Ireland, (b) a jurisdiction with which Ireland has entered into an Irish Tax Treaty that has the force of law or (c) a jurisdiction with which Ireland has entered into an Irish Tax Treaty where that treaty will (on completion of necessary procedures) have the force of law.

"Reportable Event" means any of the events set forth in Section 4043(c) of ERISA, other than events for which the thirty (30) day notice period has been waived.

"Request for Credit Extension" means (a) with respect to a Borrowing, conversion or continuation of Revolving Loans, a Loan Notice, (b) with respect to an L/C Credit Extension, a Letter of Credit Application, and (c) with respect to a Swingline Loan, a Swingline Loan Notice.

"Required Lenders" means, at any time, Revolving Lenders having Total Revolving Credit Exposures representing more than 50% of the Total Revolving Credit Exposures of all Revolving Lenders. The Total Revolving Credit Exposure of any Defaulting Lender shall be disregarded in determining Required Lenders at any time; provided that, the amount of any participation in any

Swingline Loan and Unreimbursed Amounts that such Defaulting Lender has failed to fund that have not been reallocated to and funded by another Lender shall be deemed to be held by the Revolving Lender that is the Swingline Lender or L/C Issuer, as the case may be, in making such determination.

"Resignation Effective Date" has the meaning set forth in Section 9.06(a).

"Responsible Officer" means (a) the chief executive officer, executive chairman, president, chief financial officer, treasurer, executive vice president, assistant treasurer, controller or assistant controller (and, in the case of a Designated Foreign Borrower incorporated in England and Wales or in Ireland, a director) of a Loan Party, (b) solely for purposes of the delivery of incumbency and/or secretary's certificates pursuant to Section 4.01, a director, the secretary or any assistant secretary of a Loan Party and (c) solely for purposes of notices given pursuant to Article II, any other officer or employee of the applicable Loan Party so designated by any of the foregoing officers in a notice to the Administrative Agent or any other officer or employee of the applicable Loan Party designated in or pursuant to an agreement between the applicable Loan Party and the Administrative Agent. Any document delivered hereunder that is signed by a Responsible Officer of a Loan Party shall be conclusively presumed to have been authorized by all necessary corporate, partnership and/or other action on the part of such Loan Party and such Responsible Officer shall be conclusively presumed to have acted on behalf of such Loan Party and any document delivered hereunder that is signed by a Responsible Officer of the Company shall be conclusively presumed to have been authorized by all necessary corporate, partnership and/or other action on the part of each Subsidiary Guarantor and such Responsible Officer shall be conclusively presumed to have acted on behalf of such Subsidiary Guarantor. To the extent requested by the Administrative Agent, each Responsible Officer will provide an incumbency certificate and to the extent requested by the Administrative Agent, appropriate authorization documentation, in form and substance reasonably satisfactory to the Administrative Agent (it being understood and agreed that the incumbency certificates and authorization documentation provided on the Closing Date shall satisfy this requirement with respect to the Responsible Officers listed therein).

"Restricted Payment" means (a) any dividend or other distribution, direct or indirect, on account of any shares (or equivalent) of any class of Equity Interests of the Company or any of its Restricted Subsidiaries, now or hereafter outstanding (other than a dividend or distribution payable solely in shares of Qualified Stock), (b) any redemption, retirement, sinking fund or similar payment, purchase or other acquisition for value, direct or indirect, of any shares (or equivalent) of any class of Equity Interests of the Company or any of its Restricted Subsidiaries, now or hereafter outstanding, (c) any payment made to retire, or to obtain the surrender of, any outstanding warrants, options or other rights to acquire shares of any class of Equity Interests of any Loan Party or any of its Restricted Subsidiaries, now or hereafter outstanding and (d) any payments (other than payments of interest on a non-accelerated basis) in respect, or on account, of Capped Call Transactions, Convertible Bond Hedge Transactions, Warrant Transactions or otherwise in connection with the settlement of Convertible Bond Indebtedness upon the conversion of such Indebtedness to Equity Interests.

"Restricted Subsidiary" means, at any time, any Subsidiary of the Company that is not an Unrestricted Subsidiary.

"Revaluation Date" means (a) with respect to any Loan, each of the following: (i) each date of a Borrowing of a Eurocurrency Rate Loan denominated in an Alternative Currency, (ii) each date of a continuation of a Eurocurrency Rate Loan denominated in an Alternative Currency pursuant to Section 2.02, and (iii) such additional dates as the Administrative Agent shall reasonably determine or the Required Lenders shall require; and (b) with respect to any Letter of Credit, each of the following: (i) each date of issuance, amendment and/or extension of a Letter of Credit denominated in an Alternative Currency, (ii) each date of any payment by the applicable L/C Issuer under any Letter of Credit denominated in an Alternative Currency, (iii) in the case of all Existing Letters of Credit denominated in Alternative Currencies, the Closing Date, and (iv) such additional dates as the Administrative Agent or the applicable L/C Issuer shall reasonably determine or the Required Lenders shall require.

"Revolving Borrowing" means a borrowing consisting of simultaneous Revolving Loans of the same Type and, in the case of Eurocurrency Rate Loans, having the same Interest Period made by each of the Revolving Lenders pursuant to Section 2.01.

"Revolving Commitment" means, as to each Revolving Lender, its obligation to (a) make Revolving Loans to the Borrowers pursuant to Section 2.01, (b) purchase participations in L/C Obligations, and (c) purchase participations in Swingline Loans, in an aggregate principal amount at any one time outstanding not to exceed the amount set forth opposite such Lender's name on Schedule 1.01(b) under the caption "Revolving Commitment" (or, in the case of any Extended Revolving Commitment, under the caption reflecting such Revolving Extension Series) or opposite such caption in the Assignment and Assumption pursuant to which such Lender becomes a party hereto, as applicable, as such amount may be adjusted from time to time in accordance with this Agreement (including in connection with any Revolving Extension Amendment). The Revolving Commitment of all of the Revolving Lenders on the Closing Date shall be $500,000,000.

"Revolving Exposure" means, as to any Lender at any time, the aggregate principal amount at such time of its outstanding Revolving Loans and such Lender's participation in L/C Obligations and Swingline Loans at such time.

"Revolving Extension Amendment" has the meaning specified in Section 2.19(d).

"Revolving Extension Request" has the meaning specified in Section 2.19(a).

"Revolving Extension Series" has the meaning specified in Section 2.19(f).

"Revolving Facility" means, as applicable and as the context may require, at any time, (a) the aggregate amount of the Revolving Lenders' Revolving Commitments at such time or (b) the aggregate amount of the Revolving Lenders' Revolving Commitments under any specific Class at such time.

"Revolving Facility Increase Effective Date" has the meaning specified in Section 2.18(a)(iv).

"Revolving Lender" means, at any time, (a) so long as any Revolving Commitment is in effect, any Lender that has a Revolving Commitment at such time (including any Class of Extended Revolving Commitments) or (b) if the Revolving Commitments have terminated or expired, any Lender that has a Revolving Loan or a participation in L/C Obligations or Swingline Loans at such time.

"Revolving Loan" has the meaning specified in Section 2.01.

"Revolving Note" means a promissory note made by the Borrowers in favor of a Revolving Lender evidencing Revolving Loans or Swingline Loans, as the case may be, made by such Revolving Lender, substantially in the form of Exhibit F.

"S&P" means Standard & Poor's Financial Services LLC, a Subsidiary of The McGraw-Hill Companies, Inc., and any successor thereto.

"Sale and Leaseback Transaction" means, with respect to any Loan Party or any Subsidiary, any arrangement, directly or indirectly, with any Person whereby such Loan Party or such Subsidiary shall sell or transfer any property used or useful in its business, whether now owned or hereafter acquired, and thereafter rent or lease such property or other property that it intends to use for substantially the same purpose or purposes as the property being sold or transferred.

"Same Day Funds" means (a) with respect to disbursements and payments in Dollars, immediately available funds, and (b) with respect to disbursements and payments in an Alternative Currency, same day or other funds as may be determined by the Administrative Agent or the applicable L/C Issuer, as the case may be, to be customary in the place of disbursement or payment for the settlement of international banking transactions in the relevant Alternative Currency.

"Sanctioned Persons" has the meaning specified in Section 5.17(a).

"Sanction(s)" means all economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by (a) the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, or (b) the United Nations Security Council, the European Union, any European Union member state or Her Majesty's Treasury of the United Kingdom ("HMT").

"Scheduled Unavailability Date" has the meaning specified in Section 3.03(c).

"SEC" means the Securities and Exchange Commission, or any Governmental Authority succeeding to any of its principal functions.

"Securities Act" means the Securities Act of 1933, including all amendments thereto and regulations promulgated thereunder.

"Social Security Act" means the Social Security Act of 1965.

"Solvent" and "Solvency" mean, with respect to the Company and its Restricted Subsidiaries on any date of determination, that on such date (a) the fair value of the assets of the Company and

its Restricted Subsidiaries, on a Consolidated basis, is greater than the total amount of liabilities, including contingent liabilities, of the Company and its Restricted Subsidiaries, on a Consolidated basis, (b) the present fair saleable value of the assets of the Company and its Restricted Subsidiaries, on a Consolidated basis, is not less than the amount that will be required to pay the probable liability of the Company and its Restricted Subsidiaries, on a Consolidated basis, on their existing debts as they become absolute and matured, (c) the Company and its Restricted Subsidiaries, on a Consolidated basis, do not intend to, and do not believe that they will, incur debts or liabilities beyond their ability to pay such debts and liabilities as they mature, (d) the Company and its Restricted Subsidiaries, on a Consolidated basis, are not engaged in business or a transaction, and are not about to engage in business or a transaction, for which their property would constitute an unreasonably small capital, (e) the Company and its Restricted Subsidiaries, on a Consolidated basis, will be able to pay their debts and liabilities, contingent obligations and other commitments as they mature in the ordinary course of business and (f) without prejudice to paragraphs (a) to (e) above and in relation to a Restricted Subsidiary incorporated in England and Wales or Ireland only, such Restricted Subsidiary is not unable to or has not admitted inability to pay its debts as they fall due. The amount of contingent liabilities at any time shall be computed as the amount that, in the light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability.

"Special Notice Currency" means at any time an Alternative Currency, other than the currency of a country that is a member of the Organization for Economic Cooperation and Development at such time located in North America or Europe.

"Specified CFF Payments" means the following amounts paid or payable by CFF to the Company pursuant to the CFF Amendment: (i) the $75 million non-refundable upfront payment and (ii) the non-refundable Quarterly Reimbursement Payments, in each case, net of any amortization required under GAAP.

"Specified Leased Location" has the meaning set forth in the definition of Specified Leased Properties.

"Specified Leased Properties" means, collectively, (a) as of the Closing Date, the leased Real Property located at (i) 50 Northern Avenue, Boston, Massachusetts, (ii) 11 Fan Pier Boulevard, Boston, Massachusetts (the leased locations set forth in clauses (i) and (ii), collectively, the "Specified Leased Locations") and (iii) 3215 Merryfield Row, San Diego, California, (b) that certain continuous manufacturing rig located at 40 Lake Drive, East Windsor, NJ 08520 and (c) other locations where leased real property arrangements similar to the Specified Leased Locations (and not otherwise reflecting debt arrangements) are entered into by the Company or any of its Restricted Subsidiaries from time to time following the Closing Date. For the avoidance of any doubt, all such leases of Specified Leased Properties shall be treated as operating leases for all purposes of this Agreement.

"Specified Loan Party" means any Loan Party that is not then an "eligible contract participant" under the Commodity Exchange Act (determined prior to giving effect to Section 10.11).

"Spot Rate" for a currency means the rate determined by the Administrative Agent or the applicable L/C Issuer, as applicable, to be the rate quoted by the Person acting in such capacity as the spot rate for the purchase by such Person of such currency with another currency through its principal foreign exchange trading office at approximately 11:00 a.m. on the date two (2) Business Days prior to the date as of which the foreign exchange computation is made; provided that the Administrative Agent or such L/C Issuer may obtain such spot rate from another financial institution designated by the Administrative Agent or such L/C Issuer if the Person acting in such capacity does not have as of the date of determination a spot buying rate for any such currency; and provided further that such L/C Issuer may use such spot rate quoted on the date as of which the foreign exchange computation is made in the case of any Letter of Credit denominated in an Alternative Currency.

"Stated Ratio" has the meaning specified in Section 7.11(a).

"Sterling" and "£" mean the lawful currency of the United Kingdom.

"Subsidiary" of a Person means a corporation, partnership, joint venture, limited liability company or other business entity of which a majority of the shares of Voting Stock is at the time beneficially owned, or the management of which is otherwise controlled, directly, or indirectly through one or more intermediaries, or both, by such Person. Unless otherwise specified, all references herein to a "Subsidiary" or to "Subsidiaries" shall refer to a Subsidiary or Subsidiaries of the Loan Parties. For the avoidance of any doubt, no variable interest entities that the Company is required to consolidate solely pursuant to FASB ASC 810 shall be deemed to be "Subsidiaries" for purposes of the Loan Documents.

"Subsidiary Guarantors" means, collectively, the Subsidiaries of the Company set forth on Schedule 5.18(b) and each other Subsidiary of the Company that shall execute and delivery a Joinder Agreement or otherwise become party to this Agreement from time to time pursuant to the requirements of Section 6.12. Notwithstanding anything to the contrary contained herein, no Excluded Subsidiary shall be required to become a "Subsidiary Guarantor" hereunder. As of the Closing Date, the Subsidiary Guarantors are: (i) Vertex Pharmaceuticals (San Diego) LLC, a Delaware limited liability company, (ii) Vertex Holdings, Inc., a Delaware corporation, (iii) Vertex Pharmaceuticals (Distribution) Incorporated, a Delaware corporation, (iv) Vertex Pharmaceuticals (Puerto Rico) LLC, a Delaware limited liability company, and (v) Exonics Therapeutics, Inc., a Delaware corporation.

"Subsidiary Redesignation" has the meaning set forth in the definition of "Unrestricted Subsidiary".

"Successor Borrower" has the meaning specified in Section 7.04(a)(v).

"Swap Contract" means (a) any and all rate swap transactions, basis swaps, credit derivative transactions, forward rate transactions, commodity swaps, commodity options, forward commodity contracts, equity or equity index swaps or options, bond or bond price or bond index swaps or options or forward bond or forward bond price or forward bond index transactions, interest rate options, forward foreign exchange transactions, cap transactions, floor transactions, collar

transactions, currency swap transactions, cross-currency rate swap transactions, currency options, spot contracts, or any other similar transactions or any combination of any of the foregoing (including any options to enter into any of the foregoing), whether or not any such transaction is governed by or subject to any master agreement, and (b) any and all transactions of any kind, and the related confirmations, which are subject to the terms and conditions of, or governed by, any form of master agreement published by the International Swaps and Derivatives Association, Inc., any International Foreign Exchange Master Agreement, or any other master agreement (any such master agreement, together with any related schedules, a "Master Agreement"), including any such obligations or liabilities under any Master Agreement. Notwithstanding the foregoing, Capped Call Transactions, Convertible Bond Hedge Transactions and Warrant Transactions shall not constitute Swap Contracts.

"Swap Obligations" means with respect to any Guarantor any obligation to pay or perform under any agreement, contract or transaction that constitutes a "swap" within the meaning of Section 1a(47) of the Commodity Exchange Act.

"Swap Termination Value" means, in respect of any one or more Swap Contracts, after taking into account the effect of any legally enforceable netting agreement relating to such Swap Contracts, (a) for any date on or after the date such Swap Contracts have been closed out and termination value(s) determined in accordance therewith, such termination value(s) and (b) for any date prior to the date referenced in clause (a), the amount(s) determined as the mark-to-market value(s) for such Swap Contracts, as determined based upon one or more mid-market or other readily available quotations provided by any recognized dealer in such Swap Contracts (which may include a Lender or any Affiliate of a Lender).

"Swingline Borrowing" means a borrowing of a Swingline Loan pursuant to Section 2.04.

"Swingline Lender" means Bank of America, through itself or through one of its designated Affiliate or branch offices, in its capacity as provider of Swingline Loans, or any successor swingline lender hereunder.

"Swingline Loan" has the meaning specified in Section 2.04(a).

"Swingline Loan Notice" means a notice of a Swingline Borrowing pursuant to Section 2.04(b), which shall be substantially in the form of Exhibit H or such other form as approved by the Administrative Agent (including any form on an electronic platform or electronic transmission system as shall be approved by the Administrative Agent), appropriately completed and signed by a Responsible Officer of the Company.

"Swingline Sublimit" means an amount equal to the lesser of (a) $20,000,000 and (b) the Revolving Facility. The Swingline Sublimit is part of, and not in addition to, the Revolving Facility.

"Swiss Francs" and "CHF" mean the lawful currency of Switzerland.

"Synthetic Lease Obligation" means the monetary obligation of a Person under (a) a so-called synthetic, off-balance sheet or tax retention lease, or (b) an agreement for the use or possession of property (including Sale and Leaseback Transactions), in each case, creating obligations that do

not appear on the balance sheet of such Person but which, upon the application of any Debtor Relief Laws to such Person, would be characterized as the indebtedness of such Person (without regard to accounting treatment).

"TARGET2" means the Trans-European Automated Real-time Gross Settlement Express Transfer payment system which utilizes a single shared platform and which was launched on November 19, 2007.

"TARGET Day" means any day on which TARGET2 (or, if such payment system ceases to be operative, such other payment system, if any, determined by the Administrative Agent to be a suitable replacement) is open for the settlement of payments in Euro.

"Taxes" means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

"Taxes Act" means the Taxes Consolidation Act 1997 of Ireland, as amended.

"Threshold Amount" means $100,000,000.

"Total Revolving Credit Exposure" means, as to any Revolving Lender at any time, the unused Revolving Commitments and Revolving Exposure of such Revolving Lender at such time.

"Total Revolving Outstandings" means the aggregate Outstanding Amount of all Revolving Loans, Swingline Loans and L/C Obligations.

"Trademark License" means any agreement, now or hereafter in existence, providing for the grant to any Person of any rights (including, without limitation, the right for a party to be designated as an owner and/or to enforce, defend, use, mark, police, and require joinder in suit and/or receive assistance from another party) in a Trademark.

"Trademarks" means, collectively, all of the following of any Person: (a) all trademarks, trade names, internet domain names, trade styles, service marks, logos and other identifiers of source or origin, whether registered or unregistered, all registrations and recordings thereof, and all applications in connection therewith anywhere in the world, (b) all counterparts, extensions and renewals of any of the foregoing, (c) all income, royalties, damages and payments now or hereafter due and/or payable under any of the foregoing or with respect to any of the foregoing, including, without limitation, damages or payments for past, present or future infringements, violations, dilutions or misappropriations of any of the foregoing, (d) the right to sue for past, present or future infringements, violations, dilutions or misappropriations of any of the foregoing and (e) all rights corresponding to any of the foregoing (including the goodwill associated with any of the foregoing) throughout the world.

"Type" means, with respect to a Loan, its character as a Base Rate Loan or a Eurocurrency Rate Loan.

"UCC" means the Uniform Commercial Code as in effect in the State of New York; provided that, if perfection or the effect of perfection or non-perfection or the priority of any security interest in any collateral is governed by the Uniform Commercial Code as in effect in a jurisdiction other than the State of New York, "UCC" means the Uniform Commercial Code as in effect from time to time in such other jurisdiction for purposes of the provisions hereof relating to such perfection, effect of perfection or non-perfection or priority.

"UCP" means, with respect to any Letter of Credit, the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce ("ICC") Publication No. 600 (or such later version thereof as may be in effect at the time of issuance).

"UK Bail-In Legislation" means (to the extent that the United Kingdom is not an EEA Member Country which has implemented, or implements, Article 55 BRRD) Part I of the United Kingdom Banking Act 2009 and any other law or regulation applicable in the United Kingdom relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their affiliates (otherwise than through liquidation, administration or other insolvency proceedings).

"UK Corporation Tax Act" means the Corporation Tax Act 2009 of the United Kingdom.

"UK Direction" has the meaning assigned to that term in paragraph (f)(iii) of the definition of Excluded Taxes in Section 1.1.

"UK DTTP Filing" means an HMRC Form DTTP2 duly completed and filed by the relevant Loan Party, which: (a) where it relates to a UK Treaty Lender that is a Lender on the date of this Agreement, contains the scheme reference number and jurisdiction of tax residence opposite that Lender's name in Schedule 1.01(d), and (i) where the Loan Party is a Loan Party on the date of this Agreement, is filed with HMRC within 30 Business Days after the date of this Agreement; or (ii) where the Loan Party becomes a Loan Party after the date of this Agreement, is filed with HMRC within 30 Business Days after the date on which that Loan Party becomes an additional Borrower under this Agreement; or (b) where it relates to a UK Treaty Lender that becomes a Lender after the Closing Date, contains the scheme reference number and jurisdiction of tax residence in the relevant Assignment and Assumption, and (i) where the Loan Party is a Loan Party on the date such UK Treaty Lender becomes a Lender under this Agreement ("New Lender Date"), is filed with HMRC within 30 Business Days after the New Lender Date; or (ii) where the Loan Party becomes a Loan Party under this Agreement after the New Lender Date, is filed with HMRC within 30 Business Days after the date on which that Loan Party becomes a Loan Party under this Agreement.

"UK DTTP Scheme" has the meaning assigned to that term in Section 3.01(g)(ii).

"UK Qualifying Lender" means a Lender which is beneficially entitled to interest payable to that Lender in respect of an advance under a Loan Document and is: (a) a Lender: (i) which is a bank (as defined for the purpose of section 879 of the UK Taxes Act) making an advance under a Loan Document and is within the charge to United Kingdom corporation tax as respects any payments of interest made in respect of that advance or would be within such charge as respects such payment apart from section 18A of the UK Corporation Tax Act; or (ii) in respect of an advance

made under a Loan Document by a person that was a bank (as defined for the purpose of section 879 of the UK Taxes Act) at the time that that advance was made and is within the charge to United Kingdom corporation tax as respects any payments of interest made in respect of that advance; or (b) a Lender which is: (i) a company resident in the United Kingdom for United Kingdom tax purposes; (ii) a partnership each member of which is (A) a company resident in the United Kingdom or (B) a company not so resident in the United Kingdom which carries on a trade in the United Kingdom through a permanent establishment and which brings into account in computing its chargeable profits (within the meaning of section 19 of the UK Corporation Tax Act) the whole of any share of interest payable in respect of that advance that falls to it by reason of Part 17 of the UK Corporation Tax Act; (iii) a company not so resident in the United Kingdom which carries on a trade in the United Kingdom through a permanent establishment and which brings into account interest payable in respect of that advance in computing the chargeable profits (within the meaning of section 19 of the UK Corporation Tax Act) of that company; or (c) a UK Treaty Lender.

"UK Tax Confirmation" means a confirmation by a Lender that the person beneficially entitled to interest payable to that Lender in respect of an advance under a Loan Document is either: (a) a company resident in the United Kingdom for United Kingdom tax purposes; (b) a partnership each member of which is (A) a company resident in the United Kingdom or (B) a company not so resident in the United Kingdom which carries on a trade in the United Kingdom through a permanent establishment and which brings into account in computing its chargeable profits (within the meaning of section 19 of the UK Corporation Tax Act) the whole of any share of interest payable in respect of that advance that falls to it by reason of Part 17 of the UK Corporation Tax Act; or (c) a company not so resident in the United Kingdom which carries on a trade in the United Kingdom through a permanent establishment and which brings into account interest payable in respect of that advance in computing the chargeable profits (for the purposes of section 19 of the UK Corporation Tax Act) of that company.

"UK Tax Deduction" has the meaning assigned to that term in paragraph (f) of the definition of Excluded Taxes in Section 1.1.

"UK Taxes Act" means the Income Tax Act 2007 of the United Kingdom.

"UK Treaty Lender" means a Lender which (a) is treated as a resident of a UK Treaty State for the purposes of the Treaty, (b) does not carry on a business in the United Kingdom through a permanent establishment with which that Lender's participation in the Loan is effectively connected and (c) meets all other conditions in the Treaty for full exemption from tax imposed by the United Kingdom on interest, except that for this purpose it shall be assumed that any necessary procedural formalities are satisfied.

"UK Treaty State" means a jurisdiction having a double taxation agreement (a "Treaty") with the United Kingdom, which makes provision for full exemption from tax imposed by the United Kingdom on interest.

"United States" and "U.S." mean the United States of America.

"Unreimbursed Amount" has the meaning specified in Section 2.03(c)(i).

"Unrestricted Subsidiary" means any non-Wholly Owned Subsidiary of the Company, whether now owned or acquired or created after the Closing Date, that is designated on or after the Closing Date by the Company as an Unrestricted Subsidiary hereunder by written notice to the Administrative Agent; provided, that the Company shall only be permitted to so designate a new Unrestricted Subsidiary on or after the Closing Date so long as (a) no Default or Event of Default has occurred and is continuing or would result therefrom, (b) immediately after giving effect to such designation, the Company shall be in Pro Forma Compliance, (c) the aggregate amount of all Investments (including Guarantees of Indebtedness of any such Unrestricted Subsidiary) in Unrestricted Subsidiaries (with each such Unrestricted Subsidiary being valued at its Fair Market Value at the time such Unrestricted Subsidiary was so designated) shall not exceed in the aggregate $250,000,000 during the term of this Agreement (it being understood and agreed that such aggregate limitation for purposes of determining compliance with this clause (c) shall be calculated without giving effect to any return representing a return of capital with respect to such Unrestricted Subsidiary, whether or not repaid in cash prior to such time of determination (including as a result of Subsidiary Redesignation)), (d) such Subsidiary being designated as an "Unrestricted Subsidiary" shall also, concurrently with such designation and thereafter, constitute an "unrestricted Subsidiary" under any Material Indebtedness, (e) such Subsidiary was not previously designated as an Unrestricted Subsidiary and thereafter re-designated as a Restricted Subsidiary, (f) such Subsidiary shall not (i) own, or possess the right to use, any Intellectual Property, or (ii) own any of the material economic rights derived from any Intellectual Property, in each case with respect to clause (i) or (ii), covering the Cystic Fibrosis Drug Franchise Assets and (g) if such designation is on the Closing Date, the designation shall not occur until the conditions set forth in Section 4.02 are satisfied (or waived in accordance with Section 11.01) and the funding of the initial Loans has occurred. The designation of any Restricted Subsidiary as an Unrestricted Subsidiary shall constitute an Investment by the Company (or its Restricted Subsidiaries) therein at the date of designation in an amount equal to the Fair Market Value of the Company's (or its Restricted Subsidiaries') Investments therein. The Company may designate any Unrestricted Subsidiary to be a Restricted Subsidiary for purposes of this Agreement (each, a "Subsidiary Redesignation"); provided, that (i) no Default or Event of Default has occurred and is continuing or would result therefrom (after giving effect to the provisions of the immediately succeeding sentence), (ii) immediately after giving effect to such redesignation, the Company shall be in Pro Forma Compliance, (iii) the Company shall have delivered to the Administrative Agent an officer's certificate executed by a Responsible Officer of the Company, certifying to such officer's knowledge, compliance with the foregoing requirements and (iv) the Company shall cause any such Restricted Subsidiary to comply with the provisions of Section 6.12, to the extent applicable. The designation of any Unrestricted Subsidiary as a Restricted Subsidiary on or after the Closing Date shall constitute the incurrence at the time of designation of any Investment, Indebtedness or Liens of such Subsidiary existing at such time. No Borrower may be designated as an Unrestricted Subsidiary.

"U.S. Loan Party" means any Loan Party that is not a Designated Foreign Borrower.

"U.S. Person" means any Person that is a "United States Person" as defined in Section 7701(a)(30) of the Code.

"U.S. Tax Compliance Certificate" has the meaning specified in Section 3.01(e)(ii)(B)(3).

"Vertex Europe" has the meaning specified in the introductory paragraph hereto.

"Vertex Ireland" has the meaning specified in the introductory paragraph hereto.

"Voting Stock" means, with respect to any Person, Equity Interests issued by such Person the holders of which are ordinarily, in the absence of contingencies, entitled to vote for the election of directors (or persons performing similar functions) of such Person, even though the right to so vote has been suspended by the happening of such contingency.

"Warrant Transactions" means one or more call options referencing the Company's common stock written by Company substantially contemporaneously with the purchase by the Company of Convertible Bond Hedge Transactions and having an initial strike or exercise price (howsoever defined) greater than the strike or exercise price (howsoever defined) of such Convertible Bond Hedge Transactions.

"Wholly Owned Subsidiary" of any Person means a Subsidiary of such person, all of the Equity Interests of which (other than directors' qualifying shares or nominee or other similar shares required pursuant to applicable Law) are owned by such Person or another Wholly Owned Subsidiary of such Person. Unless the context otherwise requires, "Wholly Owned Subsidiary" means a Subsidiary of the Company that is a Wholly Owned Subsidiary of the Company.

"Write-Down and Conversion Powers" means (a) in relation to any Bail-In Legislation described in the EU Bail-In Legislation Schedule from time to time, the powers described as such in relation to that Bail-In Legislation in the EU Bail-In Legislation Schedule; (b) in relation to any other applicable Bail-In Legislation: (i) any powers under that Bail-In Legislation to cancel, transfer or dilute shares issued by a person that is a bank or investment firm or other financial institution or affiliate of a bank, investment firm or other financial institution, to cancel, reduce, modify or change the form of a liability of such a person or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers; and (ii) any similar or analogous powers under that Bail-In Legislation; and (c) in relation to any UK Bail-In Legislation: (i) any powers under that UK Bail-In Legislation to cancel, transfer or dilute shares issued by a person that is a bank or investment firm or other financial institution or affiliate of a bank, investment firm or other financial institution, to cancel, reduce, modify or change the form of a liability of such a person or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that UK Bail-In Legislation that are related to or ancillary to any of those powers; and (ii) any similar or analogous powers under that UK Bail-In Legislation.

1.02 Other Interpretive Provisions**.**

With reference to this Agreement and each other Loan Document, unless otherwise specified herein or in such other Loan Document:

(a) The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." The word "will" shall be construed to have the same meaning and effect as the word "shall." Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument or other document (including the Loan Documents and any Organization Document) shall be construed as referring to such agreement, instrument or other document as from time to time amended, amended and restated, modified, extended, restated, replaced or supplemented from time to time (subject to any restrictions on such amendments, supplements or modifications set forth herein or in any other Loan Document), (ii) any reference herein to any Person shall be construed to include such Person's successors and assigns, (iii) the words "hereto," "herein," "hereof" and "hereunder," and words of similar import when used in any Loan Document, shall be construed to refer to such Loan Document in its entirety and not to any particular provision thereof, (iv) all references in a Loan Document to Articles, Sections, Preliminary Statements, Exhibits and Schedules shall be construed to refer to Articles and Sections of, and Preliminary Statements, Exhibits and Schedules to, the Loan Document in which such references appear, (v) any reference to any law shall include all statutory and regulatory rules, regulations, orders and provisions consolidating, amending, replacing or interpreting such law and any reference to any law, rule or regulation shall, unless otherwise specified, refer to such law, rule or regulation as amended, modified, extended, restated, replaced or supplemented from time to time, and (vi) the words "asset" and "property" shall be construed to have the same meaning and effect and to refer to any and all tangible and intangible assets and properties, including cash, securities, accounts and contract rights. Any and all references to "Borrower" regardless of whether preceded by the term "a", "any", "each of", "all", "and/or", or any other similar term shall be deemed to refer, as the context requires, to each and every (and/or any, one or all) parties constituting a Borrower, individually and/or in the aggregate.

(b) In the computation of periods of time from a specified date to a later specified date, the word "from" means "from and including;" the words "to" and "until" each mean "to but excluding;" and the word "through" means "to and including."

(c) Section headings herein and in the other Loan Documents are included for convenience of reference only and shall not affect the interpretation of this Agreement or any other Loan Document.

(d) Any reference herein to a merger, transfer, consolidation, amalgamation, assignment, sale, disposition or transfer, or similar term, shall be deemed to apply to a division of or by a limited liability company, or an allocation of assets to a series of a limited liability company (or the unwinding of such a division or allocation), as if it were a merger, transfer, consolidation, amalgamation, assignment, sale, disposition or transfer, or similar

term, as applicable, to, of or with a separate Person. Any division of a limited liability company shall constitute a separate Person hereunder (and each division of any limited liability company that is a Subsidiary, joint venture or any other like term shall also constitute such a Person or entity).

1.03 Accounting Terms**.**

(a) Generally. All accounting terms not specifically or completely defined herein shall be construed in conformity with, and all financial data (including financial ratios and other financial calculations) required to be submitted pursuant to this Agreement shall be prepared in conformity with, GAAP applied on a consistent basis, as in effect from time to time, applied in a manner consistent with that used in preparing the Audited Financial Statements, except as otherwise specifically prescribed herein. Notwithstanding the foregoing, for purposes of determining compliance with any covenant (including the computation of any financial covenant) contained herein, Indebtedness of the Company and its Restricted Subsidiaries shall be deemed to be carried at 100% of the outstanding principal amount thereof, and the effects of FASB ASC 825 and FASB ASC 470-20 on financial liabilities shall be disregarded.

(b) Changes in GAAP. If at any time any change in GAAP or application thereof (including the adoption of IFRS) would affect the computation of any financial ratio or requirement set forth in any Loan Document, and either the Company or the Required Lenders shall so request, the Administrative Agent, the Lenders and the Company shall negotiate in good faith, each acting reasonably (and without requirement of any fee), to amend such ratio or requirement to preserve the original intent thereof in light of such change in GAAP or application thereof (subject to the approval of the Required Lenders); provided that, until so amended, (i) such ratio or requirement shall continue to be computed in accordance with GAAP prior to such change therein or the application thereof (without regard to such change or adoption of IFRS) and (ii) the Company shall provide to the Administrative Agent and the Lenders the financial statements and other documents required under this Agreement or as reasonably requested hereunder setting forth a reconciliation between calculations of such ratio or requirement made before and after giving effect to such change in GAAP.

(c) Lease Accounting. Notwithstanding any other provision contained herein, each financial covenant, ratio, accounting definition or requirement used herein shall be construed, and all computations of amounts and ratios referred to herein shall be made, without giving effect to the adoption of Accounting Standards Updated No. 2016-02 ("ASU 2016-02") by the Financial Accounting Standards Board such that "Capitalized Leases" shall specifically exclude liabilities that were considered operating lease liabilities under GAAP prior to the adoption of ASU 2016-02; provided that all financial statements delivered pursuant to this Agreement shall, if applicable and solely to the extent reasonably requested by the Administrative Agent, be accompanied by a schedule showing any adjustments necessary to reconcile such financial statements with GAAP prior to the adoption of ASU 2016-02, with respect to such lease liabilities.

(d) Consolidation of Variable Interest Entities. All references herein to Consolidated financial statements of the Company and its Subsidiaries or to the determination of any amount for the Company and its Subsidiaries on a Consolidated basis or any similar reference shall, in each case, be deemed to exclude each variable interest entity that the Company is required to otherwise consolidate pursuant to FASB ASC 810.

(e) Pro Forma Treatment. Each Disposition of all or substantially all of a line of business, and each Acquisition, by the Company and its Subsidiaries that is consummated during any Measurement Period shall, for purposes of determining compliance with the financial covenants set forth in Section 7.11 and for purposes of determining the Applicable Rate, be given Pro Forma Effect as of the first day of such Measurement Period.

1.04 Rounding**.**

Any financial ratios required to be maintained by the Company pursuant to this Agreement shall be calculated by dividing the appropriate component by the other component, carrying the result to one place more than the number of places by which such ratio is expressed herein and rounding the result up or down to the nearest number (with a rounding-up if there is no nearest number).

1.05 Times of Day**.**

Unless otherwise specified, all references herein to times of day shall be references to Eastern time (daylight or standard, as applicable).

1.06 Letter of Credit Amounts**.**

Unless otherwise specified herein, the amount of a Letter of Credit at any time shall be deemed to be the Dollar Equivalent of the stated amount of such Letter of Credit in effect at such time; provided, however, that with respect to any Letter of Credit that, by its terms or the terms of any Issuer Document related thereto, provides for one or more automatic increases in the stated amount thereof, the amount of such Letter of Credit shall be deemed to be the Dollar Equivalent of the maximum stated amount of such Letter of Credit after giving effect to all such increases, whether or not such maximum stated amount is in effect at such time.

1.07 UCC Terms**.**

Terms defined in the UCC in effect on the Closing Date and not otherwise defined herein shall, unless the context otherwise indicates, have the meanings provided by those definitions. Subject to the foregoing, the term "UCC" refers, as of any date of determination, to the UCC then in effect.

1.08 Exchange Rates; Currency Equivalents**.**

(a) The Administrative Agent or the applicable L/C Issuer, as applicable, shall determine the Spot Rates as of each Revaluation Date to be used for calculating Dollar Equivalent amounts of Credit Extensions and Outstanding Amounts denominated in

Alternative Currencies. Such Spot Rates shall become effective as of such Revaluation Date and shall be the Spot Rates employed in converting any amounts between the applicable currencies until the next Revaluation Date to occur. Except for purposes of financial statements delivered by Loan Parties hereunder or calculating financial covenants hereunder or except as otherwise provided herein, the applicable amount of any currency (other than Dollars) for purposes of the Loan Documents shall be such Dollar Equivalent amount as so determined by the Administrative Agent or the applicable L/C Issuer, as applicable.

(b) Wherever in this Agreement in connection with a Borrowing, conversion, continuation or prepayment of a Eurocurrency Rate Loan or the issuance, amendment or extension of a Letter of Credit, an amount, such as a required minimum or multiple amount, is expressed in Dollars, but such Borrowing, Eurocurrency Rate Loan or Letter of Credit is denominated in an Alternative Currency, such amount shall be the relevant Alternative Currency Equivalent of such Dollar amount (rounded to the nearest unit of such Alternative Currency, with 0.5 of a unit being rounded upward), as determined by the Administrative Agent or the applicable L/C Issuer, as the case may be.

(c) The Administrative Agent does not warrant, nor accept responsibility, nor shall the Administrative Agent have any liability with respect to the administration, submission or any other matter related to the rates in the definition of "Eurocurrency Rate" or with respect to any rate that is an alternative or replacement for or successor to any of such rates (including, without limitation, any LIBOR Successor Rate) or the effect of any of the foregoing, or of any LIBOR Successor Rate Conforming Changes.

(d) Any amount specified in this Agreement (other than in Articles II, IX and X) or any of the other Loan Documents to be in Dollars shall also include the equivalent of such amount in any currency other than Dollars, such equivalent amount thereof in the applicable currency to be determined by the Administrative Agent at such time on the basis of the Spot Rate (as defined below) for the purchase of such currency with Dollars. For purposes of this Section 1.08, the "Spot Rate" for a currency means the rate determined by the Administrative Agent to be the rate quoted by the Person acting in such capacity as the spot rate for the purchase by such Person of such currency with another currency through its principal foreign exchange trading office at approximately 11:00 a.m. on the date two (2) Business Days prior to the date of such determination; provided that the Administrative Agent may obtain such Spot Rate from another financial institution designated by the Administrative Agent if the Person acting in such capacity does not have as of the date of determination a spot buying rate for any such currency.

1.09 Additional Alternative Currencies**.**

(a) The Company may from time to time request that Eurocurrency Rate Loans be made and/or Letters of Credit be issued in a currency other than those specifically listed in the definition of "Alternative Currency"; provided that (i) such requested currency is an Eligible Currency and (ii) such requested currency shall only be treated as a "LIBOR Quoted Currency" to the extent that there is published LIBOR rate for such currency. In the case of any such request with respect to the making of Eurocurrency Rate Loans, such request

shall be subject to the approval of the Administrative Agent and each Lender with a Revolving Commitment under which such currency is requested to be made available; and in the case of any such request with respect to the issuance of Letters of Credit, such request shall be subject to the approval of the Administrative Agent and the applicable L/C Issuer.

(b) Any such request shall be made to the Administrative Agent not later than 11:00 a.m., twenty (20) Business Days prior to the date of the desired Credit Extension (or such other time or date as may be agreed by the Administrative Agent and, in the case of any such request pertaining to Letters of Credit, the L/C Issuers, in its or their sole discretion). In the case of any such request pertaining to Eurocurrency Rate Loans, the Administrative Agent shall promptly notify each Appropriate Lender thereof; and in the case of any such request pertaining to Letters of Credit, the Administrative Agent shall promptly notify the L/C Issuers thereof. Each Appropriate Lender (in the case of any such request pertaining to Eurocurrency Rate Loans) or the L/C Issuers (in the case of a request pertaining to Letters of Credit) shall notify the Administrative Agent, not later than 11:00 a.m., ten (10) Business Days after receipt of such request whether it consents, in its sole discretion, to the making of Eurocurrency Rate Loans or the issuance of Letters of Credit, as the case may be, in such requested currency.

(c) Any failure by a Lender or any L/C Issuer, as the case may be, to respond to such request within the time period specified in the preceding sentence shall be deemed to be a refusal by such Lender or such L/C Issuer, as the case may be, to permit Eurocurrency Rate Loans to be made or Letters of Credit to be issued in such requested currency. If the Administrative Agent and all the Appropriate Lenders consent to making Eurocurrency Rate Loans in such requested currency and the Administrative Agent and such Lenders reasonably determine that an appropriate interest rate is available to be used for such requested currency, the Administrative Agent shall so notify the Company and (i) the Administrative Agent and such Lenders may amend the definition of Eurocurrency Rate for any Non-LIBOR Quoted Currency to the extent necessary to add the applicable Eurocurrency Rate for such currency and (ii) to the extent the definition of Eurocurrency Rate reflects the appropriate interest rate for such currency or has been amended to reflect the appropriate rate for such currency, such currency shall thereupon be deemed for all purposes to be an Alternative Currency for purposes of any Borrowings of Eurocurrency Rate Loans. If the Administrative Agent and the L/C Issuers consent to the issuance of Letters of Credit in such requested currency, the Administrative Agent shall so notify the Company and (iii) the Administrative Agent and the L/C Issuers may amend the definition of Eurocurrency Rate for any Non-LIBOR Quoted Currency to the extent necessary to add the applicable Eurocurrency Rate for such currency and (iv) to the extent the definition of Eurocurrency Rate reflects the appropriate interest rate for such currency or has been amended to reflect the appropriate rate for such currency, such currency shall thereupon be deemed for all purposes to be an Alternative Currency, for purposes of any Letter of Credit issuances. If the Administrative Agent shall fail to obtain consent to any request for an additional currency under this Section 1.09, the Administrative Agent shall promptly so notify the Company. Any specified currency of an Existing Letter of Credit that is neither Dollars nor one of the Alternative Currencies specifically listed in

the definition of "Alternative Currency" shall be deemed an Alternative Currency with respect to such Existing Letter of Credit only.

1.10 Change of Currency**.**

(a) Each obligation of the Borrowers to make a payment denominated in the national currency unit of any member state of the European Union that adopts the Euro as its lawful currency after the date hereof shall be redenominated into Euro at the time of such adoption. If, in relation to the currency of any such member state, the basis of accrual of interest expressed in this Agreement in respect of that currency shall be inconsistent with any convention or practice in the London interbank market for the basis of accrual of interest in respect of the Euro, such expressed basis shall be replaced by such convention or practice with effect from the date on which such member state adopts the Euro as its lawful currency; provided that, if any Borrowing in the currency of such member state is outstanding immediately prior to such date, such replacement shall take effect, with respect to such Borrowing, at the end of the then current Interest Period.

(b) Each provision of this Agreement shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect the adoption of the Euro by any member state of the European Union and any relevant market conventions or practices relating to the Euro.

(c) Each provision of this Agreement also shall be subject to such reasonable changes of construction as the Administrative Agent may from time to time specify to be appropriate to reflect a change in currency of any other country and any relevant market conventions or practices relating to the change in currency.

ARTICLE II
COMMITMENTS AND CREDIT EXTENSIONS

2.01 Revolving Loans**.** Subject to the terms and conditions set forth herein, each Revolving Lender severally agrees to make loans (each such loan, a "Revolving Loan") to the Borrowers, in Dollars or in one or more Alternative Currencies, from time to time, on any Business Day during the Availability Period, in an aggregate amount not to exceed at any time outstanding the amount of such Lender's Revolving Commitment; provided, however, that after giving effect to any Revolving Borrowing, (a) the Total Revolving Outstandings shall not exceed the Aggregate Revolving Commitments, (b) the Revolving Exposure of any Lender shall not exceed such Revolving Lender's Revolving Commitment, (c) the Revolving Exposure of any Lender under any Class of Revolving Commitments shall not exceed such Lender's Revolving Commitment of such Class, and (d) the aggregate Outstanding Amount of all Loans denominated in Alternative Currencies shall not exceed the Alternative Currency Sublimit. Within the limits of each Revolving Lender's Revolving Commitment, and subject to the other terms and conditions hereof, the Borrowers may borrow Revolving Loans, prepay under Section 2.05, and reborrow under this Section 2.01. Revolving Loans may be Base Rate Loans or Eurocurrency Rate Loans, as further provided herein; provided, however, any Revolving Borrowings made on the Closing Date or any of

the three (3) Business Days (or such longer applicable period, in accordance with Section 2.02(a), for Revolving Borrowings denominated in Alternative Currencies other than Euro or Sterling) following the Closing Date shall be made as Base Rate Loans unless the Company delivers a Funding Indemnity Letter not less than three (3) Business Days (or such longer applicable period, in accordance with Section 2.02(a), for Revolving Borrowings denominated in Alternative Currencies other than Euro or Sterling) prior to the date of such Revolving Borrowing.

2.02 Borrowings, Conversions and Continuations of Loans**.**

(a) Notice of Borrowing. Each Borrowing, each conversion of Loans from one Type to the other, and each continuation of Eurocurrency Rate Loans shall be made upon the applicable Borrower's irrevocable notice to the Administrative Agent, which may be given by: (i) telephone or (ii) a Loan Notice; provided that any telephonic notice must be confirmed immediately by delivery to the Administrative Agent of a Loan Notice. Each such Loan Notice must be received by the Administrative Agent not later than 11:00 a.m. (A) three (3) Business Days prior to the requested date of any Borrowing of, conversion to or continuation of Eurocurrency Rate Loans denominated in Dollars, Euro or Sterling, or of any conversion of Eurocurrency Rate Loans denominated in Dollars to Base Rate Loans, (B) four (4) Business Days (or five (5) Business Days in the case of a Special Notice Currency) prior to the requested date of any Borrowing or continuation of Eurocurrency Rate Loans denominated in other Alternative Currencies, and (C) on the requested date of any Borrowing of Base Rate Loans; provided, however, that if the applicable Borrower wishes to request Eurocurrency Rate Loans having an Interest Period other than one (1), two (2), three (3) or six (6) months in duration as provided in the definition of "Interest Period", the applicable notice must be received by the Administrative Agent not later than 11:00 a.m. (x) four (4) Business Days prior to the requested date of such Borrowing, conversion or continuation of Eurocurrency Rate Loans denominated in Dollars, Euro or Sterling, or (y) five (5) Business Days (or six (6) Business Days in the case of a Special Notice Currency) prior to the requested date of such Borrowing, conversion or continuation of Eurocurrency Rate Loans denominated in other Alternative Currencies, whereupon the Administrative Agent shall give prompt notice to the Appropriate Lenders of such request and determine whether the requested Interest Period is acceptable to all of them. Not later than 11:00 a.m., (1) three (3) Business Days before the requested date of such Borrowing, conversion or continuation of Eurocurrency Rate Loans denominated in Dollars, Euro or Sterling, or (2) four (4) Business Days (or five (5) Business Days in the case of a Special Notice Currency) prior to the requested date of such Borrowing, conversion or continuation of Eurocurrency Rate Loans denominated in other Alternative Currencies, the Administrative Agent shall notify the applicable Borrower (which notice may be by telephone) whether or not the requested Interest Period has been consented to by all the Lenders. Each Borrowing of, conversion to or continuation of Eurocurrency Rate Loans shall be in a principal amount of $5,000,000 or a whole multiple of $1,000,000 in excess thereof. Except as provided in Sections 2.03(c) and 2.04(c), each Borrowing of or conversion to Base Rate Loans shall be in a principal amount of $500,000 or a whole multiple of $100,000 in excess thereof. Each Loan Notice and each telephonic notice shall specify

(I) whether the applicable Borrower is requesting a Borrowing, a conversion of Loans from one Type to the other, or a continuation of Loans, as the case may be, (II) the requested date of the Borrowing, conversion or continuation, as the case may be (which shall be a Business Day), (III) the principal amount of Loans to be borrowed, converted or continued, (IV) the Type of Loans to be borrowed or to which existing Loans are to be converted, (V) if applicable, the duration of the Interest Period with respect thereto, (VI) the currency of the Loans to be borrowed and (VII) the relevant Borrower requesting such Borrowing. If the applicable Borrower fails to specify a currency in a Loan Notice requesting a Borrowing, then the Loans so requested shall be made in Dollars. If the applicable Borrower fails to specify a Type of Loan in a Loan Notice or if the applicable Borrower fails to give a timely notice requesting a conversion or continuation, then the applicable Loans shall be made as, or converted to, Base Rate Loans; provided, however, that in the case of a failure to timely request a continuation of Loans denominated in an Alternative Currency, such Loans shall be continued as Eurocurrency Rate Loans in their original currency with an Interest Period of one (1) month. Any such automatic conversion to Base Rate Loans shall be effective as of the last day of the Interest Period then in effect with respect to the applicable Eurocurrency Rate Loans. If the applicable Borrower requests a Borrowing of, conversion to, or continuation of Eurocurrency Rate Loans in any such Loan Notice, but fails to specify an Interest Period, it will be deemed to have specified an Interest Period of one (1) month. Notwithstanding anything to the contrary herein, each Swingline Loan shall be made as a Base Rate Loan and may not be converted to a Eurocurrency Rate Loan. Except as provided pursuant to Section 2.12(a), no Loan may be converted into or continued as a Loan denominated in a different currency, but instead must be repaid in the original currency of such Loan and reborrowed in the other currency.

(b) Advances. Following receipt of a Loan Notice, the Administrative Agent shall promptly notify each Appropriate Lender of the amount (and currency) of its Applicable Percentage of the applicable Loans, and if no timely notice of a conversion or continuation is provided by the applicable Borrower, the Administrative Agent shall notify each Appropriate Lender of the details of any automatic conversion to Base Rate Loans or continuation of Loans denominated in a currency other than Dollars, in each case as described in Section 2.02(a). In the case of a Borrowing, each Appropriate Lender shall make the amount of its Loan available to the Administrative Agent in Same Day Funds at the Administrative Agent's Office for the applicable currency not later than 1:00 p.m., in the case of any Loan denominated in Dollars, and not later than the Applicable Time specified by the Administrative Agent in the case of any Loan in an Alternative Currency, in each case on the Business Day specified in the applicable Loan Notice. Upon satisfaction of the applicable conditions set forth in Section 4.02 (and, if such Borrowing is the initial Credit Extension, Section 4.01, or, if applicable, Section 2.19), the Administrative Agent shall make all funds so received available to the applicable Borrower in like funds as received by the Administrative Agent either by (i) crediting the account of the applicable Borrower on the books of Bank of America with the amount of such funds or (ii) wire transfer of such funds, in each case in accordance with instructions provided to (and reasonably acceptable to) the Administrative Agent by the applicable Borrower; provided, however, that if, on the date a Loan Notice with respect to a Revolving Borrowing is given by the applicable Borrower,

there are L/C Borrowings outstanding, then the proceeds of such Revolving Borrowing, first, shall be applied to the payment in full of any such L/C Borrowings, and second, shall be made available to the applicable Borrower as provided above; provided further, however, that no Revolving Borrowing by a Designated Foreign Borrower shall be used to pay any L/C Borrowings of or attributable to any U.S. Loan Party (or any other Domestic Subsidiary).

(c) Eurocurrency Rate Loans. Except as otherwise provided herein, a Eurocurrency Rate Loan may be continued or converted only on the last day of an Interest Period for such Eurocurrency Rate Loan. During the existence of an Event of Default, no Loans may be requested as, converted to or continued as Eurocurrency Rate Loans without the consent of the Required Lenders, and the Required Lenders may demand that any or all of the outstanding Eurocurrency Rate Loans denominated in Dollars be converted immediately to Base Rate Loans and any or all of the then outstanding Eurocurrency Rate Loans denominated in an Alternative Currency be prepaid, or redenominated into Dollars in the amount of the Dollar Equivalent thereof, on the last day of the then current Interest Period with respect thereto.

(d) Interest Rates. Each determination of an interest rate by the Administrative Agent pursuant to any provision of this Agreement shall be conclusive and binding on the Borrowers and the Lenders in the absence of manifest error.

(e) Interest Periods. After giving effect to all Revolving Borrowings, all conversions of Revolving Loans from one Type to the other, and all continuations of Revolving Loans as the same Type, there shall not be more than ten (10) Interest Periods in effect in respect of the Revolving Facility.

(f) Cashless Settlement Mechanism. Notwithstanding anything to the contrary in this Agreement, any Lender may exchange, continue or rollover all or a portion of its Loans in connection with any refinancing, extension, incremental increase, loan modification or similar transaction permitted by the terms of this Agreement, pursuant to a cashless settlement mechanism approved by the Company, the Administrative Agent and such Lender.

2.03 Letters of Credit**.**

(a) The Letter of Credit Commitment.

(i) Subject to the terms and conditions set forth herein, (A) each L/C Issuer agrees, in reliance upon the agreements of the Revolving Lenders set forth in this Section 2.03, (1) from time to time on any Business Day during the period from the Closing Date until the applicable Letter of Credit Expiration Date, to issue Letters of Credit denominated in Dollars or in one or more Alternative Currencies for the account of any Borrower or any of its Restricted Subsidiaries, and to amend or extend Letters of Credit previously issued by it, in accordance with Section 2.03(b) and (2) to honor drawings under the Letters of Credit; and (B) the Revolving Lenders severally agree to participate in Letters of Credit issued for the account of any

Borrower or its Restricted Subsidiaries and any drawings thereunder; provided that after giving effect to any L/C Credit Extension with respect to any Letter of Credit, (x) the Total Revolving Outstandings shall not exceed the Aggregate Revolving Commitments, (y) the Revolving Exposure of any Revolving Lender shall not exceed such Lender's Revolving Commitment and (z) the Outstanding Amount of the L/C Obligations shall not exceed the Letter of Credit Sublimit; and provided further that no Letter of Credit denominated in any Alternative Currency may be issued by any L/C Issuer other than Bank of America, through itself or through one of its designated Affiliates or branch offices, in its capacity as such. Each request by a Borrower for the issuance or amendment of a Letter of Credit shall be deemed to be a representation by such Borrower that the L/C Credit Extension so requested complies with the conditions set forth in the proviso to the preceding sentence. Within the foregoing limits, and subject to the terms and conditions hereof, the Borrowers' ability to obtain Letters of Credit shall be fully revolving, and accordingly the Borrowers may, during the foregoing period, obtain Letters of Credit to replace Letters of Credit that have expired or that have been drawn upon and reimbursed in accordance with the terms hereof. All Existing Letters of Credit shall be deemed to have been issued pursuant hereto and deemed L/C Obligations, and from and after the Closing Date shall be subject to and governed by the terms and conditions hereof.

(ii) No L/C Issuer shall issue any Letter of Credit if:

(A) subject to Section 2.03(b)(iv), the expiry date of the requested Letter of Credit would occur more than twelve (12) months after the date of issuance or last extension, unless the Administrative Agent and such L/C Issuer have approved such expiry date; or

(B) the expiry date of such requested Letter of Credit would occur after the Letter of Credit Expiration Date, unless the Administrative Agent and such L/C Issuer have approved such expiry date (it being understood that in the event the expiry date of any requested Letter of Credit would occur after the Letter of Credit Expiration Date, from and after the Letter of Credit Expiration Date, the Borrowers shall immediately Cash Collateralize the then Outstanding Amount of all L/C Obligations in respect of such Letters of Credit in accordance with Section 2.14);

(iii) No L/C Issuer shall be under any obligation to issue any Letter of Credit if:

(A) any order, judgment or decree of any Governmental Authority or arbitrator shall by its terms purport to enjoin or restrain such L/C Issuer from issuing the Letter of Credit, or any Law applicable to such L/C Issuer or any request or directive (whether or not having the force of Law) from any Governmental Authority with jurisdiction over such L/C Issuer shall prohibit, or request that such L/C Issuer refrain from, the issuance of letters of credit generally or the Letter of Credit in particular or shall impose upon

such L/C Issuer with respect to the Letter of Credit any restriction, reserve or capital requirement (for which such L/C Issuer is not otherwise compensated hereunder) not in effect on the Closing Date, or shall impose upon such L/C Issuer any unreimbursed loss, cost or expense which was not applicable on the Closing Date and which such L/C Issuer in good faith deems material to it;

(B) the issuance of the Letter of Credit would violate one or more policies of such L/C Issuer applicable to letters of credit generally;

(C) except as otherwise agreed by the Administrative Agent and such L/C Issuer, the Letter of Credit is in an initial stated amount less than $50,000;

(D) except as otherwise agreed by the Administrative Agent and such L/C Issuer, the Letter of Credit is to be denominated in a currency other than Dollars or an Alternative Currency;

(E) any Revolving Lender is at that time a Defaulting Lender, unless such L/C Issuer has entered into arrangements, including the delivery of Cash Collateral, satisfactory to such L/C Issuer (in its sole discretion) with the applicable Borrowers or such Revolving Lender to eliminate such L/C Issuer's actual or potential Fronting Exposure (after giving effect to Section 2.15(a)(iv)) with respect to the Defaulting Lender arising from either the Letter of Credit then proposed to be issued or that Letter of Credit and all other L/C Obligations as to which such L/C Issuer has actual or potential Fronting Exposure, as it may elect in its sole discretion;

(F) the Letter of Credit contains any provisions for automatic reinstatement of the stated amount after any drawing thereunder;

(G) such L/C Issuer does not as of the issuance date of the requested Letter of Credit issue Letters of Credit in the requested currency; or

(H) the requested Letter of Credit is to be issued for the benefit of an Irish beneficiary.

(iv) No L/C Issuer shall amend any Letter of Credit if such L/C Issuer would not be permitted at such time to issue the Letter of Credit in its amended form under the terms hereof.

(v) No L/C Issuer shall be under any obligation to amend any Letter of Credit if (A) such L/C Issuer would have no obligation at such time to issue such Letter of Credit in its amended form under the terms hereof, or (B) the beneficiary

of such Letter of Credit does not accept the proposed amendment to the Letter of Credit.

(vi) Each L/C Issuer shall act on behalf of the Revolving Lenders with respect to any Letters of Credit issued by it and the documents associated therewith, and such L/C Issuer shall have all of the benefits and immunities (A) provided to the Administrative Agent in Article IX with respect to any acts taken or omissions suffered by such L/C Issuer in connection with Letters of Credit issued by it or proposed to be issued by it and Issuer Documents pertaining to such Letters of Credit as fully as if the term "Administrative Agent" as used in Article IX included such L/C Issuer with respect to such acts or omissions, and (B) as additionally provided herein with respect to the L/C Issuers.

(b) Procedures for Issuance and Amendment of Letters of Credit; Auto-Extension Letters of Credit.

(i) Each Letter of Credit shall be issued or amended, as the case may be, upon the request of a Borrower delivered to the applicable L/C Issuer (with a copy to the Administrative Agent) in the form of a Letter of Credit Application, appropriately completed and signed by a Responsible Officer of such Borrower and/or its Restricted Subsidiary, as required by such L/C Issuer. Such Letter of Credit Application may be sent by facsimile, by mail, by overnight courier, by electronic transmission using the system provided by the applicable L/C Issuer, by personal delivery or by any other means reasonably acceptable to such L/C Issuer. Such Letter of Credit Application must be received by the applicable L/C Issuer and the Administrative Agent not later than 11:00 a.m. at least five (5) Business Days (or such later date and time as the Administrative Agent and such L/C Issuer may agree in a particular instance in their sole discretion) prior to the proposed issuance date or date of amendment, as the case may be. In the case of a request for an initial issuance of a Letter of Credit, such Letter of Credit Application shall specify in form and detail satisfactory to the applicable L/C Issuer: (A) the proposed issuance date of the requested Letter of Credit (which shall be a Business Day); (B) the amount and currency thereof and in the absence of specification of currency shall be deemed a request for a Letter of Credit denominated in Dollars; (C) the expiry date thereof; (D) the name and address of the beneficiary thereof; (E) the documents to be presented by such beneficiary in case of any drawing thereunder; (F) the full text of any certificate to be presented by such beneficiary in case of any drawing thereunder; (G) the purpose and nature of the requested Letter of Credit; and (H) such other matters as such L/C Issuer may reasonably require. In the case of a request for an amendment of any outstanding Letter of Credit, such Letter of Credit Application shall specify in form and detail reasonably satisfactory to the applicable L/C Issuer: (1) the Letter of Credit to be amended; (2) the proposed date of amendment thereof (which shall be a Business Day); (3) the nature of the proposed amendment; and (4) such other matters as such L/C Issuer may require. Additionally, the Borrowers shall furnish to the applicable L/C Issuer and the Administrative Agent such other

documents and information pertaining to such requested Letter of Credit issuance or amendment, including any Issuer Documents, as such L/C Issuer or the Administrative Agent may require.

(ii) Promptly after receipt of any Letter of Credit Application, the applicable L/C Issuer will confirm with the Administrative Agent (by telephone or in writing) that the Administrative Agent has received a copy of such Letter of Credit Application from the applicable Borrower and, if not, such L/C Issuer will provide the Administrative Agent with a copy thereof. Unless the applicable L/C Issuer has received written notice from any Revolving Lender, the Administrative Agent or any Loan Party, at least one (1) Business Day prior to the requested date of issuance or amendment of the applicable Letter of Credit, that one or more applicable conditions contained in Article IV shall not then be satisfied, then, subject to the terms and conditions hereof, such L/C Issuer shall, on the requested date, issue a Letter of Credit for the account of the applicable Borrower (or its applicable Restricted Subsidiary) or enter into the applicable amendment, as the case may be, in each case in accordance with such L/C Issuer's usual and customary business practices. Immediately upon the issuance of each Letter of Credit, each Revolving Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the applicable L/C Issuer a risk participation in such Letter of Credit in an amount equal to the product of such Revolving Lender's Applicable Revolving Percentage (determined without regard to any Class or Classes of Revolving Commitments of such Lender) times the amount of such Letter of Credit.

(iii) Promptly after its delivery of any Letter of Credit or any amendment to a Letter of Credit to an advising bank with respect thereto or to the beneficiary thereof, the applicable L/C Issuer will also deliver to the Company and the Administrative Agent a true and complete copy of such Letter of Credit or amendment.

(iv) If the applicable Borrower so requests in any applicable Letter of Credit Application (or the amendment of an outstanding Letter of Credit), the applicable L/C Issuer may, in its sole discretion, agree to issue a standby Letter of Credit that has automatic extension provisions (each, an "Auto-Extension Letter of Credit"); provided that any such Auto-Extension Letter of Credit must permit such L/C Issuer to prevent any such extension at least once in each twelve (12) month period (commencing with the date of issuance of such Letter of Credit) by giving prior notice to the beneficiary thereof not later than a day (the "Non-Extension Notice Date") in each such twelve (12) month period to be agreed upon at the time such Letter of Credit is issued. Unless otherwise directed by the applicable L/C Issuer, the applicable Borrower shall not be required to make a specific request to such L/C Issuer for any such extension. Once an Auto-Extension Letter of Credit has been issued, the Revolving Lenders shall be deemed to have authorized (but may not require) the applicable L/C Issuer to permit the extension of such Letter of Credit at any time to an expiry date not later than the Letter of Credit Expiration Date; provided

that, a Letter of Credit may, upon the request of the applicable Borrower, be renewed for a period beyond the Letter of Credit Expiration Date subject to the provisions of Section 2.03(a)(ii)(B); provided, however, that such L/C Issuer shall not permit any such extension if (A) such L/C Issuer has determined that it would not be permitted, or would have no obligation at such time to issue such Letter of Credit in its revised form (as extended) under the terms hereof (by reason of the provisions of clause (ii) or (iii) of Section 2.03(a) or otherwise), or (B) it has received notice (which may be by telephone or in writing) on or before the day that is seven (7) Business Days before the Non-Extension Notice Date (1) from the Administrative Agent that the Required Lenders have elected not to permit such extension or (2) from the Administrative Agent, any Revolving Lender or any Borrower that one or more of the applicable conditions specified in Section 4.02 is not then satisfied, and in each such case directing such L/C Issuer not to permit such extension.

(c) Drawings and Reimbursements; Funding of Participations.

(i) Upon receipt from the beneficiary of any Letter of Credit of any notice of a drawing under such Letter of Credit, the applicable L/C Issuer shall notify the applicable Borrower and the Administrative Agent thereof; provided that any failure to give or delay in giving such notice shall not relieve the applicable Borrower of its obligation to reimburse such L/C Issuer and the Lenders with respect to any drawing under any Letter of Credit. The applicable Borrower shall reimburse the applicable L/C Issuer for all drawings under any Letter of Credit in Dollars, unless, in the case of a Letter of Credit denominated in an Alternative Currency, (A) such L/C Issuer (at its option) shall have specified in such notice that it will require reimbursement in such Alternative Currency, or (B) in the absence of any such requirement for reimbursement in such Alternative Currency, the applicable Borrower shall have notified such L/C Issuer promptly following receipt of the notice of drawing that such Borrower will reimburse such L/C Issuer in such Alternative Currency. In the case of any such reimbursement in Dollars of a drawing under a Letter of Credit denominated in an Alternative Currency, the applicable L/C Issuer shall notify the applicable Borrower of the Dollar Equivalent of the amount of the drawing promptly following the determination thereof. If such Borrower shall have received such notice from the applicable L/C Issuer on or prior to 11:00 a.m. on the date of payment by the applicable L/C Issuer under a Letter of Credit to be reimbursed in Dollars, not later than 4:00 p.m. on such date of payment by the applicable L/C Issuer, or, if such Borrower shall have received such notice later than 11:00 a.m. on the date of payment by the applicable L/C Issuer under a Letter of Credit to be reimbursed in Dollars, not later than 11:00 a.m. on the immediately following Business Day, or the Applicable Time on the date of any payment by such L/C Issuer under a Letter of Credit to be reimbursed in an Alternative Currency (each such date, an "Honor Date"), the applicable Borrower shall reimburse such L/C Issuer through the Administrative Agent in an amount equal to the amount of such drawing and in the applicable currency. In the event that (A) a drawing denominated in an Alternative Currency is to be reimbursed in Dollars and (B) the Dollar amount paid

by the applicable Borrower, whether on or after the Honor Date, shall not be adequate on the date of that payment to purchase in accordance with normal banking procedures a sum denominated in the Alternative Currency equal to the drawing, such Borrower agrees, as a separate and independent obligation, to indemnify the applicable L/C Issuer for the loss resulting from its inability on that date to purchase the Alternative Currency in the full amount of the drawing. If such Borrower fails to so reimburse such L/C Issuer by such time, the Administrative Agent shall promptly notify each Revolving Lender of the Honor Date, the amount of the unreimbursed drawing (expressed in Dollars in an amount equal to the Dollar Equivalent thereof in the case of a Letter of Credit denominated in an Alternative Currency) (the "Unreimbursed Amount"), and the amount of such Revolving Lender's Applicable Revolving Percentage thereof. In such event, the Borrowers shall be deemed to have requested a Revolving Borrowing of Base Rate Loans to be disbursed on the Honor Date in an amount equal to the Unreimbursed Amount, without regard to the minimum and multiples specified in Section 2.02 for the principal amount of Base Rate Loans, but subject to the amount of the unutilized portion of the Revolving Commitments and the conditions set forth in Section 4.02 (other than the delivery of a Loan Notice). Any notice given by any L/C Issuer or the Administrative Agent pursuant to this Section 2.03(c)(i) may be given by telephone if immediately confirmed in writing; provided that the lack of such an immediate confirmation shall not affect the conclusiveness or binding effect of such notice.

(ii) Each Revolving Lender shall upon any notice pursuant to Section 2.03(c)(i) make funds available (and the Administrative Agent may apply Cash Collateral provided for this purpose) for the account of the applicable L/C Issuer, in Dollars, at the Administrative Agent's Office in an amount equal to its Applicable Revolving Percentage (determined without regard to any separate Class or Classes of Revolving Commitments of such Lender) of the Unreimbursed Amount not later than 1:00 p.m. on the Business Day specified in such notice by the Administrative Agent, whereupon, subject to the provisions of Section 2.03(c)(iii), each Revolving Lender that so makes funds available shall be deemed to have made a Base Rate Loan to the Company in such amount. The Administrative Agent shall remit the funds so received to the applicable L/C Issuer in Dollars.

(iii) With respect to any Unreimbursed Amount that is not fully refinanced by a Revolving Borrowing of Base Rate Loans because the conditions set forth in Section 4.02 cannot be satisfied or for any other reason, the applicable Borrower shall be deemed to have incurred from the applicable L/C Issuer an L/C Borrowing in the amount of the Unreimbursed Amount that is not so refinanced, which L/C Borrowing shall be due and payable on demand (together with interest) and shall bear interest at the Default Rate. In such event, each Revolving Lender's payment to the Administrative Agent for the account of the applicable L/C Issuer pursuant to Section 2.03(c)(ii) shall be deemed payment in respect of its participation in such

L/C Borrowing and shall constitute an L/C Advance from such Lender in satisfaction of its participation obligation under this Section 2.03.

(iv) Until each Revolving Lender funds its Revolving Loan or L/C Advance pursuant to this Section 2.03(c) to reimburse the applicable L/C Issuer for any amount drawn under any Letter of Credit, interest in respect of such Lender's Applicable Revolving Percentage of such amount shall be solely for the account of the applicable L/C Issuer.

(v) Each Revolving Lender's obligation to make Revolving Loans or L/C Advances to reimburse each L/C Issuer for amounts drawn under Letters of Credit, as contemplated by this Section 2.03(c), shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any setoff, counterclaim, recoupment, defense or other right which such Lender may have against any L/C Issuer, any Borrower, any Subsidiary or any other Person for any reason whatsoever; (B) the occurrence or continuance of a Default; (C) any existing Class of Revolving Commitments or (D) any other occurrence, event or condition, whether or not similar to any of the foregoing; provided, however, that each Revolving Lender's obligation to make Revolving Loans pursuant to this Section 2.03(c) is subject to the conditions set forth in Section 4.02 (other than delivery by the Company of a Loan Notice). No such making of an L/C Advance shall relieve or otherwise impair the obligation of the applicable Borrower to reimburse the applicable L/C Issuer for the amount of any payment made by such L/C Issuer under any Letter of Credit, together with interest as provided herein.

(vi) If any Revolving Lender fails to make available to the Administrative Agent for the account of the applicable L/C Issuer any amount required to be paid by such Lender pursuant to the foregoing provisions of this Section 2.03(c) by the time specified in Section 2.03(c)(ii), then, without limiting the other provisions of this Agreement, such L/C Issuer shall be entitled to recover from such Lender (acting through the Administrative Agent), on demand, such amount with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to such L/C Issuer at a rate per annum equal to the applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by such L/C Issuer in connection with the foregoing. If such Lender pays such amount (with interest and fees as aforesaid), the amount so paid shall constitute such Lender's Revolving Loan included in the relevant Revolving Borrowing or L/C Advance in respect of the relevant L/C Borrowing, as the case may be. A certificate of any L/C Issuer submitted to any Revolving Lender (through the Administrative Agent) with respect to any amounts owing under this Section 2.03(c)(vi) shall be conclusive absent manifest error.

(d) Repayment of Participations.

(i) At any time after any L/C Issuer has made a payment under any Letter of Credit and has received from any Revolving Lender such Lender's L/C Advance in respect of such payment in accordance with Section 2.03(c), if the Administrative Agent receives for the account of such L/C Issuer any payment in respect of the related Unreimbursed Amount or interest thereon (whether directly from the applicable Borrower or otherwise, including proceeds of Cash Collateral applied thereto by the Administrative Agent), the Administrative Agent will distribute to such Lender its Applicable Revolving Percentage thereof in Dollars and in the same funds as those received by the Administrative Agent.

(ii) If any payment received by the Administrative Agent for the account of the applicable L/C Issuer pursuant to Section 2.03(c)(i) is required to be returned under any of the circumstances described in Section 11.05 (including pursuant to any settlement entered into by such L/C Issuer in its discretion), each Revolving Lender shall pay to the Administrative Agent for the account of the applicable L/C Issuer its Applicable Revolving Percentage thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned by such Lender, at a rate per annum equal to the applicable Overnight Rate from time to time in effect. The obligations of the Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) Obligations Absolute. The obligation of each applicable Borrower to reimburse each L/C Issuer for each drawing under each Letter of Credit and to repay each L/C Borrowing shall be absolute, unconditional and irrevocable, and shall be paid strictly in accordance with the terms of this Agreement under all circumstances, including the following:

(i) any lack of validity or enforceability of such Letter of Credit, this Agreement, or any other Loan Document;

(ii) the existence of any claim, counterclaim, setoff, defense or other right that any Borrower or any Subsidiary may have at any time against any beneficiary or any transferee of such Letter of Credit (or any Person for whom any such beneficiary or any such transferee may be acting), any L/C Issuer or any other Person, whether in connection with this Agreement or by such Letter of Credit, the transactions contemplated hereby or any agreement or instrument relating thereto, or any unrelated transaction;

(iii) any draft, demand, endorsement, certificate or other document presented under or in connection with such Letter of Credit proving to be forged, fraudulent, invalid or insufficient in any respect or any statement therein being untrue or inaccurate in any respect; or any loss or delay in the transmission or otherwise of any document required in order to make a drawing under such Letter of Credit;

(iv) waiver by any L/C Issuer of any requirement that exists for such L/C Issuer's protection and not the protection of any Borrower or any waiver by such L/C Issuer which does not in fact materially prejudice the Borrowers;

(v) honor of a demand for payment presented electronically even if such Letter of Credit requires that demand be in the form of a draft;

(vi) any payment made by any L/C Issuer in respect of an otherwise complying item presented after the date specified as the expiration date of, or the date by which documents must be received under, such Letter of Credit if presentation after such date is authorized by the UCC, the ISP or the UCP, as applicable;

(vii) any payment by any L/C Issuer under such Letter of Credit against presentation of a draft or certificate that does not strictly comply with the terms of such Letter of Credit; or any payment made by such L/C Issuer under such Letter of Credit to any Person purporting to be a trustee in bankruptcy, debtor-in-possession, assignee for the benefit of creditors, liquidator, receiver or other representative of or successor to any beneficiary or any transferee of such Letter of Credit, including any arising in connection with any proceeding under any Debtor Relief Law;

(viii) any other circumstance or happening whatsoever, whether or not similar to any of the foregoing, including any other circumstance that might otherwise constitute a defense available to, or a discharge of, any Borrower or any of its Subsidiaries; or

(ix) any adverse change in the relevant exchange rates or in the availability of the relevant Alternative Currency to any Borrower or any Subsidiary or in the relevant currency markets generally;

provided that the foregoing shall not excuse any L/C Issuer from liability to the Borrowers to the extent provided in the second proviso to Section 2.03(f).

The applicable Borrower shall promptly examine a copy of each Letter of Credit and each amendment thereto that is delivered to it and, in the event of any claim of noncompliance with any of such Borrower's instructions or other irregularity, such Borrower will immediately notify the applicable L/C Issuer. The Borrowers shall be conclusively deemed to have waived any such claim against the applicable L/C Issuer and its correspondents unless such notice is given as aforesaid.

(f) Role of L/C Issuers. Each Lender and each Borrower agree that, in paying any drawing under a Letter of Credit, the applicable L/C Issuer shall not have any responsibility to obtain any document (other than any sight or time draft, certificates and documents expressly required by the Letter of Credit) or to ascertain or inquire as to the validity or accuracy of any such document or the authority of the Person executing or delivering any such document. None of the L/C Issuers, the Administrative Agent, any of their respective Related Parties nor any correspondent, participant or assignee of any L/C Issuer shall be liable to any Lender for (i) any action taken or omitted in connection herewith

at the request or with the approval of the Lenders or the Required Lenders, as applicable; (ii) any action taken or omitted in the absence of gross negligence, willful misconduct or bad faith; or (iii) the due execution, effectiveness, validity or enforceability of any document or instrument related to any Letter of Credit or Issuer Document. The Borrowers hereby assume all risks of the acts or omissions of any beneficiary or transferee with respect to its use of any Letter of Credit; provided, however, that this assumption is not intended to, and shall not, preclude the Borrowers' pursuing such rights and remedies as it may have against the beneficiary or transferee at law or under any other agreement. None of the L/C Issuers, the Administrative Agent, any of their respective Related Parties nor any correspondent, participant or assignee of any L/C Issuer shall be liable or responsible for any of the matters described in Section 2.03(e); provided, however, that anything in such clauses to the contrary notwithstanding, the Borrowers may have a claim against any L/C Issuer, and such L/C Issuer may be liable to the Borrowers, to the extent, but only to the extent, of any direct, as opposed to consequential, special, indirect, punitive or exemplary, damages suffered by the Borrowers which the Borrowers prove, as determined by a final nonappealable judgment of a court of competent jurisdiction, were caused by such L/C Issuer's gross negligence, willful misconduct or bad faith or such L/C Issuer's willful failure to pay under any Letter of Credit after the presentation to it by the beneficiary of a sight or time draft and certificate(s) strictly complying with the terms and conditions of a Letter of Credit. In furtherance and not in limitation of the foregoing, any L/C Issuer may accept documents that appear on their face to be in order, without responsibility for further investigation, regardless of any notice or information to the contrary, and no L/C Issuer shall be responsible for the validity or sufficiency of any instrument transferring, endorsing or assigning or purporting to transfer, endorse or assign a Letter of Credit or the rights or benefits thereunder or proceeds thereof, in whole or in part, which may prove to be invalid or ineffective for any reason. Any L/C Issuer may send a Letter of Credit or conduct any communication to or from the beneficiary via the Society for Worldwide Interbank Financial Telecommunication ("SWIFT") message or overnight courier, or any other commercially reasonable means of communicating with a beneficiary.

(g) Applicability of ISP and UCP; Limitation of Liability. Unless otherwise expressly agreed by the applicable L/C Issuer and the applicable Borrower when a Letter of Credit is issued (including any such agreement applicable to an Existing Letter of Credit), (i) the rules of the ISP shall apply to each standby Letter of Credit and (ii) the rules of the UCP shall apply to each commercial Letter of Credit. Notwithstanding the foregoing, no L/C Issuer shall be responsible to the Borrowers for, and no L/C Issuer's rights and remedies against the Borrowers shall be impaired by, any action or inaction of such L/C Issuer required or permitted under any law, order, or practice that is required or permitted to be applied to any Letter of Credit or this Agreement, including the Law or any order of a jurisdiction where such L/C Issuer or the beneficiary is located, the practice stated in the ISP or UCP, as applicable, or in the decisions, opinions, practice statements, or official commentary of the ICC Banking Commission, the Bankers Association for Finance and Trade - International Financial Services Association (BAFT-IFSA), or the Institute of International Banking Law & Practice, whether or not any Letter of Credit chooses such law or practice.

(h) Letter of Credit Fees. The applicable Borrowers shall pay to the Administrative Agent for the account of each Revolving Lender in accordance, subject to Section 2.15, with its Applicable Revolving Percentage a Letter of Credit fee (the "Letter of Credit Fee") for each Letter of Credit equal to the Applicable Rate times the Dollar Equivalent of the daily amount available to be drawn under such Letter of Credit. Letter of Credit Fees shall be (1) due and payable on the first Business Day following each fiscal quarter end, commencing with the first such date to occur after the issuance of such Letter of Credit on the Letter of Credit Expiration Date and thereafter on demand and (2) computed on a quarterly basis in arrears.

(i) Fronting Fee and Documentary and Processing Charges Payable to L/C Issuers. The applicable Borrowers shall pay directly to the applicable L/C Issuer for its own account a fronting fee (i) with respect to each commercial Letter of Credit, at a rate per annum equal to 0.125% (or such other rate separately agreed between the applicable Borrowers and the L/C Issuers), computed on the Dollar Equivalent of the amount of such Letter of Credit, and payable upon the issuance thereof, (ii) with respect to any amendment of a commercial Letter of Credit increasing the amount of such Letter of Credit, at a rate separately agreed between the applicable Borrowers and such L/C Issuer, computed on the Dollar Equivalent of the amount of such increase, and payable upon the effectiveness of such amendment, and (iii) with respect to each standby Letter of Credit, at a rate per annum equal to 0.125% (or such other rate separately agreed between the applicable Borrowers and the L/C Issuers), computed on the Dollar Equivalent of the daily amount available to be drawn under such Letter of Credit on a quarterly basis in arrears. Such fronting fee shall be due and payable on or prior to the date that is ten (10) Business Days following each fiscal quarter end, commencing with the first such date to occur after the issuance of such Letter of Credit, on the Letter of Credit Expiration Date and thereafter on demand. For purposes of computing the daily amount available to be drawn under any Letter of Credit, the amount of such Letter of Credit shall be determined in accordance with Section 1.06. In addition, the applicable Borrowers shall pay directly to the applicable L/C Issuer for its own account, in Dollars, the customary issuance, presentation, amendment and other processing fees, and other standard costs and charges, of such L/C Issuer relating to letters of credit as from time to time in effect. Such customary fees and standard costs and charges are due and payable on demand and are nonrefundable.

(j) Conflict with Issuer Documents. In the event of any conflict between the terms hereof and the terms of any Issuer Document, the terms hereof shall control.

(k) L/C Issuer Reports to the Administrative Agent. Unless otherwise agreed by the Administrative Agent, each L/C Issuer shall, in addition to its notification obligations set forth elsewhere in this Section, provide the Administrative Agent a Letter of Credit Report, as set forth below:

(i) reasonably prior to the time that such L/C Issuer issues, amends, renews, increases or extends a Letter of Credit, the date of such issuance, amendment, renewal, increase or extension and the stated amount of the applicable Letters of

Credit after giving effect to such issuance, amendment, renewal or extension (and whether the amounts thereof shall have changed);

(ii) on each Business Day on which such L/C Issuer makes a payment pursuant to a Letter of Credit, the date and amount of such payment;

(iii) on any Business Day on which any applicable Borrower fails to reimburse a payment made pursuant to a Letter of Credit required to be reimbursed to such L/C Issuer on such day, the date of such failure and the amount of such payment;

(iv) on any other Business Day, such other information as the Administrative Agent shall reasonably request as to the Letters of Credit issued by such L/C Issuer; and

(v) for so long as any Letter of Credit issued by an L/C Issuer is outstanding, such L/C Issuer shall deliver to the Administrative Agent (A) on the last Business Day of each calendar month, (B) at all other times a Letter of Credit Report is required to be delivered pursuant to this Agreement, and (C) on each date that (1) an L/C Credit Extension occurs or (2) there is any expiration, cancellation and/or disbursement, in each case, with respect to any such Letter of Credit, a Letter of Credit Report appropriately completed with the information for every outstanding Letter of Credit issued by such L/C Issuer.

(l) Additional L/C Issuers. Any Lender hereunder (that is reasonably acceptable to the Administrative Agent) may become an L/C Issuer upon receipt by the Administrative Agent of a fully executed Notice of Additional L/C Issuer which shall be signed by the Company, the Administrative Agent and each L/C Issuer.

(m) Letters of Credit Issued for Restricted Subsidiaries. Notwithstanding that a Letter of Credit issued or outstanding hereunder is in support of any obligations of, or is for the account of, a Restricted Subsidiary of any Borrower, such Borrower shall be obligated to reimburse each L/C Issuer hereunder for any and all drawings under each Letter of Credit issued by such L/C Issuer. Each Borrower hereby acknowledges that the issuance of Letters of Credit for the account of its Restricted Subsidiaries inures to the benefit of such Borrower, and that such Borrower's business derives substantial benefits from the businesses of such Restricted Subsidiaries.

2.04 Swingline Loans**.**

(a) The Swingline. Subject to the terms and conditions set forth herein, the Swingline Lender, in reliance upon the agreements of the other Lenders set forth in this Section, may in its sole discretion make loans to the Company (each such loan, a "Swingline Loan"). Each such Swingline Loan may be made, subject to the terms and conditions set forth herein, to the Company, in Dollars, from time to time on any Business Day during the Availability Period for any Class of Revolving Commitments in which the Swingline Lender

holds a Revolving Commitment, in an aggregate amount not to exceed at any time outstanding the amount of the Swingline Sublimit, notwithstanding the fact that such Swingline Loans, when aggregated with the Applicable Revolving Percentage of the Outstanding Amount of Revolving Loans and L/C Obligations of the Lender acting as Swingline Lender, may exceed the amount of such Lender's Revolving Commitment; provided, however, that (i) after giving effect to any Swingline Loan, (A) the Total Revolving Outstandings shall not exceed the Aggregate Revolving Commitments at such time, (B) the Revolving Exposure of any Revolving Lender at such time shall not exceed such Lender's Revolving Commitment, and (C) the Revolving Exposure of any Lender under any Class of Revolving Commitments shall not exceed such Lender's Revolving Commitment of such Class, (ii) the Company shall not use the proceeds of any Swingline Loan to refinance any outstanding Swingline Loan, and (iii) the Swingline Lender shall not be under any obligation to make any Swingline Loan if it shall determine (which determination shall be conclusive and binding absent manifest error) that it has, or by such Credit Extension may have, Fronting Exposure. Within the foregoing limits, and subject to the other terms and conditions hereof, the Company may borrow under this Section, prepay under Section 2.05, and reborrow under this Section. Each Swingline Loan shall bear interest only at a rate based on the Base Rate plus the Applicable Rate. Immediately upon the making of a Swingline Loan, each Revolving Lender shall be deemed to, and hereby irrevocably and unconditionally agrees to, purchase from the Swingline Lender a risk participation in such Swingline Loan in an amount equal to the product of such Revolving Lender's Applicable Revolving Percentage (determined without regard to any separate Class or Classes of Revolving Commitments of such Lender) times the amount of such Swingline Loan.

(b) Borrowing Procedures.

Subject to the terms and conditions hereof, each Swingline Borrowing shall be made upon the Company's irrevocable notice to the Swingline Lender and the Administrative Agent, which may be given by: (i) telephone or (ii) a Swingline Loan Notice; provided that any telephonic notice must be confirmed immediately by delivery to the Swingline Lender and the Administrative Agent of a Swingline Loan Notice. Each such Swingline Loan Notice must be received by the Swingline Lender and the Administrative Agent not later than 1:00 p.m. on the requested borrowing date, and shall specify (A) the amount to be borrowed, which shall be a minimum of $100,000 and (B) the requested date of the Borrowing (which shall be a Business Day). Promptly after receipt by the Swingline Lender of any Swingline Loan Notice, the Swingline Lender will confirm with the Administrative Agent (by telephone or in writing) that the Administrative Agent has also received such Swingline Loan Notice and, if not, the Swingline Lender will notify the Administrative Agent (by telephone or in writing) of the contents thereof. Unless the Swingline Lender has received notice (by telephone or in writing) from the Administrative Agent (including at the request of any Revolving Lender) prior to 2:00 p.m. on the date of the proposed Swingline Borrowing (1) directing the Swingline Lender not to make such Swingline Loan as a result of the limitations set forth in the first proviso to the third sentence of Section 2.04(a), or (2) that one or more of the applicable conditions specified in

Article IV is not then satisfied, then, subject to the terms and conditions hereof, the Swingline Lender may, make the amount of its Swingline Loan available to the Company at its office by crediting the account of the Company on the books of the Swingline Lender in Same Day Funds.

(c) Refinancing of Swingline Loans.

(i) The Swingline Lender at any time in its sole discretion may request, on behalf of the Company (which hereby irrevocably authorizes the Swingline Lender to so request on its behalf), that each Revolving Lender make a Base Rate Loan in an amount equal to such Lender's Applicable Revolving Percentage (determined without regard to any Class or Classes of Revolving Commitments of such Lender) of the amount of Swingline Loans then outstanding. Such request shall be made in writing (which written request shall be deemed to be a Loan Notice for purposes hereof) and in accordance with the requirements of Section 2.02, without regard to the minimum and multiples specified therein for the principal amount of Base Rate Loans, but subject to the unutilized portion of the Revolving Facility and the conditions set forth in Section 4.02. The Swingline Lender shall furnish the Company with a copy of the applicable Loan Notice promptly after delivering such notice to the Administrative Agent. Each Revolving Lender shall make an amount equal to its Applicable Revolving Percentage (determined without regard to any Class or Classes of Revolving Commitments of such Lender) of the amount specified in such Loan Notice available to the Administrative Agent in Same Day Funds (and the Administrative Agent may apply Cash Collateral available with respect to the applicable Swingline Loan) for the account of the Swingline Lender at the Administrative Agent's Office for Dollar-denominated payments not later than 1:00 p.m. on the day specified in such Loan Notice, whereupon, subject to Section 2.04(c)(ii), each Revolving Lender that so makes funds available shall be deemed to have made a Base Rate Loan to the Company in such amount. The Administrative Agent shall remit the funds so received to the Swingline Lender.

(ii) If for any reason any Swingline Loan cannot be refinanced by such a Revolving Borrowing in accordance with Section 2.04(c)(i), the request for Base Rate Loans submitted by the Swingline Lender as set forth herein shall be deemed to be a request by the Swingline Lender that each of the Revolving Lenders fund its risk participation in the relevant Swingline Loan and each Revolving Lender's payment to the Administrative Agent for the account of the Swingline Lender pursuant to Section 2.04(c)(i) shall be deemed payment in respect of such participation.

(iii) If any Revolving Lender fails to make available to the Administrative Agent for the account of the Swingline Lender any amount required to be paid by such Lender pursuant to the foregoing provisions of this Section 2.04(c) by the time specified in Section 2.04(c)(i), the Swingline Lender shall be entitled to recover from such Lender (acting through the Administrative Agent), on demand, such amount

with interest thereon for the period from the date such payment is required to the date on which such payment is immediately available to the Swingline Lender at a rate per annum equal to the applicable Overnight Rate from time to time in effect, plus any administrative, processing or similar fees customarily charged by the Swingline Lender in connection with the foregoing. If such Lender pays such amount (with interest and fees as aforesaid), the amount so paid shall constitute such Lender's Revolving Loan included in the relevant Revolving Borrowing or funded participation in the relevant Swingline Loan, as the case may be. A certificate of the Swingline Lender submitted to any Lender (through the Administrative Agent) with respect to any amounts owing under this clause (iii) shall be conclusive absent manifest error.

(iv) Each Revolving Lender's obligation to make Revolving Loans or to purchase and fund risk participations in Swingline Loans pursuant to this Section 2.04(c) shall be absolute and unconditional and shall not be affected by any circumstance, including (A) any setoff, counterclaim, recoupment, defense or other right which such Lender may have against the Swingline Lender, any Borrower or any other Person for any reason whatsoever, (B) the occurrence or continuance of a Default, (C) any Class of any such Loans or (D) any other occurrence, event or condition, whether or not similar to any of the foregoing; provided however, that each Revolving Lender's obligation to make Revolving Loans pursuant to this Section 2.04(c) is subject to the conditions set forth in Section 4.02 (other than delivery by the Company of a Loan Notice). No such funding of risk participations shall relieve or otherwise impair the obligation of the Company to repay Swingline Loans, together with interest as provided herein.

(d) Repayment of Participations.

(i) At any time after any Revolving Lender has purchased and funded a risk participation in a Swingline Loan, if the Swingline Lender receives any payment on account of such Swingline Loan, the Swingline Lender will distribute to such Revolving Lender its Applicable Revolving Percentage (determined without regard to any separate Class or Classes of Revolving Commitments of such Lender) thereof in the same funds as those received by the Swingline Lender.

(ii) If any payment received by the Swingline Lender in respect of principal or interest on any Swingline Loan is required to be returned by the Swingline Lender under any of the circumstances described in Section 11.05 (including pursuant to any settlement entered into by the Swingline Lender in its discretion), each Revolving Lender shall pay to the Swingline Lender its Applicable Revolving Percentage (determined without regard to any separate Class or Classes of Revolving Commitments of such Lender) thereof on demand of the Administrative Agent, plus interest thereon from the date of such demand to the date such amount is returned, at a rate per annum equal to the applicable Overnight Rate. The Administrative Agent will make such demand upon the request of the Swingline Lender. The

obligations of the Lenders under this clause shall survive the payment in full of the Obligations and the termination of this Agreement.

(e) Interest for Account of Swingline Lender. The Swingline Lender shall be responsible for invoicing the Company for interest on the Swingline Loans. Until each Revolving Lender funds its Base Rate Loan or risk participation pursuant to this Section to refinance such Revolving Lender's Applicable Revolving Percentage of any Swingline Loan, interest in respect of such Applicable Revolving Percentage shall be solely for the account of the Swingline Lender.

(f) Payments Directly to Swingline Lender. The Company shall make all payments of principal and interest in respect of the Swingline Loans directly to the Swingline Lender.

2.05 Prepayments**.**

(a) Optional.

(i) The Borrowers may, upon notice to the Administrative Agent pursuant to delivery to the Administrative Agent of a Notice of Loan Prepayment, at any time or from time to time voluntarily prepay Revolving Loans in whole or in part without premium or penalty subject to Section 3.05; provided that, unless otherwise agreed by the Administrative Agent, (A) such notice must be received by the Administrative Agent not later than 11:00 a.m. (1) three (3) Business Days prior to any date of prepayment of Eurocurrency Rate Loans denominated in Dollars, Euro or Sterling, (2) four (4) Business Days (or five (5), in the case of prepayment of Loans denominated in Special Notice Currencies) prior to any date of prepayment of Eurocurrency Rate Loans denominated in other Alternative Currencies, and (3) on the date of prepayment of Base Rate Loans; (B) any prepayment of Eurocurrency Rate Loans shall be in a principal amount of $5,000,000 or a whole multiple of $1,000,000 in excess thereof; and (C) any prepayment of Base Rate Loans shall be in a principal amount of $500,000 or a whole multiple of $100,000 in excess thereof or, in each case, if less, the entire principal amount thereof then outstanding. Each such notice shall specify the date, the currency and amount of such prepayment and the Type(s) of Loans to be prepaid and, if Eurocurrency Rate Loans are to be prepaid, the Interest Period(s) of such Loans. The Administrative Agent will promptly notify each Appropriate Lender of its receipt of each such notice, and of the amount of such Lender's ratable portion of such prepayment (based on such Lender's Applicable Percentage). If such notice is given by any Borrower, the applicable Borrower shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein; provided, that any notice of prepayment may state that such notice is conditional upon the effectiveness of any facility or instrument refinancing all or a portion of the outstanding Revolving Commitments or upon the consummation of any other debt or equity transaction or event that will generate financing in connection therewith, in which case, such notice may be revoked by the applicable Borrower (by notice to the Administrative Agent on or

prior to the specified date) if such condition is not satisfied. Any prepayment of principal shall be accompanied by all accrued interest on the amount prepaid, together with any additional amounts required pursuant to Section 3.05. Subject to Section 2.15, such prepayments shall be paid to the Lenders in accordance with their respective Applicable Percentages.

(ii) The Company may, upon notice to the Swingline Lender pursuant to delivery to the Swingline Lender of a Notice of Loan Prepayment (with a copy to the Administrative Agent), at any time or from time to time, voluntarily prepay Swingline Loans in whole or in part without premium or penalty; provided that, unless otherwise agreed by the Swingline Lender, (A) such notice must be received by the Swingline Lender and the Administrative Agent not later than 1:00 p.m. on the date of the prepayment, and (B) any such prepayment shall be in a minimum principal amount of $100,000 or a whole multiple of $100,000 in excess hereof (or, if less, the entire principal thereof then outstanding). Each such notice shall specify the date and amount of such prepayment. If such notice is given by the Company, the Company shall make such prepayment and the payment amount specified in such notice shall be due and payable on the date specified therein; provided, that any notice of prepayment may state that such notice is conditional upon the effectiveness of any facility or instrument refinancing all or a portion of the outstanding Revolving Commitments or upon the consummation of any other debt or equity transaction or event that will generate financing in connection therewith, in which case, such notice may be revoked by the Company (by notice to the Administrative Agent on or prior to the specified date) if such condition is not satisfied. Any prepayment of principal shall be accompanied by all accrued interest on the amount prepaid, together with any additional amounts required pursuant to Section 3.05.

(b) Mandatory.

(i) If for any reason the Total Revolving Outstandings at any time exceed the Aggregate Revolving Commitment then in effect for the Revolving Facility at such time, the applicable Borrowers shall promptly (and in any event, within one (1) Business Day) prepay Revolving Loans, Swingline Loans and L/C Borrowings (together with all accrued but unpaid interest thereon) and/or Cash Collateralize the L/C Obligations in an aggregate amount equal to such excess; provided, however, that the Borrowers shall not be required to Cash Collateralize the L/C Obligations pursuant to this Section 2.05(b)(i) unless, after the prepayment of the Revolving Loans and Swingline Loans, the Total Revolving Outstandings exceed the Aggregate Revolving Commitment then in effect for the Revolving Facility at such time; provided further, that if any such excess shall result solely from a change in the applicable exchange rates relating to Alternative Currencies, then such prepayment and/or Cash Collateralization shall only be required to be made by the applicable Borrowers upon three (3) Business Days' notice from the Administrative Agent to the Company.

(ii) If the Administrative Agent notifies the Company at any time that, as a result of a change in the applicable exchange rates relating to Alternative Currencies, the Outstanding Amount of all L/C Obligations at such time exceeds an amount equal to 105% of the Letter of Credit Sublimit then in effect, then, within, three (3) Business Days after the Company's receipt of such notice, the applicable Borrowers shall Cash Collateralize Letters of Credit in an aggregate amount sufficient to reduce such Outstanding Amount as of such date of payment to an amount not to exceed 100% of the Letter of Credit Sublimit then in effect.

(iii) If the Administrative Agent notifies the Company at any time that, as a result of a change in the applicable exchange rates relating to Alternative Currencies, the Total Revolving Outstandings denominated in Alternative Currencies at such time exceeds an amount equal to 105% of the Alternative Currency Sublimit then in effect, then, within three (3) Business Days after the Company's receipt of such notice, the applicable Borrowers shall prepay Revolving Loans and/or Cash Collateralize Letters of Credit, in each case denominated in Alternative Currencies, in an aggregate amount sufficient to reduce Total Revolving Outstandings denominated in Alternative Currencies as of such date of payment to an amount not to exceed 100% of the Alternative Currency Sublimit then in effect; provided, however, that the Borrowers shall not be required to Cash Collateralize such Letters of Credit pursuant to this Section 2.05(b)(ii) unless, after the prepayment of the Revolving Loans denominated in Alternative Currencies, the Total Revolving Outstandings denominated in Alternative Currencies exceed the Alternative Currency Sublimit then in effect.

(iv) Except as otherwise provided in Section 2.15, (A) prepayments of the Revolving Facility made pursuant to Section 2.05(b)(i) (other than by provision of Cash Collateral) first, shall be applied ratably to the L/C Borrowings and the Swingline Loans, and second, shall be applied to the outstanding Revolving Loans, ratably across each outstanding Class of Revolving Loans, and (B) prepayments of the Revolving Facility made pursuant to Section 2.05(b)(iii) (other than by provision of Cash Collateral) shall be applied to the outstanding Revolving Loans denominated in Alternative Currencies, ratably across each outstanding Class of Revolving Loans. Cash Collateral provided pursuant to this Section 2.05(b) shall be applied in accordance with Section 2.14. Upon the drawing of any Letter of Credit that has been Cash Collateralized, the funds held as Cash Collateral shall be applied (without any further action by or notice to or from any Loan Party or any Defaulting Lender that has provided Cash Collateral) to reimburse the applicable L/C Issuer or the Revolving Lenders, as applicable.

Within the parameters of the applications set forth above in Section 2.05(b), prepayments pursuant to Section 2.05(b) shall be applied first to Base Rate Loans and then to Eurocurrency Rate Loans in direct order of Interest Period maturities. All prepayments under Section 2.05(b) shall be subject to Section 3.05, but otherwise without premium or

penalty, and shall be accompanied by interest on the principal amount prepaid through the date of prepayment.

Notwithstanding anything to the contrary in this Section 2.05, no prepayment by a Designated Foreign Borrower shall be used to pay or be applied against any Guaranteed Obligations of or attributable to any U.S. Loan Party (or any other Domestic Subsidiary).

2.06 Termination or Reduction of Commitments**.**

(a) Optional. The Company may, upon notice to the Administrative Agent, terminate the Revolving Facility, the Letter of Credit Sublimit, the Swingline Sublimit or the Alternative Currency Sublimit, or from time to time permanently reduce the Revolving Facility, the Letter of Credit Sublimit, the Swingline Sublimit or the Alternative Currency Sublimit; provided that (i) any such notice shall be received by the Administrative Agent not later than 11:00 a.m. three (3) Business Days prior to the date of termination or reduction, (ii) any such partial reduction shall be in an aggregate amount of $5,000,000 or any whole multiple of $500,000 in excess thereof and (iii) the Company shall not terminate or reduce (A) the Revolving Facility if, after giving effect thereto and to any concurrent prepayments hereunder, the Total Revolving Outstandings would exceed the Aggregate Revolving Commitments, (B) the Letter of Credit Sublimit if, after giving effect thereto, the Outstanding Amount of L/C Obligations not fully Cash Collateralized hereunder would exceed the Letter of Credit Sublimit, (C) the Swingline Sublimit if, after giving effect thereto and to any concurrent prepayments hereunder, the Outstanding Amount of Swingline Loans would exceed the Swingline Sublimit, or (D) the Alternative Currency Sublimit if, after giving effect thereto and to any concurrent prepayments hereunder, the Total Revolving Outstandings denominated in Alternative Currencies would exceed the Alternative Currency Sublimit; and provided, further, that any notice of permanent reduction or termination may state that such notice is conditional upon the effectiveness of any facility or instrument refinancing all or a portion of the outstanding Revolving Commitments or upon the consummation of any other debt or equity transaction or event that will generate financing in connection therewith, in which case such notice may be revoked by the Company (by notice to the Administrative Agent on or prior to the specified date) if such condition is not satisfied.

(b) Mandatory. If after giving effect to any reduction or termination of Revolving Commitments under this Section 2.06, the Letter of Credit Sublimit, the Alternative Currency Sublimit or the Swingline Sublimit exceeds the Aggregate Revolving Commitments at such time, the Letter of Credit Sublimit, the Alternative Currency Sublimit or the Swingline Sublimit, as the case may be, shall be automatically reduced by the amount of such excess.

(c) Application of Commitment Reductions; Payment of Fees. The Administrative Agent will promptly notify the Lenders of any termination or reduction of the Letter of Credit Sublimit, the Alternative Currency Sublimit, the Swingline Sublimit or the Revolving Commitment under this Section 2.06. Upon any reduction of the Revolving Commitments, the Revolving Commitment of each Revolving Lender shall be reduced on

a pro rata basis across all Classes of Revolving Commitments by such Lender's Applicable Revolving Percentage of such reduction amount. All fees in respect of the Revolving Facility accrued until the effective date of any termination of the Revolving Facility shall be paid on the effective date of such termination.

2.07 Repayment of Loans**.**

(a) Revolving Loans. The applicable Borrowers shall repay to the relevant Revolving Lenders on the applicable Maturity Date for each Class of Revolving Loans the aggregate principal amount of all Revolving Loans of such Class outstanding on such date made to such Borrower (it being understood and agreed that, subject to the other terms and conditions hereof, the Borrowers may make Borrowings of Revolving Loans under any remaining Revolving Commitments of any other Class to effect such repayment).

(b) Swingline Loans. The Company shall repay each Swingline Loan on the earlier to occur of (i) the date ten (10) Business Days after such Loan is made (it being understood that the Company may use the proceeds of a Borrowing of Revolving Loans for such repayment, subject to the applicable conditions to such Borrowing hereunder) and (ii) the latest Maturity Date for any Class of Revolving Commitments maintained by the Swingline Lender (in its capacity as a Revolving Lender).

(c) Reallocation of Applicable Percentages after Maturity. Upon the occurrence of a Maturity Date for any applicable Class of Revolving Loans, the relevant Applicable Percentages with respect to each remaining Class of Revolving Commitments shall be readjusted without any further action or consent of any other party (calculated without regard to the Class of Revolving Commitments as to which the Maturity Date has occurred), to reflect the expiration of the Class of Revolving Commitments as to which the Maturity Date has occurred.

2.08 Interest and Default Rate**.**

(a) Interest. Subject to the provisions of Section 2.08(b), (i) each Eurocurrency Rate Loan under the Revolving Facility shall bear interest on the outstanding principal amount thereof for each Interest Period from the applicable borrowing date at a rate per annum equal to the Eurocurrency Rate for such Interest Period plus the Applicable Rate; (ii) each Base Rate Loan under the Revolving Facility shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate plus the Applicable Rate; and (iii) each Swingline Loan shall bear interest on the outstanding principal amount thereof from the applicable borrowing date at a rate per annum equal to the Base Rate plus the Applicable Rate. To the extent that any calculation of interest or any fee required to be paid under this Agreement shall be based on (or result in) a calculation that is less than zero, such calculation shall be deemed zero for purposes of this Agreement.

(b) Default Rate.

(i) Upon the occurrence of any Event of Default under Section 8.01(a), whether at stated maturity, by acceleration or otherwise, all outstanding Obligations (including Letter of Credit Fees) shall accrue at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(ii) Upon the occurrence of any Event of Default under Section 8.01(f) or Section 8.01(g), all outstanding Obligations (including Letter of Credit Fees) shall accrue at a fluctuating interest rate per annum at all times equal to the Default Rate to the fullest extent permitted by applicable Laws.

(iii) Accrued and unpaid interest on past due amounts (including interest on past due interest) shall be due and payable upon demand.

(c) Interest Payments. Interest on each Loan shall be due and payable in arrears on each Interest Payment Date applicable thereto and at such other times as may be specified herein. Interest hereunder shall be due and payable in accordance with the terms hereof before and after judgment, and before and after the commencement of any proceeding under any Debtor Relief Law.

2.09 Fees**.**

In addition to certain fees described in subsections (h) and (i) of Section 2.03:

(a) Commitment Fee. The Company shall pay to the Administrative Agent for the account of each Revolving Lender in accordance with its Applicable Revolving Percentage, a commitment fee in Dollars equal to the Applicable Rate times the actual daily amount by which the Revolving Facility exceeds the sum of (i) the Outstanding Amount of Revolving Loans and (ii) the Outstanding Amount of L/C Obligations, subject to adjustment as provided in Section 2.15. For the avoidance of doubt, the Outstanding Amount of Swingline Loans shall not be counted towards or considered usage of the Revolving Facility for purposes of determining the commitment fee. The commitment fee shall be calculated quarterly in arrears and shall accrue at all times during the Availability Period, including at any time during which one or more of the conditions in Article IV is not met, and shall be due and payable quarterly in arrears on the third Business Day after the end of each March, June, September and December, commencing with the first such date to occur after the Closing Date, and on the last day of the Availability Period for the Revolving Facility. For purposes of calculating the commitment fee, if there is any change in the Applicable Rate during any quarter, the actual daily amount shall be computed and multiplied by the Applicable Rate separately for each period during such quarter that such Applicable Rate was in effect.

(b) Other Fees.

(i) The applicable Borrowers shall pay to the Persons entitled thereto, for their own account, in Dollars, fees in the amounts and at the times specified in the Fee Letter. Such fees shall be fully earned when paid and shall not be refundable for any reason whatsoever.

(ii) The applicable Borrowers shall pay to the Lenders and the Arrangers, such fees as shall have been separately agreed upon in writing and disclosed to the Administrative Agent in the amounts and at the times so specified. Such fees shall be fully earned when paid and shall not be refundable for any reason whatsoever.

2.10 Computation of Interest and Fees; Retroactive Adjustments of Applicable Rate**.**

(a) Computation of Interest and Fees. All computations of interest for Base Rate Loans (including Base Rate Loans determined by reference to the Eurocurrency Rate) shall be made on the basis of a year of 365 or 366 days, as the case may be, and actual days elapsed. All other computations of fees and interest shall be made on the basis of a 360-day year and actual days elapsed (which results in more fees or interest, as applicable, being paid than if computed on the basis of a 365 day year), or, in the case of interest in respect of Loans denominated in Alternative Currencies as to which market practice differs from the foregoing, in accordance with such market practice. Interest shall accrue on each Loan for the day on which the Loan is made, and shall not accrue on a Loan, or any portion thereof, for the day on which the Loan or such portion is paid, provided that any Loan that is repaid on the same day on which it is made shall, subject to Section 2.12(a), bear interest for one (1) day. Each determination by the Administrative Agent of an interest rate or fee hereunder shall be conclusive and binding for all purposes, absent manifest error. With respect to all Non-LIBOR Quoted Currencies, the calculation of the applicable interest rate shall be determined in accordance with market practice.

(b) Financial Statement Adjustments or Restatements. If, as a result of any restatement of or other adjustment to the financial statements of the Company and its Subsidiaries or for any other reason, the Company, or the Lenders determine that (i) the Consolidated Leverage Ratio as calculated by the Company as of any applicable date was inaccurate and (ii) a proper calculation of the Consolidated Leverage Ratio would have resulted in higher pricing for such period, the Borrowers shall retroactively be obligated to pay to the Administrative Agent for the account of the applicable Lenders or the applicable L/C Issuers, as the case may be, promptly on demand by the Administrative Agent (or, after the occurrence of an actual or deemed entry of an order for relief with respect to any Borrower under the Bankruptcy Code of the United States, automatically and without further action by the Administrative Agent, any Lender or any L/C Issuer), an amount equal to the excess of the amount of interest and fees that should have been paid for such period over the amount of interest and fees actually paid for such period. This paragraph shall not limit the rights of the Administrative Agent, any Lender or any L/C Issuer, as the case may be, under any provision of this Agreement to payment of any Obligations hereunder at the Default Rate or under Article VIII. The Borrowers' obligations under this paragraph shall survive the termination of the Aggregate Revolving Commitments and the repayment of all other

Obligations hereunder. Any additional interest or fees under this Section 2.10(b) shall not be due and payable until a demand is made for such payment by the Administrative Agent and accordingly, any nonpayment of such interest or fees as a result of any such inaccuracy shall not constitute a Default (whether retroactively or otherwise), and none of such additional amounts shall be deemed overdue or accrue interest at the Default Rate.

2.11 Evidence of Debt**.**

(a) Maintenance of Accounts. The Credit Extensions made by each Lender shall be evidenced by one or more accounts or records maintained by such Lender and by the Administrative Agent in the ordinary course of business. The accounts or records maintained by the Administrative Agent and each Lender shall be conclusive absent manifest error of the amount of the Credit Extensions made by the Lenders to the Borrowers and the interest and payments thereon. Any failure to so record or any error in doing so shall not, however, limit or otherwise affect the obligation of the Borrowers hereunder to pay any amount owing with respect to the Obligations. In the event of any conflict between the accounts and records maintained by any Lender and the accounts and records of the Administrative Agent in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error. Upon the request of any Lender made through the Administrative Agent, the Borrowers shall execute and deliver to such Lender (through the Administrative Agent) a Revolving Note, which shall evidence such Lender's Loans in addition to such accounts or records. Each Lender may attach schedules to its Revolving Note and endorse thereon the date, Type (if applicable), amount, currency and maturity of its Loans and payments with respect thereto.

(b) Maintenance of Records. In addition to the accounts and records referred to in Section 2.11(a), each Lender and the Administrative Agent shall maintain in accordance with its usual practice accounts or records evidencing the purchases and sales by such Lender of participations in Letters of Credit and Swingline Loans. In the event of any conflict between the accounts and records maintained by the Administrative Agent and the accounts and records of any Lender in respect of such matters, the accounts and records of the Administrative Agent shall control in the absence of manifest error.

2.12 Payments Generally; Administrative Agent's Clawback**.**

(a) General. All payments to be made by the Borrowers shall be made free and clear of and without condition or deduction for any counterclaim, defense, recoupment or setoff. Except as otherwise expressly provided herein and except with respect to principal of and interest on Loans denominated in an Alternative Currency, all payments by the Borrowers hereunder shall be made to the Administrative Agent, for the account of the respective Lenders to which such payment is owed, at the applicable Administrative Agent's Office in Dollars and in Same Day Funds not later than 2:00 p.m. on the date specified herein. Except as otherwise expressly provided herein, all payments by the Borrowers hereunder with respect to principal and interest on Loans denominated in an Alternative Currency shall be made to the Administrative Agent, for the account of the respective Lenders to which such payment is owed, at the applicable Administrative Agent's Office in such

Alternative Currency and in Same Day Funds not later than the Applicable Time specified by the Administrative Agent on the dates specified herein. Without limiting the generality of the foregoing, the Administrative Agent may require that any payments due under this Agreement be made in the United States. If, for any reason, any Borrower is prohibited by any Law from making any required payment hereunder in an Alternative Currency, such Borrower shall make such payment in Dollars in the Dollar Equivalent of the Alternative Currency payment amount. The Administrative Agent will promptly distribute to each Appropriate Lender its relevant Applicable Percentage (or other applicable share (including on account of Extended Revolving Commitments) as provided herein) of such payment in like funds as received by wire transfer to such Lender's Lending Office. All payments received by the Administrative Agent (i) after 2:00 p.m., in the case of payments in Dollars or (ii) after the Applicable Time specified by the Administrative Agent, in the case of payments in an Alternative Currency, shall in each case be deemed received on the next succeeding Business Day and any applicable interest or fee shall continue to accrue. Subject to Section 2.07(a) and as otherwise specifically provided for in this Agreement, if any payment to be made by a Borrower shall come due on a day other than a Business Day, payment shall be made on the next following Business Day, and such extension of time shall be reflected in computing interest or fees, as the case may be.

(b) (1) Funding by Lenders; Presumption by Administrative Agent. Unless the Administrative Agent shall have received notice from a Lender prior to the proposed date of any Borrowing of Eurocurrency Rate Loans (or, in the case of any Borrowing of Base Rate Loans, prior to 12:00 noon on the date of such Borrowing) that such Lender will not make available to the Administrative Agent such Lender's share of such Borrowing, the Administrative Agent may assume that such Lender has made such share available on such date in accordance with Section 2.02 (or, in the case of a Borrowing of Base Rate Loans, that such Lender has made such share available in accordance with and at the time required by Section 2.02) and may, in reliance upon such assumption, make available to the applicable Borrower a corresponding amount. In such event, if a Lender has not in fact made its share of the applicable Borrowing available to the Administrative Agent, then the applicable Lender and the applicable Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount in Same Day Funds with interest thereon, for each day from and including the date such amount is made available to the applicable Borrower to but excluding the date of payment to the Administrative Agent, at (A) in the case of a payment to be made by such Lender, the Overnight Rate, plus any administrative, processing or similar fees customarily charged by the Administrative Agent in connection with the foregoing and (B) in the case of a payment to be made by any Borrower, the interest rate applicable to Base Rate Loans or in the case of Alternative Currencies in accordance with such market practice, in each case as applicable. If the applicable Borrower and such Lender shall pay such interest to the Administrative Agent for the same or an overlapping period, the Administrative Agent shall promptly remit to the applicable Borrower the amount of such interest paid by the applicable Borrower for such period. If such Lender pays its share of the applicable Borrowing to the Administrative Agent, then the amount so paid shall constitute such Lender's Loan included in such Borrowing. Any payment by the applicable Borrower shall be without prejudice to any claim the applicable Borrower may

have against a Lender that shall have failed to make such payment to the Administrative Agent.

(i) Payments by Borrowers; Presumptions by Administrative Agent. Unless the Administrative Agent shall have received notice from the Company prior to the date on which any payment is due to the Administrative Agent for the account of the Lenders or the L/C Issuers hereunder that the applicable Borrower will not make such payment, the Administrative Agent may assume that the Borrowers have made such payment on such date in accordance herewith and may, in reliance upon such assumption, distribute to the Appropriate Lenders or the applicable L/C Issuers, as the case may be, the amount due. In such event, if any applicable Borrower has not in fact made such payment, then each of the Appropriate Lenders or the applicable L/C Issuers, as the case may be, severally agrees to repay to the Administrative Agent forthwith on demand the amount so distributed to such Lender or such L/C Issuer, in Same Day Funds with interest thereon, for each day from and including the date such amount is distributed to it to but excluding the date of payment to the Administrative Agent, at the Overnight Rate.

A notice of the Administrative Agent to any Lender or the Company with respect to any amount owing under this subsection (b) shall be conclusive, absent manifest error.

(c) Failure to Satisfy Conditions Precedent. If any Lender makes available to the Administrative Agent funds for any Loan to be made by such Lender as provided in the foregoing provisions of this Article II, and such funds are not made available to the Borrowers by the Administrative Agent because the conditions to the applicable Credit Extension set forth in Article IV are not satisfied or waived in accordance with the terms hereof, the Administrative Agent shall return such funds (in like funds as received from such Lender) to such Lender, without interest.

(d) Obligations of Lenders Several. The obligations of the Lenders hereunder to make Revolving Loans, to fund participations in Letters of Credit and Swingline Loans and to make payments pursuant to Section 11.04(c) are several and not joint. The failure of any Lender to make any Loan, to fund any such participation or to make any payment under Section 11.04(c) on any date required hereunder shall not relieve any other Lender of its corresponding obligation to do so on such date, and no Lender shall be responsible for the failure of any other Lender to so make its Loan, to purchase its participation or to make its payment under Section 11.04(c).

(e) Funding Source. Nothing herein shall be deemed to obligate any Lender to obtain the funds for any Loan in any particular place or manner or to constitute a representation by any Lender that it has obtained or will obtain the funds for any Loan in any particular place or manner.

(f) Pro Rata Treatment. Except to the extent otherwise provided herein: (i) each Borrowing (other than Swingline Borrowings) shall be made from the Appropriate Lenders, each payment of fees under Sections 2.09(a) and 2.03(h) and shall be made for account of

the Appropriate Lenders, and each termination or reduction of the amount of the Revolving Commitments shall be applied to the respective Revolving Commitments of the Lenders, pro rata according to the amounts of their respective Revolving Commitments; (ii) each Borrowing shall be allocated pro rata among the Lenders according to the amounts of their respective Revolving Commitments (in the case of the making of Revolving Loans) or their respective Loans that are to be included in such Borrowing (in the case of conversions and continuations of Loans); (iii) each payment or prepayment of principal of Loans by the Borrowers shall be made for account of the Appropriate Lenders pro rata in accordance with the respective unpaid principal amounts of the Loans held by them; and (iv) each payment of interest on Loans by the Borrowers shall be made for account of the Appropriate Lenders pro rata in accordance with the amounts of interest on such Loans then due and payable to the respective Appropriate Lenders.

2.13 Sharing of Payments by Lenders**.**

If any Lender shall, by exercising any right of setoff or counterclaim or otherwise, obtain payment in respect of (a) Obligations in respect of the Revolving Facility due and payable to such Lender hereunder and under the other Loan Documents at such time in excess of its ratable share (according to the proportion of (i) the amount of such Obligations due and payable to such Lender at such time to (ii) the aggregate amount of the Obligations in respect of the Revolving Facility due and payable to all Lenders hereunder and under the other Loan Documents at such time) of payments on account of the Obligations in respect of the Revolving Facility due and payable to all Lenders hereunder and under the other Loan Documents at such time obtained by all the Lenders at such time or (b) Obligations in respect of any of the Revolving Facility owing (but not due and payable) to such Lender hereunder and under the other Loan Documents at such time in excess of its ratable share (according to the proportion of (i) the amount of such Obligations owing (but not due and payable) to such Lender at such time to (ii) the aggregate amount of the Obligations in respect of the Revolving Facility owing (but not due and payable) to all Lenders hereunder and under the other Loan Documents at such time) of payments on account of the Obligations in respect of the Revolving Facility owing (but not due and payable) to all Lenders hereunder and under the other Loan Documents at such time obtained by all of the Lenders at such time, then, in each case under clauses (a) and (b) above, the Lender receiving such greater proportion shall (A) notify the Administrative Agent of such fact, and (B) purchase (for cash at face value) participations in the Loans and subparticipations in L/C Obligations and Swingline Loans of the other Lenders, or make such other adjustments as shall be equitable, so that the benefit of all such payments shall be shared by the Lenders ratably in accordance with the aggregate amount of Obligations in respect of the Revolving Facility then due and payable to the Lenders or owing (but not due and payable) to the Lenders, as the case may be, provided that:

(1) if any such participations or subparticipations are purchased and all or any portion of the payment giving rise thereto is recovered, such participations or subparticipations shall be rescinded and the purchase price restored to the extent of such recovery, without interest; and

(2) the provisions of this Section shall not be construed to apply to (x) any payment made by or on behalf of the Borrowers pursuant to and in accordance with the express terms of this Agreement (including the application of funds arising from the existence of a Defaulting Lender or Extended Revolving Commitments), (y) the application of Cash Collateral provided for in Section 2.14, or (z) any payment obtained by a Lender as consideration for the assignment of or sale of a participation in any of its Loans or subparticipations in L/C Obligations or Swingline Loans to any assignee or participant, other than an assignment to any Loan Party or any Affiliate thereof (as to which the provisions of this Section shall apply).

Each Loan Party consents to the foregoing and agrees, to the extent it may effectively do so under applicable Law, that any Lender acquiring a participation pursuant to the foregoing arrangements may exercise against such Loan Party rights of setoff and counterclaim with respect to such participation as fully as if such Lender were a direct creditor of such Loan Party in the amount of such participation.

2.14 Cash Collateral**.**

(a) Certain Credit Support Events. If (i) any L/C Issuer has honored any full or partial drawing request under any Letter of Credit and such drawing has resulted in an L/C Borrowing, (ii) as of the Letter of Credit Expiration Date, any L/C Obligation for any reason remains outstanding, (iii) any Borrower shall be required to provide Cash Collateral pursuant to Section 2.05 or 8.02(c) or (iv) there shall exist a Defaulting Lender, the applicable Borrowers shall, solely with respect to their respective outstanding Letters of Credit or L/C Borrowings, as applicable, immediately (in the case of clause (iii) above, except to the extent a longer period is provided under Section 2.05, as applicable) or within one (1) Business Day (in all other cases) following any request by the Administrative Agent or any L/C Issuer, provide Cash Collateral in an amount not less than the applicable Minimum Collateral Amount (determined in the case of Cash Collateral provided pursuant to clause (iv) above, after giving effect to Section 2.15(a)(iv) and any Cash Collateral provided by such Defaulting Lender) or the amount required pursuant to Section 2.05, as applicable.

(b) Grant of Security Interest. Each Borrower, and to the extent provided by any Defaulting Lender, such Defaulting Lender, hereby grants to (and subjects to the control of) the Administrative Agent, for the benefit of the Administrative Agent, the L/C Issuers and the Lenders, and agrees to maintain, a first priority security interest in all such cash, deposit accounts and all balances therein, and in all proceeds of the foregoing, all as security for the obligations to which such Cash Collateral may be applied pursuant to Section 2.14(c). If at any time the Administrative Agent determines that Cash Collateral is subject to any right or claim of any Person other than the Administrative Agent or the L/C Issuers as herein provided, or that the total amount of such Cash Collateral is less than the Minimum Collateral Amount, the applicable Borrower or, to the extent provided by any Defaulting Lender, such Defaulting Lender, will, promptly upon demand by the Administrative Agent, pay or provide to the Administrative Agent additional Cash Collateral in an amount sufficient to eliminate such deficiency. All Cash Collateral (other than credit support not constituting funds subject

to deposit) shall be maintained in one or more blocked, interest bearing deposit accounts at Bank of America (it being understood and agreed that Bank of America and the Administrative Agent make no warranty or guarantee as to the level of, or amount (if any) of, interest with respect to such deposit account). The applicable Borrowers shall pay on demand therefor from time to time all customary account opening, activity and other administrative fees and charges in connection with the maintenance and disbursement of Cash Collateral. Each Designated Foreign Borrower hereby agrees to take all such further acts and to execute, acknowledge, deliver, record, file and register such documents and instruments as the Administrative Agent may reasonably require to carry out the provisions of this Section 2.14.

(c) Application. Notwithstanding anything to the contrary contained in this Agreement, Cash Collateral provided under any of this Section 2.14 or Sections 2.03, 2.05, 2.15 or 8.02 in respect of Letters of Credit shall be held and applied to the satisfaction of the specific L/C Obligations, obligations to fund participations therein (including, as to Cash Collateral provided by a Revolving Lender that is a Defaulting Lender, any interest accrued on such obligation) and other obligations for which the Cash Collateral was so provided, prior to any other application of such property as may be provided for herein; provided that no Cash Collateral provided in respect of any Obligations of a Designated Foreign Borrower shall be applied to the satisfaction of any Obligations of or attributable to any U.S. Loan Party; provided further, however, that the Borrowers shall cause Cash Collateral to be provided by each applicable Borrower in an amount sufficient to Cash Collateralize the L/C Obligations related to such Borrower, as provided herein.

(d) Release. Cash Collateral (or the appropriate portion thereof) provided to reduce Fronting Exposure or to secure other obligations shall be released promptly following (i) the elimination of the applicable Fronting Exposure or other obligations giving rise thereto (including by the termination of Defaulting Lender status of the applicable Revolving Lender (or, as appropriate, its assignee following compliance with Section 11.06(b)(vi))) or (ii) the determination by the Administrative Agent and the applicable L/C Issuer that there exists excess Cash Collateral; provided, however, (A) any such release shall be without prejudice to, and any disbursement or other transfer of Cash Collateral shall be and remain subject to, any other Lien conferred under the Loan Documents and the other applicable provisions of the Loan Documents, and (B) the Person providing Cash Collateral and the applicable L/C Issuer may agree that Cash Collateral shall not be released but instead held to support future anticipated Fronting Exposure or other obligations.

(e) Release of Lenders' Obligations. Notwithstanding anything to the contrary contained herein or in any other Loan Document, in the event that (i) any applicable L/C Issuer shall have issued, in accordance with Section 2.03(a)(ii)(B), a Letter of Credit with an expiry date occurring after the Letter of Credit Expiration Date and (ii) the Borrowers shall have Cash Collateralized the Outstanding Amount of all such L/C Obligations in respect of such Letter of Credit pursuant to Section 2.14(a) above, then, upon the provision of such Cash Collateral and without any further action, each Lender hereunder shall be automatically released from any further obligation to such L/C Issuer in respect of such Letter of Credit,

including, without limitation, any obligation of any such Lender to reimburse such L/C Issuer for amounts drawn under such Letter of Credit or to purchase any risk participation therein; provided, however, that all such obligations of each Lender hereunder to such L/C Issuer in respect of such Letter of Credit shall be revived if any Cash Collateral provided by the Borrowers in respect of such Letter of Credit is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Administrative Agent or such L/C Issuer) to be repaid to a trustee, receiver, examiner or any other party, in connection with any proceeding under any Debtor Relief Laws or otherwise, all as if such Cash Collateral had not been provided. The obligations of the Lenders under this paragraph shall survive the Facility Termination Date.

2.15 Defaulting Lenders**.**

(a) Adjustments. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as that Lender is no longer a Defaulting Lender, to the extent permitted by applicable Law:

(i) Waivers and Amendments. Such Defaulting Lender's right to approve or disapprove any amendment, waiver or consent with respect to this Agreement shall be restricted as set forth in the definition of "Required Lenders" and Section 11.01.

(ii) Defaulting Lender Waterfall. Any payment of principal, interest, fees or other amounts received by the Administrative Agent for the account of such Defaulting Lender (whether voluntary or mandatory, at maturity, pursuant to Article VIII or otherwise) or received by the Administrative Agent from a Defaulting Lender pursuant to Section 11.08 shall be applied at such time or times as may be determined by the Administrative Agent as follows: first, to the payment of any amounts owing by such Defaulting Lender to the Administrative Agent hereunder; second, to the payment on a pro rata basis of any amounts owing by such Defaulting Lender to any L/C Issuer or Swingline Lender hereunder; third, to Cash Collateralize each L/C Issuer's Fronting Exposure with respect to such Defaulting Lender in accordance with Section 2.14; fourth, as the Company may request (so long as no Default or Event of Default exists), to the funding of any Loan in respect of which such Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; fifth, if so determined by the Administrative Agent and the Company, to be held in a deposit account and released pro rata in order to (A) satisfy such Defaulting Lender's potential future funding obligations with respect to Loans under this Agreement and (B) Cash Collateralize each L/C Issuer's future Fronting Exposure with respect to such Defaulting Lender with respect to future Letters of Credit issued under this Agreement, in accordance with Section 2.14; sixth, to the payment of any amounts owing to the Lenders, the L/C Issuers or Swingline Lender as a result of any judgment of a court of competent jurisdiction obtained by any Lender, any L/C Issuer or the Swingline Lender against such Defaulting Lender as a result of such Defaulting Lender's breach of its

obligations under this Agreement; seventh, so long as no Default or Event of Default exists, to the payment of any amounts owing to the Borrowers as a result of any judgment of a court of competent jurisdiction obtained by the Borrowers against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement; and eighth, to such Defaulting Lender or as otherwise as may be required under the Loan Documents in connection with any Lien conferred thereunder or directed by a court of competent jurisdiction; provided that if (1) such payment is a payment of the principal amount of any Loans or L/C Borrowings in respect of which such Defaulting Lender has not fully funded its appropriate share, and (2) such Loans were made or the related Letters of Credit were issued at a time when the conditions set forth in Section 4.02 were satisfied or waived, such payment shall be applied solely to pay the Loans of, and L/C Obligations owed to, all Non-Defaulting Lenders on a pro rata basis with respect to any applicable Class prior to being applied to the payment of any Loans of, or L/C Obligations owed to, such Defaulting Lender until such time as all Classes of the relevant Classes of Loans and funded and unfunded participations in L/C Obligations and Swingline Loans are held by the Lenders pro rata in accordance with the Revolving Commitments (including any applicable Class of Revolving Commitments) hereunder without giving effect to Section 2.15(a)(iv). Any payments, prepayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender or to post Cash Collateral pursuant to this Section 2.15(a)(ii) shall be deemed paid to and redirected by such Defaulting Lender, and each Lender irrevocably consents hereto.

(iii) Certain Fees.

(A) Fees. No Defaulting Lender shall be entitled to receive any fee payable under Section 2.09(a) for any period during which that Lender is a Defaulting Lender (and the Borrowers shall not be required to pay any such fee that otherwise would have been required to have been paid to that Defaulting Lender).

(B) Letter of Credit Fees. Each Defaulting Lender shall be entitled to receive Letter of Credit Fees for any period during which that Lender is a Defaulting Lender only to the extent allocable to its Applicable Revolving Percentage of the stated amount of Letters of Credit for which it has provided Cash Collateral pursuant to Section 2.14.

(C) Defaulting Lender Fees. With respect to any fee payable under Section 2.09(a) or any Letter of Credit Fee not required to be paid to any Defaulting Lender pursuant to clause (A) or (B) above, the Borrowers shall (1) pay to each Non-Defaulting Lender that portion of any such fee otherwise payable to such Defaulting Lender with respect to such Defaulting Lender's participation in L/C Obligations or Swingline Loans that has been reallocated to such Non-Defaulting Lender pursuant to clause (iv) below, (2) pay to each

L/C Issuer and Swingline Lender, as applicable, the amount of any such fee otherwise payable to such Defaulting Lender to the extent allocable to such L/C Issuer's or Swingline Lender's Fronting Exposure to such Defaulting Lender, and (3) not be required to pay the remaining amount of any such fee.

(iv) Reallocation of Applicable Revolving Percentages to Reduce Fronting Exposure. All or any part of such Defaulting Lender's participation in L/C Obligations and Swingline Loans shall be reallocated among the Non-Defaulting Lenders in accordance with their respective Applicable Revolving Percentages (calculated without regard to such Defaulting Lender's Revolving Commitment) but only to the extent that (x) such reallocation does not cause the aggregate Revolving Exposure of any Non-Defaulting Lender to exceed such Non-Defaulting Lender's Revolving Commitment or the aggregate Revolving Exposure of any Non-Defaulting Lender under any Class of Revolving Commitments to exceed such Non-Defaulting Lender's Revolving Commitment of such Class and (y) no Non-Defaulting Lender is allocated any Class of Revolving Commitments which it does not maintain. Subject to Section 11.20, no reallocation hereunder shall constitute a waiver or release of any claim of any party hereunder against a Defaulting Lender arising from that Lender having become a Defaulting Lender, including any claim of a Non-Defaulting Lender as a result of such Non-Defaulting Lender's increased exposure following such reallocation.

(v) Cash Collateral, Repayment of Swingline Loans. If the reallocation described in clause (a)(iv) above cannot, or can only partially, be effected, the applicable Borrowers shall, without prejudice to any right or remedy available to it hereunder or under applicable Law, (A) first, prepay Swingline Loans in an amount equal to the Swingline Lender's Fronting Exposure and (B) second, Cash Collateralize each L/C Issuer's Fronting Exposure in accordance with the procedures set forth in Section 2.14.

(b) Defaulting Lender Cure. If the Company, the Administrative Agent, Swingline Lender and the L/C Issuers agree in writing that a Lender is no longer a Defaulting Lender, the Administrative Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein (which may include arrangements with respect to any Cash Collateral), that Lender will, to the extent applicable, purchase at par that portion of outstanding Loans of the other Lenders or take such other actions as the Administrative Agent may determine to be necessary to cause the Loans and funded and unfunded participations in Letters of Credit and Swingline Loans to be held on a pro rata basis by the Lenders in accordance with their Applicable Percentages (without giving effect to Section 2.15(a)(iv)), whereupon such Lender will cease to be a Defaulting Lender; provided that no adjustments will be made retroactively with respect to fees accrued or payments made by or on behalf of the Borrowers while that Lender was a Defaulting Lender; and provided, further, that except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute

a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender.

2.16 Designated Foreign Borrowers**.**

(a) Initial Designated Foreign Borrowers. Effective as of the date hereof, Vertex Europe and Vertex Ireland shall each be a "Designated Foreign Borrower" hereunder and may receive Loans and have Letters of Credit issued for its account as a Designated Foreign Borrower on the terms and conditions set forth in this Agreement.

(b) Additional Designated Foreign Borrowers. The Company may at any time, upon not less than fifteen (15) Business Days' notice from the Company to the Administrative Agent (or such shorter period as may be agreed by the Administrative Agent in its sole discretion), request to designate any additional Restricted Subsidiary that is a Foreign Subsidiary of the Company (an "Applicant Foreign Borrower") as a Designated Foreign Borrower to receive Revolving Loans hereunder by delivering to the Administrative Agent (which shall promptly deliver counterparts thereof to each Lender) a duly executed Designated Foreign Borrower Request and Assumption Agreement. The parties hereto acknowledge and agree that prior to any Applicant Foreign Borrower becoming entitled to utilize the credit facilities provided for herein, (i) the Administrative Agent, the Lenders and the L/C Issuers must each agree to such Applicant Foreign Borrower becoming a Designated Foreign Borrower (such consent not to be unreasonably withheld or delayed) and (ii) the Administrative Agent, the Lenders and the L/C Issuers shall have received such supporting resolutions, incumbency certificates, opinions of counsel and other documents or information reasonably requested (including, without limitation and to the extent so requested, (x) to the extent any Applicant Foreign Borrower qualifies as a "legal entity customer" under the Beneficial Ownership Regulation, a Beneficial Ownership Certification and (y) any other documentation and information regarding such Applicant Foreign Borrower reasonably requested by the Administrative Agent and the Lenders in order to comply with "know your customer" and anti-money laundering rules and regulations), in form, content and scope reasonably satisfactory to the Administrative Agent, as may be required by the Administrative Agent, and Revolving Notes signed by such new Borrowers to the extent any Lender so requires (the requirements in the foregoing clauses (i) and (ii), the "Designated Foreign Borrower Requirements"). If the Designated Foreign Borrower Requirements are met, the Administrative Agent shall send a Designated Foreign Borrower Notice to the Company, the Lenders and the L/C Issuers specifying the effective date upon which such Applicant Foreign Borrower shall constitute a Designated Foreign Borrower for purposes hereof, whereupon each of the Lenders and L/C Issuers agrees to permit such Designated Foreign Borrower to receive Credit Extensions hereunder, on the terms and conditions set forth herein, and each of the parties agrees that such Designated Foreign Borrower otherwise shall be a Borrower for all purposes of this Agreement; provided that no Loan Notice or Letter of Credit Application may be submitted by or on behalf of such Designated Foreign Borrower until the date that is five (5) Business Days after such effective date.

(c) Obligations. Except as specifically provided herein, the Obligations of each of the Borrowers (including, without limitation, Obligations under Sections 2.07, 2.08 and 2.09) shall be joint and several in nature, regardless of which Person actually receives Credit Extensions hereunder or the amount of such Credit Extensions received or the manner in which the Administrative Agent, the L/C Issuer or any Lender accounts for such Credit Extensions on its books and records; provided, however, that notwithstanding anything contained to the contrary herein or in any other Loan Document, the Designated Foreign Borrowers shall not be liable with respect to any Obligations of the Company.

(d) Appointment. Each Restricted Subsidiary of the Company that is or becomes a Designated Foreign Borrower hereby irrevocably appoints, designates and authorizes the Company to act on its behalf as its agent for all purposes of this Agreement and the other Loan Documents and authorizes the Company to take such actions on its behalf and to exercise such powers as are delegated to the Company by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto. Each Restricted Subsidiary of the Company that is or becomes a Designated Foreign Borrower hereby further agrees that (i) the Company may execute such documents on behalf of such Designated Foreign Borrower as the Company deems appropriate in its sole discretion and each Designated Foreign Borrower shall be obligated by all of the terms of any such document executed on its behalf, (ii) any notice or communication delivered by the Administrative Agent or the Lender to the Company shall be deemed delivered to each Designated Foreign Borrower and (iii) the Administrative Agent or the Lenders may accept, and be permitted to rely on, any document, instrument or agreement executed by the Company on behalf of each of the Loan Parties.

(e) Termination. The Company may from time to time, upon not less than three (3) Business Days' prior written notice from the Company to the Administrative Agent (or such shorter period as may be agreed by the Administrative Agent in its sole discretion), terminate a Designated Foreign Borrower's status as such; provided that (i) there are no outstanding Loans payable by such Designated Foreign Borrower, Letters of Credit issued for the account of such Designated Foreign Borrower or any of its Subsidiaries, or other amounts due and payable by such Designated Foreign Borrower as of the effective date of such termination, (ii) no Event of Default has occurred and is continuing or would result therefrom and (iii) immediately after giving effect to such termination, the aggregate outstanding principal amount of all Priority Indebtedness shall not exceed fifteen percent (15%) of Consolidated Net Worth (determined as of the last day of the most recent fiscal quarter for which financial statements shall have been delivered pursuant to Section 6.01(a) or 6.01(b) (or, prior to the delivery of any such financial statements, determined as of June 30, 2019)); provided further, that the Administrative Agent, the applicable L/C Issuer and the Lenders shall cooperate with any Designated Foreign Borrower to amend or replace any Letter of Credit in order to name the Company as the applicant or account party with respect to any Letter of Credit issued for the account of such Designated Foreign Borrower or any of its Subsidiaries. The Administrative Agent will promptly notify the Lenders of any such termination of a Designated Foreign Borrower's status.

2.17 Designated Lenders**.**

Each of the Administrative Agent, each L/C Issuer, each Swingline Lender and each Lender at its option may make any Credit Extension or otherwise perform its obligations hereunder through any Lending Office (each, a "Designated Lender"); provided that any exercise of such option shall not affect the obligation of any Borrower to repay any Credit Extension in accordance with the terms of this Agreement. Any Designated Lender shall be considered a Lender; provided that designation of a Designated Lender is for administrative convenience only and does not expand the scope of liabilities or obligations of any Lender or Designated Lender beyond those of the Lender designating such Person as a Designated Lender as provided in this Agreement.

2.18 Increase in Revolving Commitments**.**

(a) Increase in Revolving Facility.

(i) Upon notice to the Administrative Agent (which shall promptly notify the Revolving Lenders), the Company may from time to time after the Closing Date, request an increase in the Revolving Facility by an aggregate amount (for all such requests) not to exceed $500,000,000 (any such increase in the Revolving Facility, an "Incremental Revolving Facility"); provided that (i) any such request for an Incremental Revolving Facility shall be in a minimum amount of $25,000,000, and in increments of $5,000,000 in excess thereof, or, if less, the entire remaining amount available for such Incremental Revolving Facility, and (ii) in no event shall the Aggregate Revolving Commitments under the Revolving Facility (after giving effect to all requested increases therein) exceed $1,000,000,000. Subject to the terms and conditions hereof, the Company may seek commitments from existing Lenders or any other Person that is an Eligible Assignee who shall become a Revolving Lender in connection therewith. At the time of sending such notice, the Company (in consultation with the Administrative Agent) shall specify the time period within which each Revolving Lender is requested to respond (which shall in no event be less than ten (10) Business Days from the date of delivery of such notice to the Revolving Lenders).

(ii) Revolving Lender Elections to Increase. Each Revolving Lender shall notify the Administrative Agent within such time period whether or not it agrees to increase its Revolving Commitment and, if so, whether by an amount equal to, greater than, or less than its Applicable Percentage of such requested increase. Any Revolving Lender not responding within such time period shall be deemed to have declined to increase its Revolving Commitment.

(iii) Notification by Administrative Agent; Additional Revolving Lenders. The Administrative Agent shall notify the Company and each Revolving Lender of the Revolving Lenders' responses to each request made hereunder. To achieve the full amount of a requested increase (to the extent the existing Revolving Lenders do not agree to provide the entire amount of the requested increase), and subject to the approval of the Administrative Agent, the L/C Issuers and the Swingline

Lender, the Company may also invite additional Eligible Assignees to become Revolving Lenders (together with any existing Revolving Lender participating in such increase, each, an "Increasing Revolving Lender") pursuant to a joinder agreement in form and substance reasonably satisfactory to the Administrative Agent and its counsel. Nothing contained herein shall constitute, or otherwise be deemed to be, a commitment on the part of any Revolving Lender to participate in any increase in the Revolving Facility.

(iv) Effective Date and Allocations. If the Revolving Facility is increased in accordance with this Section, the Administrative Agent and the Company shall determine (x) the effective date of any such increase (the "Revolving Facility Increase Effective Date") and (y) the final allocation of such increase among the Increasing Revolving Lenders and Schedule 1.01(b) attached hereto shall be automatically updated to reflect the same. The Administrative Agent shall promptly notify the Company and the Revolving Lenders of the final allocation of such increase and the Revolving Facility Increase Effective Date.

(b) Conditions to Effectiveness of Increase. As a condition precedent to each such increase in the Revolving Facility pursuant to this Section 2.18:

(i) as of the Revolving Facility Increase Effective Date, before and after giving effect to such increase, (A) no Default or Event of Default shall then exist or would exist after giving effect thereto exists, (B) the Company shall demonstrate to the reasonable satisfaction of the Administrative Agent that, after giving effect to such increase on a Pro Forma Basis (as if the entire amount of the Incremental Revolving Facility has been fully-funded), the Company is in Pro Forma Compliance, and (C) the representations and warranties contained in Article V and each other Loan Documents shall be true and correct in all material respects (or in the case of a representation or warranty that is already subject to a materiality condition, in all respects), except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct as of such earlier date, and except that for purposes of this Section 2.18, the representations and warranties contained in clauses (a) and (b) of Section 5.05 shall be deemed to refer to the most recent statements furnished pursuant to clauses (a) and (b), respectively, of Section 6.01.

(ii) the Company shall have delivered to the Administrative Agent a certificate of each Loan Party dated as of the Revolving Facility Increase Effective Date, signed by a Responsible Officer of such Loan Party (x) certifying and attaching the resolutions adopted by such Loan Party approving or consenting to such increase, and (y) certifying (and attaching calculations, as appropriate, in reasonable detail necessary to demonstrate) that, before and after giving effect to such increase each, of the conditions set forth in clause (i) above are satisfied; and

(iii) the Company shall have delivered, or cause to be delivered, customary legal opinions, officers' certificates, reaffirmation agreements and other

documents consistent in all material respects with those delivered on the Closing Date under Section 4.01 with respect to the Company, the other Borrowers and all applicable Subsidiary Guarantors (other than changes to such legal opinions resulting from a change in Law, change in fact or change to counsel's form of opinion reasonably satisfactory to the Administrative Agent) as reasonably requested by the Administrative Agent in connection with each such increase in the Revolving Facility.

The applicable Borrowers shall prepay any Revolving Loans outstanding on the Revolving Facility Increase Effective Date (and pay any additional amounts required pursuant to Section 3.05) to the extent necessary to keep the outstanding Revolving Loans ratable with any revised Applicable Revolving Percentages arising from any nonratable increase in the Revolving Commitments under this Section 2.18.

(c) Terms of Increase. Any increase in the Revolving Facility shall be made on the same terms (including, without limitation, interest, payment, amortization and maturity terms), and shall be subject to the same conditions as existing Revolving Commitments (or, if more than one Class of Revolving Commitments is then outstanding, the Revolving Commitments with the then Latest Maturity Date) except customary arrangement or commitment fees payable to the Arrangers or one or more Increasing Revolving Lenders may be different from those paid with respect to the existing Revolving Commitments of the existing Lenders on or prior to the Closing Date or with respect to any other Increasing Revolving Lender in connection with any other increase in the Revolving Facility pursuant to this Section 2.18.

(d) Conflicting Provisions. This Section 2.18 shall supersede any provisions in Section 2.13 or 11.01 to the contrary.

2.19 Extension of Maturity Date.

(a) Request for Extended Revolving Commitments. So long as no Event of Default has occurred and is continuing, the Borrowers may at any time and from time to time, upon written request to and the consent of the Administrative Agent, the Swingline Lender and the L/C Issuers, request (each, a "Revolving Extension Request") that an aggregate principal amount of not less than $100,000,000 of the then existing Revolving Commitments of any Class (each, an "Existing Revolving Tranche") be amended to, among other things, extend the applicable Maturity Date with respect thereto (the "Existing Maturity Date") to a date that is no earlier than the then Latest Maturity Date of any other Revolving Commitment hereunder (any such Revolving Commitments so amended, "Extended Revolving Commitments"); provided that (i) after giving effect to any Extended Revolving Commitments under this Section 2.19, there shall be no more than three (3) Classes of Revolving Commitments outstanding at any time and (ii) any such Extended Revolving Commitments shall be offered on the same terms to each Revolving Lender under the applicable Existing Revolving Tranche on a ratable basis. For the avoidance of doubt, the reference to "on the same terms" in the preceding sentence shall mean that all of the Revolving Lenders holding such Existing Revolving Tranche are offered to be extended for

the same amount of time, offered the same type of Revolving Commitment and that the interest rate changes and fees payable with respect to such extension are the same. Promptly after receipt of any Revolving Extension Request, the Administrative Agent shall provide a copy of such request to each of the Revolving Lenders under the applicable Existing Revolving Tranche to be amended, which request shall set forth the proposed terms (which shall be determined in consultation with the Administrative Agent) of the Extended Revolving Commitments to be established. Each Revolving Extension Request shall specify (A) the applicable Class of Revolving Commitments and Revolving Loans hereunder to be extended, (B) the date to which the applicable Maturity Date is sought to be extended, and (C) the changes, if any, to the Applicable Rate to be applied in determining the interest payable on the Revolving Loans of, and fees payable hereunder to, Extending Revolving Lenders in respect of that portion of their Revolving Commitments and Revolving Loans extended to such new Maturity Date; provided, however, that such Extended Revolving Commitments shall, except as to interest rates, fees and any other pricing terms and final maturity, have the same terms (including borrowing terms and payment terms (other than payment on the applicable Maturity Date)) as the existing Class of Revolving Commitments from which they are extended. At the time of sending such notice, the Company (in consultation with the Administrative Agent) shall specify the time period within which each applicable Revolving Lender is requested to respond to such request (which shall in no event be less than fifteen (15) calendar days (or such shorter period as may be agreed by the Administrative Agent) from the date of delivery of such notice to such Revolving Lenders) and shall agree to such procedures, if any, as may be established by, or reasonably acceptable to, the Administrative Agent to accomplish the purposes of this Section 2.19.

(b) Election to Extend. Any Revolving Lender wishing to have all (but not less than all) of its Revolving Commitments under the Existing Revolving Tranche amended into Extended Revolving Commitments (each, including any Additional Commitment Lenders (as defined below), an "Extending Revolving Lender") specified in the Revolving Extension Request shall notify the Administrative Agent on or prior to the response date specified in such Revolving Extension Request of the Revolving Commitments it has elected to be amended. No Revolving Lender shall have any obligation to agree to provide any Extended Revolving Commitment pursuant to any Revolving Extension Request. Any Revolving Lender that determines not to extend its Revolving Commitments under the Existing Revolving Tranche, and notifies the Administrative Agent as to the same, or does not responding on or prior to such response date shall be deemed to have declined such Revolving Extension Request and, in each case, shall constitute a "Non-Consenting Lender" hereunder. The Administrative Agent shall notify the Company and each Revolving Lender under the applicable Existing Revolving Tranche of responses to such Revolving Extension Request. In the event that the aggregate principal amount of existing Revolving Commitments that the Extending Revolving Lenders have elected to amend pursuant to the relevant Revolving Extension Request exceeds the amount of Extended Revolving Commitments requested by the Borrowers, the principal amount of Extended Revolving Commitments requested by the Borrowers shall be allocated to each Extending Revolving Lender in such manner and in such amounts as may be agreed by Administrative Agent and the Company, in their sole discretion.

(c) Additional Commitment Lenders. The Company shall have the right to replace each Non-Consenting Lender with, and add as "Revolving Lenders" under this Agreement in place thereof, one or more Eligible Assignees (each, an "Additional Commitment Lender") as provided in Section 11.13; provided that each of such Additional Commitment Lenders shall enter into an Assignment and Assumption in connection with any such Revolving Extension Request pursuant to which such Additional Commitment Lender shall undertake a Revolving Commitment (and, if any such Additional Commitment Lender is already a Lender, its Revolving Commitment shall be in addition to any other Revolving Commitment of such Lender hereunder on such date) from one or more Non-Consenting Lenders.

(d) Revolving Extension Amendment. Extended Revolving Commitments shall be established pursuant to an amendment (each, a "Revolving Extension Amendment") to this Agreement among the Borrowers, the Administrative Agent and each Extending Revolving Lender, if any, providing an Extended Revolving Commitment, which shall be consistent with the provisions set forth in Sections 2.19(a), (b) and (d) (but which shall not require the consent of any other Lender). The effectiveness of any Revolving Extension Amendment shall be subject to the satisfaction on the date thereof of each of the conditions set forth in Sections 4.02(a) and 4.02(b) (but solely limited to an Event of Default) (with all references in such Sections to a Credit Extension being deemed to be references to such Revolving Extension Request) and receipt of a certificate to that effect and, any other condition as may be agreed among the Borrowers, the Administrative Agent and the Extending Revolving Lenders. In addition, the Company shall have delivered, or cause to be delivered, customary legal opinions, officers' certificates, reaffirmation agreements and other documents consistent in all material respects with those delivered on the Closing Date under Section 4.01 with respect to the Company, the other Borrowers and all applicable Subsidiary Guarantors (other than changes to such legal opinions resulting from a change in Law, change in fact or change to counsel's form of opinion reasonably satisfactory to the Administrative Agent) as reasonably requested by the Administrative Agent in connection with each such extension. The Administrative Agent shall promptly notify each Lender as to the effectiveness of each Revolving Extension Amendment and the matters specified therein. Each of the parties hereto hereby agrees that this Agreement and the other Loan Documents may be amended pursuant to a Revolving Extension Amendment, without the consent of any other Lender, to the extent (but only to the extent) necessary to (i) reflect the existence and terms of the Extended Revolving Commitments incurred pursuant thereto, and (ii) effect such other amendments to this Agreement and the other Loan Documents as may be necessary or appropriate, in the reasonable opinion of the Administrative Agent and the Borrowers, to effect the provisions of this Section 2.19, in each case, in a manner consistent with the terms of this Section 2.19, and the Required Lenders hereby expressly authorize the Administrative Agent to enter into any such Revolving Extension Amendment.

(e) Terms of Extended Revolving Commitments. Except as expressly provided herein, all Extended Revolving Commitments effected pursuant to any Revolving Extension Request and Revolving Extension Amendment shall be subject to the same terms, and shall be subject to the same conditions as the Existing Revolving Tranche. After giving effect to

any Extended Revolving Commitment, all borrowings under the Revolving Commitments (including any such Extended Revolving Commitments) and repayments thereunder shall be made on a pro rata basis (except for (x) any payments of interest and fees at different rates on any Revolving Extension Series (and related Loans thereunder), (y) repayments required upon the applicable Maturity Date of other Revolving Commitments and (z) except as otherwise expressly set forth herein). If a Revolving Extension Amendment has become effective hereunder, not later than the third Business Day prior to the Existing Maturity Date, the Borrowers shall make prepayments of Revolving Loans and shall Cash Collateralize Letters of Credit, such that, after giving effect to such prepayments and such provision of Cash Collateral, the aggregate Revolving Exposure as of such date will not exceed the aggregate applicable Extended Revolving Commitments of the Extended Revolving Lenders (and the Borrowers shall not be permitted thereafter to request any Revolving Loan or any issuance, amendment, renewal or extension of a Letter of Credit if, after giving effect thereto, the applicable Revolving Exposure would exceed the aggregate amount of the Extended Revolving Commitments then in effect).

(f) Revolving Extension Series. Any Extended Revolving Commitments effected pursuant to a Revolving Extension Request shall be designated a series (each, a "Revolving Extension Series") of Extended Revolving Commitments for all purposes of this Agreement; provided that any Extended Revolving Commitments effected from an Existing Revolving Tranche may, to the extent provided in the applicable Revolving Extension Amendment, be designated as an increase in any previously established Revolving Extension Series with respect to such Existing Revolving Tranche. In connection with the foregoing, Schedule 1.01(b) attached hereto shall be updated to reflect each applicable Revolving Extension Series, in a manner reasonably satisfactory to the Administrative Agent.

(g) Changes to Applicable Rate. In connection with any extension of the Maturity Date made pursuant to this Section 2.19, the Applicable Rate applicable to Loans made and to be made by Extending Revolving Lenders may be modified without any consent of any other Lender, provided that no such modification shall apply to the Loans of the other Lenders unless the Company and the Administrative Agent (without any requirement of consultation with or approval by any other Lender) determine that such change should apply to the Loans of the other Lenders and either (i) such other Lender has consented to such change (notwithstanding its not consenting to the extension of the Maturity Date) or (ii) such change represents an increase in the Applicable Rate applicable to the Loans of the other Lenders.

(h) Conflicting Provisions. This Section 2.19 shall supersede any provisions in Section 2.13 or 11.01 to the contrary.

ARTICLE III
TAXES, YIELD PROTECTION AND ILLEGALITY

3.01 Taxes**.**

(a) Payments Free of Taxes; Obligation to Withhold; Payments on Account of Taxes.

(i) Any and all payments by or on account of any obligation of any Loan Party under any Loan Document shall be made without deduction or withholding for any Taxes, except as required by applicable Laws. If any applicable Laws (as determined in the good faith discretion of the Administrative Agent) require the deduction or withholding of any Tax from any such payment by the Administrative Agent or a Loan Party, then the Administrative Agent or such Loan Party shall be entitled to make such deduction or withholding, upon the basis of the information and documentation to be delivered pursuant to this Section 3.01.

(ii) If any Loan Party or the Administrative Agent shall be required by the Code to withhold or deduct any Taxes, including both United States federal backup withholding and withholding taxes, from any payment, then (A) the Administrative Agent shall withhold or make such deductions as are determined by the Administrative Agent to be required based upon the information and documentation it has received pursuant to this Section 3.01, (B) the Administrative Agent shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with the Code and (C) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Loan Party shall be increased as necessary so that after any required withholding or the making of all required deductions (including withholdings and deductions applicable to additional sums payable under this Section 3.01) the applicable Recipient receives an amount equal to the sum it would have received had no such withholding or deduction been made.

(iii) If any Loan Party or the Administrative Agent shall be required by any applicable Laws other than the Code to withhold or deduct any Taxes from any payment, then (A) such Loan Party or the Administrative Agent, as required by such Laws, shall withhold or make such deductions as are determined by it to be required based upon the information and documentation it has received pursuant to this Section 3.01, (B) such Loan Party or the Administrative Agent, to the extent required by such Laws, shall timely pay the full amount withheld or deducted to the relevant Governmental Authority in accordance with such Laws and (C) to the extent that the withholding or deduction is made on account of Indemnified Taxes, the sum payable by the applicable Loan Party shall be increased as necessary so that after any required withholding or the making of all required deductions (including withholdings and deductions applicable to additional sums payable under this Section 3.01) the applicable Recipient receives an amount equal to the sum it would have received had no such withholding or deduction been made.

(iv) A Loan Party shall promptly upon becoming aware that it must make a deduction or withholding for any Taxes from a payment under any Loan Document

(or that there is a change in the rate or the basis of such deduction or withholding) notify the Administrative Agent (who shall notify any relevant Lenders) accordingly.

(b) Payment of Other Taxes by the Loan Parties. Without limiting the provisions of subsection (a) above, the Loan Parties shall timely pay to the relevant Governmental Authority in accordance with applicable Law, or at the option of the Administrative Agent timely reimburse it for the payment of, any Other Taxes.

(c) Tax Indemnifications.

(i) Each of the Loan Parties shall, and does hereby, jointly and severally indemnify each Recipient, and shall make payment in respect thereof within ten (10) days after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section 3.01) payable or paid by such Recipient or required to be withheld or deducted from a payment to such Recipient, and any penalties, interest and reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the applicable Loan Party by a Lender or an L/C Issuer (with a copy to the Administrative Agent), or by the Administrative Agent on its own behalf or on behalf of a Lender or an L/C Issuer, shall be conclusive absent manifest error. Each of the Loan Parties shall also, and does hereby, jointly and severally indemnify the Administrative Agent, and shall make payment in respect thereof within ten (10) days after demand therefor, for any amount which a Lender or an L/C Issuer for any reason fails to pay indefeasibly to the Administrative Agent as required pursuant to Section 3.01(c)(ii) below.

(ii) Each Lender and each L/C Issuer shall, and does hereby, severally indemnify and shall make payment in respect thereof within ten (10) days after demand therefor, (A) the Administrative Agent against any Indemnified Taxes attributable to such Lender or such L/C Issuer (but only to the extent that any Loan Party has not already indemnified the Administrative Agent for such Indemnified Taxes and without limiting the obligation of the Loan Parties to do so), (B) the Administrative Agent and the Loan Parties, as applicable, against any Taxes attributable to such Lender's failure to comply with the provisions of Section 11.06(d) relating to the maintenance of a Participant Register and (C) the Administrative Agent and the Loan Parties, as applicable, against any Excluded Taxes attributable to such Lender or such L/C Issuer, in each case, that are payable or paid by the Administrative Agent or a Loan Party in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by the Administrative Agent shall be conclusive absent manifest error. Each Lender and each L/C Issuer hereby authorizes the

Administrative Agent to set off and apply any and all amounts at any time owing to such Lender or such L/C Issuer, as the case may be, under this Agreement or any other Loan Document against any amount due to the Administrative Agent under this clause (ii).

(d) Evidence of Payments. As soon as practicable after any payment of Taxes by any Loan Party to a Governmental Authority, as provided in this Section 3.01, the applicable Loan Party shall deliver to the Administrative Agent the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of any return reporting such payment or other evidence of such payment reasonably satisfactory to the Administrative Agent.

(e) Status of Lenders; Tax Documentation.

(i) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the applicable Borrower and the Administrative Agent, at the time or times reasonably requested by the applicable Borrower or the Administrative Agent, such properly completed and executed documentation reasonably requested by the applicable Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the applicable Borrower or the Administrative Agent, shall deliver such other documentation prescribed by applicable Law or reasonably requested by the applicable Borrower or the Administrative Agent as will enable the applicable Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Section 3.01(e)(ii)(A), (ii)(B) and (ii)(D) below) shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(ii) Without limiting the generality of the foregoing, in the event that the applicable Borrower is a U.S. Person (including the Company),

(A) any Lender that is a U.S. Person shall deliver to the Company and the Administrative Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Company or the Administrative Agent), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;

(B) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Company and the Administrative Agent (in such number

of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Company or the Administrative Agent), whichever of the following is applicable:

(1) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN-E (or W-8BEN, as applicable) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN-E (or W-8BEN, as applicable) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;

(2) executed originals of IRS Form W-8ECI;

(3) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit I-1 to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of the Company within the meaning of Section 881(c)(3)(B) of the Code, or a "controlled foreign corporation" described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate") and (y) executed copies of IRS Form W-8BEN-E (or W-8BEN, as applicable); or

(4) to the extent a Foreign Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN-E (or W-8BEN, as applicable), a U.S. Tax Compliance Certificate substantially in the form of Exhibit I-2 or Exhibit I-3, IRS Form W-9, and/or other certification documents from each beneficial owner, as applicable; provided that if the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate substantially in the form of Exhibit I-4 on behalf of each such direct and indirect partner;

(C) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Company and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and

from time to time thereafter upon the reasonable request of the Company or the Administrative Agent), executed copies (or originals, as required) of any other form prescribed by applicable Law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable Law to permit the Company or the Administrative Agent to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Company and the Administrative Agent at the time or times prescribed by law and at such time or times reasonably requested by the Company or the Administrative Agent such documentation prescribed by applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Company or the Administrative Agent as may be necessary for the Company and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this clause (D), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(iii) Each Lender agrees that if any form or certification it previously delivered pursuant to this Section 3.01 expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the applicable Borrower and the Administrative Agent in writing of its legal inability to do so.

(f) An Irish Treaty Lender and the applicable Borrower shall co-operate in completing any procedural formalities necessary for the applicable Borrower to obtain authorization to make a payment to that Irish Treaty Lender without any deduction or withholding of any tax imposed by Ireland.

(g) In respect of Loans advanced to a Loan Party that is within the charge to UK Taxes:

(i) Subject to Section 3.01(g)(ii), a UK Treaty Lender and each Loan Party which makes a payment under a Loan Document to which that UK Treaty Lender is entitled shall cooperate in completing any procedural formalities necessary for such Loan Party to obtain authorization to make that payment without a UK Tax Deduction, including making and filing of an appropriate application for relief under an applicable Treaty.

(ii) A UK Treaty Lender that holds a passport under the HMRC Double Taxation Treaty Passport Scheme ("UK DTTP Scheme") and which wishes the UK DTTP Scheme to apply to this Agreement, shall confirm its scheme reference number and jurisdiction of tax residence in: (A) where the UK Treaty Lender is a Lender on the date of this Agreement, Schedule 1.01(d) to this Agreement; or (B) where the UK Treaty Lender becomes a Lender after the date of this Agreement, the relevant Assignment and Assumption, and, having done so, that UK Treaty Lender shall be under no obligation pursuant to Section 3.01(g)(i) to cooperate with the relevant Loan Party but, for avoidance of doubt, such UK Treaty Lender shall have an obligation to cooperate further with the relevant Loan Party in accordance with Section 3.01(g)(iii).

(iii) If a UK Treaty Lender has confirmed its scheme reference number and its jurisdiction of tax residence in accordance with Section 3.01(g)(ii) and:

(A) a Loan Party making a payment to that UK Treaty Lender has not made a UK DTTP Filing in respect of that UK Treaty Lender; or

(B) a Loan Party making a payment to that UK Treaty Lender has made a UK DTTP Filing in respect of that Lender but either (a) that UK DTTP Filing has been rejected by HMRC or (b) HMRC has not given the Loan Party authority to make payments to that UK Treaty Lender without a UK Tax Deduction within 40 Business Days of the date of the UK DTTP Filing, and in each case, the relevant Loan Party has notified that UK Treaty Lender in writing, that UK Treaty Lender and the Loan Party shall cooperate in completing any additional procedural formalities necessary for that Loan Party to obtain authorization to make that payment without a UK Tax Deduction.

(iv) If a Lender has not confirmed its scheme reference number and jurisdiction of tax residence in accordance with Section 3.01(g)(ii), no Loan Party shall make a UK DTTP Filing or file any other form relating to the UK DTTP Scheme in respect of that Lender's Revolving Commitment or participation in any Loan unless the Lender otherwise agrees.

(v) A Loan Party shall, promptly after making a UK DTTP Filing, deliver a copy of the UK DTTP Filing to the Administrative Agent for delivery to the relevant Lender.

(vi) A Lender that is a Lender on the date of this Agreement that is a UK Qualifying Lender solely by virtue of sub-paragraph (b) of the definition of UK Qualifying Lender gives a UK Tax Confirmation to Company by entering into the Agreement. A Lender that is a UK Qualifying Lender solely by virtue of sub-paragraph (b) of the definition of UK Qualifying Lender shall promptly notify Company and the Administrative Agent if there is any change in the position from that set out in the UK Tax Confirmation.

(vii) Each Lender which is not a Lender on the date of this Agreement shall indicate in the relevant Assignment and Assumption, for the benefit of the Administrative Agent, but without liability to any Loan Party, whether it is:

(A) not a UK Qualifying Lender;

(B) a UK Qualifying Lender (that is not a UK Treaty Lender); or

(C) a UK Treaty Lender.

If a Lender fails to indicate its status in accordance with this Section 3.01(g)(vii) then such Lender shall be treated for the purposes of this Agreement (including by each Loan Party) as if it is not a UK Qualifying Lender until such time as it notifies the Administrative Agent (and the Administrative Agent, upon receipt of such notification, shall inform the Company). For the avoidance of doubt, an Assignment and Assumption shall not be invalidated by any failure of a Lender to comply with this Section 3.01(g)(vii).

(h) Each Lender which is not a Lender on the date of this Agreement shall indicate in the relevant Assignment and Assumption, for the benefit of the Administrative Agent, but without liability to any Loan Party, whether it is:

(i) not an Irish Qualifying Lender;

(ii) an Irish Qualifying Lender (that is not an Irish Treaty Lender); or

(iii) an Irish Treaty Lender.

If a Lender fails to indicate its status in accordance with this Section 3.01(h) then such Lender shall be treated for the purposes of this Agreement (including by each Loan Party) as if it is not an Irish Qualifying Lender until such time as it notifies the Administrative Agent (and the Administrative Agent, upon receipt of such notification, shall inform the Company). For the avoidance of doubt, an Assignment and Assumption shall not be invalidated by any failure of a Lender to comply with this Section 3.01(h).

(i) Treatment of Certain Refunds. Unless required by applicable Laws, at no time shall the Administrative Agent have any obligation to file for or otherwise pursue on behalf of a Lender or an L/C Issuer, or have any obligation to pay to any Lender or any L/C Issuer, any refund of Taxes withheld or deducted from funds paid for the account of such Lender or such L/C Issuer, as the case may be. If any Recipient determines, in its sole discretion exercised in good faith, that it has received a refund of any Taxes as to which it has been indemnified by any Loan Party or with respect to which any Loan Party has paid additional amounts pursuant to this Section 3.01, it shall pay to such Loan Party an amount equal to such refund (but only to the extent of indemnity payments made, or additional

amounts paid, by such Loan Party under this Section 3.01 with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) incurred by such Recipient, as the case may be, and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund), provided that each Loan Party, upon the request of the Recipient, agrees to repay the amount paid over to such Loan Party (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to the Recipient in the event the Recipient is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this subsection, in no event will the applicable Recipient be required to pay any amount to such Loan Party pursuant to this subsection the payment of which would place the Recipient in a less favorable net after-Tax position than such Recipient would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This subsection shall not be construed to require any Recipient to make available its tax returns (or any other information relating to its taxes that it deems confidential) to any Loan Party or any other Person.

(j) Survival. Each party's obligations under this Section 3.01 shall survive the resignation or replacement of the Administrative Agent or any assignment of rights by, or the replacement of, a Lender or an L/C Issuer, the termination of the Revolving Commitments and the repayment, satisfaction or discharge of all other Obligations.

3.02 Illegality**.**

(a) If any Lender determines that any Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for any Lender or its applicable Lending Office to make, maintain or fund or charge interest with respect to any Credit Extension, or to determine or charge interest rates based upon the Eurocurrency Rate, or any Governmental Authority has imposed material restrictions on the authority of such Lender to purchase or sell, or to take deposits of, Dollars or any Alternative Currency in the applicable interbank market, then, upon notice thereof by such Lender to the Company (through the Administrative Agent), (i) any obligation of such Lender to make or continue Eurocurrency Rate Loans in the affected currency or currencies or, in the case of Eurocurrency Rate Loans in Dollars, to convert Base Rate Loans to Eurocurrency Rate Loans, shall be suspended, and (ii) if such notice asserts the illegality of such Lender making or maintaining Base Rate Loans the interest rate on which is determined by reference to the Eurocurrency Rate component of the Base Rate, the interest rate on which Base Rate Loans of such Lender shall, if necessary to avoid such illegality, be determined by the Administrative Agent without reference to the Eurocurrency Rate component of the Base Rate, in each case until such Lender notifies the Administrative Agent and the Company that the circumstances giving rise to such determination no longer exist. Upon receipt of such notice, (A) the Borrowers shall, upon demand from such Lender (with a copy to the Administrative Agent), prepay or, if applicable and such Loans are denominated in Dollars, convert all Eurocurrency Rate Loans of such Lender to Base Rate Loans (the interest rate on which Base Rate Loans of such Lender shall, if necessary to avoid such illegality, be

determined by the Administrative Agent without reference to the Eurocurrency Rate component of the Base Rate), either on the last day of the Interest Period therefor, if such Lender may lawfully continue to maintain such Eurocurrency Rate Loans to such day, or immediately, if such Lender may not lawfully continue to maintain such Eurocurrency Rate Loans and (B) if such notice asserts the illegality of such Lender determining or charging interest rates based upon the Eurocurrency Rate, the Administrative Agent shall during the period of such suspension compute the Base Rate applicable to such Lender without reference to the Eurocurrency Rate component thereof until the Administrative Agent is advised in writing by such Lender that it is no longer illegal for such Lender to determine or charge interest rates based upon the Eurocurrency Rate. Upon any such prepayment or conversion, the Borrowers shall also pay accrued interest on the amount so prepaid or converted, together with any additional amounts required pursuant to Section 3.05.

(b) If, in any applicable jurisdiction, the Administrative Agent, the applicable L/C Issuer or any Lender or any Designated Lender determines that any Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for the Administrative Agent, the applicable L/C Issuer or any Lender or its applicable Designated Lender to (i) perform any of its obligations hereunder or under any other Loan Document, (ii) to fund, hold a commitment or maintain its participation in any Loan or Letter of Credit or (iii) issue, make, maintain, fund or charge interest or fees with respect to any Credit Extension, such Person shall promptly notify the Administrative Agent, then, upon the Administrative Agent notifying the Company, and until such notice by such Person is revoked, any obligation of such Person to issue, make, maintain, fund or charge interest or fees with respect to any such Credit Extension shall be suspended, and to the extent required by applicable Law, cancelled. Upon receipt of such notice, the Loan Parties shall, (A) repay that Person's participation in the Loans or other applicable Obligations on the last day of the Interest Period for each Loan or other Obligation occurring after the Administrative Agent has notified the Company or, if earlier, the date specified by such Person in the notice delivered to the Administrative Agent (being no earlier than the last day of any applicable grace period permitted by applicable Law), (B) to the extent applicable to the applicable L/C Issuer, Cash Collateralize that portion of applicable L/C Obligations comprised of the aggregate undrawn amount of Letters of Credit to the extent not otherwise Cash Collateralized and (C) take all reasonable actions requested by such Person to mitigate or avoid such illegality.

3.03 Inability to Determine Rates**.**

(a) If in connection with any request for a Eurocurrency Rate Loan or a conversion to or continuation thereof, (i) the Administrative Agent determines that (A) deposits (whether in Dollars or an Alternative Currency) are not being offered to banks in the applicable offshore interbank market for such currency for the applicable amount and Interest Period of such Eurocurrency Rate Loan, (B) (1) adequate and reasonable means do not exist for determining the Eurocurrency Rate for any requested Interest Period with respect to a proposed Eurocurrency Rate Loan (whether denominated in Dollars or an Alternative Currency) or in connection with an existing or proposed Base Rate Loan and (2) the

circumstances described in Section 3.03(c)(i) do not apply or (C) a fundamental change has occurred in the foreign exchange or interbank markets with respect to such Alternative Currency (including, without limitation, changes in national or international financial, political or economic conditions or currency exchange rates or exchange controls) (in each case with respect to this clause (i), "Impacted Loans") or (ii) the Administrative Agent or the Required Lenders determine that for any reason Eurocurrency Rate for any requested Interest Period with respect to a proposed Eurocurrency Rate Loan does not adequately and fairly reflect the cost to such Lenders of funding such Loan, the Administrative Agent will promptly so notify the Company and each Lender. Thereafter, (x) the obligation of the Lenders to make or maintain Eurocurrency Rate Loans in the affected currency or currencies shall be suspended (to the extent of the affected Eurocurrency Rate Loans or Interest Periods), and (y) in the event of a determination described in the preceding sentence with respect to the Eurocurrency Rate component of the Base Rate, the utilization of the Eurocurrency Rate component in determining the Base Rate shall be suspended, in each case until the Administrative Agent (or, in the case of a determination by the Required Lenders described in clause (ii) of this Section 3.03(a), until the Administrative Agent upon instruction of the Required Lenders) revokes such notice. Upon receipt of such notice, the Company may revoke any pending request for a Borrowing of, conversion to or continuation of Eurocurrency Rate Loans in the affected currency or currencies (to the extent of the affected Eurocurrency Rate Loans or Interest Periods) or, failing that, will be deemed to have converted such request into a request for a Borrowing of Base Rate Loans in Dollars in the amount specified therein.

(b) Notwithstanding the foregoing, if the Administrative Agent has made the determination described in clause (a)(i) of this Section 3.03, the Administrative Agent in consultation with the Company, may establish an alternative interest rate for the Impacted Loans, in which case, such alternative rate of interest shall apply with respect to the Impacted Loans until (i) the Administrative Agent revokes the notice delivered with respect to the Impacted Loans under clause (a)(i) of this Section 3.03, (ii) the Administrative Agent or the Required Lenders notify the Administrative Agent and the Company that such alternative interest rate does not adequately and fairly reflect the cost to such Lenders of funding the Impacted Loans or (iii) any Lender determines that any Law has made it unlawful, or that any Governmental Authority has asserted that it is unlawful, for such Lender or its applicable Lending Office to make, maintain or fund Loans whose interest is determined by reference to such alternative rate of interest or to determine or charge interest rates based upon such rate or any Governmental Authority has imposed material restrictions on the authority of such Lender to do any of the foregoing and provides the Administrative Agent and the Company written notice thereof.

(c) Notwithstanding anything to the contrary in this Agreement or any other Loan Documents, but without limiting Sections 3.01(a) and (b) above, if the Administrative Agent determines (which determination shall be conclusive and binding upon all parties hereto absent manifest error), or the Company or Required Lenders notify the Administrative Agent (with, in the case of the Required Lenders, a copy to the Company) that the Company

or Required Lenders (as applicable) have determined (which determination likewise shall be conclusive and binding upon all parties hereto absent manifest error), that:

(i) adequate and reasonable means do not exist for ascertaining LIBOR for any requested Interest Period, including, without limitation, because the LIBOR Screen Rate is not available or published on a current basis and such circumstances are unlikely to be temporary; or

(ii) the administrator of the LIBOR Screen Rate or a Governmental Authority having or purporting to have jurisdiction over the Administrative Agent has made a public statement identifying a specific date after which LIBOR or the LIBOR Screen Rate shall no longer be made available, or used for determining the interest rate of loans in the applicable currency; provided that, at the time of such statement, there is no successor administrator that is satisfactory to the Administrative Agent, that will continue to provide LIBOR after such specific date (such specific date, the "Scheduled Unavailability Date"), or

(iii) syndicated loans currently being executed, or that include language similar to that contained in this Section 3.03, are being executed or amended (as applicable) to incorporate or adopt a new benchmark interest rate to replace LIBOR,

then, reasonably promptly after such determination by the Administrative Agent or receipt by the Administrative Agent of such notice, as applicable, the Administrative Agent and the Company may amend this Agreement to replace LIBOR with (x) one or more SOFR-Based Rates (which shall be applicable only to Loans denominated in Dollars) or (y) another alternate benchmark rate giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated syndicated credit facilities for such alternative benchmarks and, in each case, including any mathematical or other adjustments to such benchmark giving due consideration to any evolving or then existing convention for similar U.S. dollar denominated syndicated credit facilities for such benchmarks, which adjustment or method for calculating such adjustment shall be published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion and may be periodically updated (the "Adjustment"; and any such proposed rate, a "LIBOR Successor Rate"), and any such amendment shall become effective at 5:00 p.m. on the fifth Business Day after the Administrative Agent shall have posted such proposed amendment to all Lenders and the Company unless, prior to such time, Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders (A) in the case of an amendment to replace LIBOR with a rate described in clause (x), object to the Adjustment; or (B) in the case of an amendment to replace LIBOR with a rate described in clause (y), object to such amendment; provided that for the avoidance of doubt, in the case of clause (A), the Required Lenders shall not be entitled to object to any SOFR-Based Rate contained in any such amendment. Such LIBOR Successor Rate shall be applied in a manner consistent with market practice; provided that to the extent such market practice is not administratively feasible for the Administrative Agent, such LIBOR

Successor Rate shall be applied in a manner as otherwise reasonably determined by the Administrative Agent.

If no LIBOR Successor Rate has been determined and the circumstances under clause (c)(i) above exist or the Scheduled Unavailability Date has occurred (as applicable), the Administrative Agent will promptly so notify the Company and each Lender. Thereafter, (i) the obligation of the Lenders to make or maintain Eurocurrency Rate Loans in the affected currency or currencies shall be suspended (to the extent of the affected Eurocurrency Rate Loans or Interest Periods), and (ii) the Eurocurrency Rate component shall no longer be utilized in determining the Base Rate. Upon receipt of such notice, the Company may revoke any pending request for a Borrowing of, conversion to or continuation of Eurocurrency Rate Loans in the affected currency or currencies (to the extent of the affected Eurocurrency Rate Loans or Interest Periods) or, failing that, will be deemed to have converted such request into a request for a Borrowing of Base Rate Loans (subject to the foregoing clause (ii)) in Dollars in the amount specified therein.

Notwithstanding anything else herein, any definition of LIBOR Successor Rate shall provide that in no event shall such LIBOR Successor Rate be less than zero for purposes of this Agreement.

In connection with the implementation of a LIBOR Successor Rate, the Administrative Agent will have the right to make LIBOR Successor Rate Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such LIBOR Successor Rate Conforming Changes will become effective without any further action or consent of any other party to this Agreement.

For purposes hereof:

"LIBOR Successor Rate Conforming Changes" means, with respect to any proposed LIBOR Successor Rate, any conforming changes to the definition of Base Rate, Interest Period, timing and frequency of determining rates and making payments of interest and other technical, administrative or operational matters as may be appropriate, in the discretion of the Administrative Agent, to reflect the adoption and implementation of such LIBOR Successor Rate and to permit the administration thereof by the Administrative Agent in a manner substantially consistent with market practice (or, if the Administrative Agent determines that adoption of any portion of such market practice is not administratively feasible or that no market practice for the administration of such LIBOR Successor Rate exists, in such other manner of administration as the Administrative Agent determines is reasonably necessary in connection with the administration of this Agreement).

"Relevant Governmental Body" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York for the purpose of recommending a benchmark rate to replace LIBOR in loan agreements similar to this Agreement.

"SOFR" with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark (or a successor administrator) on the Federal Reserve Bank of New York's website (or any successor source) and, in each case, that has been selected or recommended by the Relevant Governmental Body.

"SOFR-Based Rate" means SOFR or Term SOFR.

"Term SOFR" means the forward-looking term rate for any period that is approximately (as determined by the Administrative Agent) as long as any of the Interest Period options set forth in the definition of "Interest Period" and that is based on SOFR and that has been selected or recommended by the Relevant Governmental Body, in each case as published on an information service as selected by the Administrative Agent from time to time in its reasonable discretion.

3.04 Increased Costs; Reserves on Eurocurrency Rate Loans**.**

(a) Increased Costs Generally. If any Change in Law shall:

(i) impose, modify or deem applicable any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, any Lender (except any reserve requirement contemplated by Section 3.04(e)) or any L/C Issuer;

(ii) subject any Recipient to any Taxes (other than (A) Indemnified Taxes, (B) Excluded Taxes (other than those described in clause (a) of the definition of Excluded Taxes) and (C) Connection Income Taxes) on its loans, loan principal, letters of credit, commitments, or other obligations, or its deposits, reserves, other liabilities or capital attributable thereto; or

(iii) impose on any Lender or any L/C Issuer or the London interbank market any other condition, cost or expense affecting this Agreement or Eurocurrency Rate Loans made by such Lender or any Letter of Credit or participation therein;

and the result of any of the foregoing shall be to increase the cost to such Lender of making, converting to, continuing or maintaining any Loan (or of maintaining its obligation to make any such Loan), or to increase the cost to such Lender or such L/C Issuer of participating in, issuing or maintaining any Letter of Credit (or of maintaining its obligation to participate in or to issue any Letter of Credit), or to reduce the amount of any sum received or receivable by such Lender or such L/C Issuer hereunder (whether of principal, interest or any other amount) then, upon request of such Lender or such L/C Issuer, the Company will pay (or cause the applicable Designated Foreign Borrower to pay) to such Lender or such L/C Issuer, as the case may be, such additional amount or amounts as will compensate such Lender or such L/C Issuer, as the case may be, for such additional costs incurred or reduction suffered.

(b) Capital Requirements. If any Lender or any L/C Issuer determines that any Change in Law affecting such Lender or such L/C Issuer or any Lending Office of such Lender or such Lender's or such L/C Issuer's holding company, if any, regarding capital or liquidity requirements has or would have the effect of reducing the rate of return on such Lender's or such L/C Issuer's capital or on the capital of such Lender's or such L/C Issuer's holding company, if any, as a consequence of this Agreement, the Revolving Commitments of such Lender or the Loans made by, or participations in Letters of Credit or Swingline Loans held by, such Lender, or the Letters of Credit issued by such L/C Issuer, to a level below that which such Lender or such L/C Issuer or such Lender's or such L/C Issuer's holding company could have achieved but for such Change in Law (taking into consideration such Lender's or such L/C Issuer's policies and the policies of such Lender's or such L/C Issuer's holding company with respect to capital adequacy or liquidity), then from time to time the Company will pay (or cause the applicable Designated Foreign Borrower to pay) to such Lender or such L/C Issuer, as the case may be, such additional amount or amounts as will compensate such Lender or such L/C Issuer or such Lender's or such L/C Issuer's holding company for any such reduction suffered.

(c) [Reserved]

(d) Certificates for Reimbursement. A certificate of a Lender or an L/C Issuer setting forth in reasonable detail the amount or amounts necessary to compensate such Lender or such L/C Issuer or its holding company, as the case may be, as specified in clause (a) or (b) of this Section 3.04, including the basis and calculation thereof, shall be delivered to the Company and shall be conclusive absent manifest error. The Company shall pay (or cause the applicable Designated Foreign Borrower to pay) such Lender or such L/C Issuer, as the case may be, the amount shown as due on any such certificate within ten (10) days after receipt thereof.

(e) Reserves on Eurocurrency Rate Loans. The Company shall pay (or cause the applicable Designated Foreign Borrower to pay) to each Lender, (i) as long as such Lender shall be required to maintain reserves with respect to liabilities or assets consisting of or including eurocurrency funds or deposits (currently known as "Eurocurrency liabilities"), additional interest on the unpaid principal amount of each Eurocurrency Rate Loan equal to the actual costs of such reserves allocated to such Loan by such Lender (as determined by such Lender in good faith, which determination shall be conclusive) and (ii) as long as such Lender shall be required to comply with any reserve ratio requirement or analogous requirement of any central banking or financial regulatory authority imposed in respect of the maintenance of the Revolving Commitments or the funding of the Loans, such additional costs (expressed as a percentage per annum and rounded upwards, if necessary, to the nearest five decimal places) equal to the actual costs allocated to such Revolving Commitment or Loan by such Lender (as determined by such Lender in good faith, which determination shall be conclusive), which in each case shall be due and payable on each date on which interest is payable on such Loan, provided the Company shall have received at least ten (10) days' prior notice (with a copy to the Administrative Agent) of such additional interest or costs from such Lender. If a Lender fails to give notice ten (10)

days prior to the relevant Interest Payment Date, such additional interest shall be due and payable ten (10) days from receipt of such notice.

(f) Delay in Requests. Failure or delay on the part of any Lender or any L/C Issuer to demand compensation pursuant to the foregoing provisions of this Section 3.04 shall not constitute a waiver of such Lender's or such L/C Issuer's right to demand such compensation, provided that the Borrowers shall not be required to compensate a Lender or an L/C Issuer pursuant to the foregoing provisions of this Section for any increased costs incurred or reductions suffered more than nine (9) months prior to the date that such Lender or such L/C Issuer, as the case may be, notifies the Company of the Change in Law giving rise to such increased costs or reductions and of such Lender's or such L/C Issuer's intention to claim compensation therefor (except that, if the Change in Law giving rise to such increased costs or reductions is retroactive, then the nine (9) month period referred to above shall be extended to include the period of retroactive effect thereof).

3.05 Compensation for Losses**.**

Upon written demand of any Lender (with a copy to the Administrative Agent) from time to time, setting forth in reasonable detail the basis for, and manner of calculating such compensation, the Company shall promptly compensate (or cause the applicable Designated Foreign Borrower to compensate) such Lender for and hold such Lender harmless from any loss, cost or expense incurred by it as a result of:

(a) any continuation, conversion, payment or prepayment of any Loan other than a Base Rate Loan on a day other than the last day of the Interest Period for such Loan (whether voluntary, mandatory, automatic, by reason of acceleration, or otherwise);

(b) any failure by the Borrowers (for a reason other than the failure of such Lender to make a Loan) to prepay, borrow, continue or convert any Loan other than a Base Rate Loan on the date or in the amount notified by the Company (or the applicable Designated Foreign Borrower);

(c) any assignment of a Eurocurrency Rate Loan on a day other than the last day of the Interest Period therefor as a result of a request by the Company pursuant to Section 11.13; or

(d) any failure by any Borrower to make payment of any Loan or drawing under any Letter of Credit (or interest due thereon) denominated in an Alternative Currency on its scheduled due date or any payment thereof in a different currency;

including any foreign exchange losses and any loss or expense (but excluding any loss of anticipated profits) arising from the liquidation or reemployment of funds obtained by it to maintain such Loan or from fees payable to terminate the deposits from which such funds were obtained or from the performance of any foreign exchange contract (but excluding any loss of anticipated profits). The Company shall also pay (or cause the applicable Designated Foreign Borrower to pay) any customer administrative fees charged by such Lender in connection with the foregoing.

For purposes of calculating amounts payable by the Company (or the applicable Designated Foreign Borrower) to the Lenders under this Section 3.05, each Lender shall be deemed to have funded each Eurocurrency Rate Loan made by it at the Eurocurrency Rate for such Loan by a matching deposit or other borrowing in the offshore interbank market for such currency for a comparable amount and for a comparable period, whether or not such Eurocurrency Rate Loan was in fact so funded.

3.06 Mitigation Obligations; Replacement of Lenders**.**

(a) Designation of a Different Lending Office. If any Lender requests compensation under Section 3.04, or requires the Borrowers to pay any Indemnified Taxes or additional amounts to any Lender, any L/C Issuer, or any Governmental Authority for the account of any Lender or any L/C Issuer pursuant to Section 3.01, or if any Lender gives a notice pursuant to Section 3.02, then at the request of the Company, such Lender or such L/C Issuer shall, as applicable, use reasonable efforts to designate a different Lending Office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of such Lender or such L/C Issuer, such designation or assignment (i) would eliminate or reduce amounts payable pursuant to Section 3.01 or 3.04, as the case may be, in the future, or eliminate the need for the notice pursuant to Section 3.02, as applicable, and (ii) in each case, would not subject such Lender or such L/C Issuer, as the case may be, to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender or such L/C Issuer, as the case may be. The Company hereby agrees to pay (or cause the applicable Designated Foreign Borrower to pay) all reasonable costs and expenses incurred by any Lender or any L/C Issuer in connection with any such designation or assignment.

(b) Replacement of Lenders. If any Lender requests compensation under Section 3.04, or if the Borrowers are required to pay any Indemnified Taxes or additional amounts to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 3.01 and, in each case, such Lender has declined or is unable to designate a different lending office in accordance with Section 3.06(a), the Company may replace such Lender in accordance with Section 11.13.

3.07 Survival**.**

All of the Borrowers' obligations under this Article III and the Lenders' obligations under Section 3.01(c)(ii) shall, in each case, survive termination of the Aggregate Revolving Commitments, repayment of all other Obligations hereunder, resignation of the Administrative Agent and the Facility Termination Date.

ARTICLE IV
CONDITIONS PRECEDENT TO CREDIT EXTENSIONS

4.01 Conditions of Initial Credit Extension**.**

The obligation of each L/C Issuer and each Lender to make its initial Credit Extension hereunder is subject to satisfaction or waiver (in accordance with Section 11.01) of the following conditions precedent:

(a) Execution of Credit Agreement; Loan Documents. The Administrative Agent (or its counsel) shall have received (i) counterparts of this Agreement, executed by a Responsible Officer of each Loan Party and a duly authorized officer of each Lender, L/C Issuer and the Administrative Agent, (ii) for the account of each Lender requesting a Revolving Note reasonably in advance of the Closing Date, a Revolving Note executed by a Responsible Officer of each Borrower and (iii) counterparts of the Intercompany Subordination Agreement, executed by a Responsible Officer of each Loan Party and a duly authorized officer of each other Person party thereto, each of which shall be in form and substance reasonably satisfactory to the Administrative Agent, the Arrangers and each of the Lenders.

(b) Officer's Certificate. The Administrative Agent (or its counsel) shall have received a certificate of a Responsible Officer of each Loan Party dated the Closing Date, certifying as to (i) the Organization Documents of such Loan Party (which, to the extent filed with a Governmental Authority in the United States, shall be certified as of a recent date by such Governmental Authority), (ii) the resolutions of the board of directors or other governing body of such Loan Party, (iii) in the case of Vertex Europe only, a resolution signed by all of the holders of the issued shares in Vertex Europe, (iv) the good standing of such Loan Party (to the extent the concept is relevant and customarily certified in the applicable jurisdiction) by attaching a good standing certificate, certified as of a recent date by such Governmental Authority, (v) the incumbency (including specimen signatures) of the Responsible Officers of such Loan Party and (vi) in the case of Vertex Europe and Vertex Ireland only, that the borrowing or guaranteeing (as applicable) of the aggregate of the Revolving Commitments would not cause any borrowing, guarantee or similar limit binding on it to be exceeded, each in form and substance reasonably satisfactory to the Administrative Agent.

(c) Legal Opinions of Counsel. The Administrative Agent shall have received favorable opinions of counsel to the Borrowers (including appropriate local counsel), in each case, dated the Closing Date and addressed to the Administrative Agent and the Lenders, in form and substance reasonably satisfactory to the Administrative Agent, covering such matters relating to the Loan Documents and the transactions contemplated thereby as the Administrative Agent and the Lenders shall reasonably request.

(d) Insurance. The Administrative Agent shall have received customary certificates evidencing insurance meeting the requirements set forth herein.

(e) Officer's Closing Certificate. The Administrative Agent (or its counsel) shall have received a certificate or certificates executed by a Responsible Officer (i) of the Company as of the Closing Date, certifying as to the matters set forth in clause (h) of this Section 4.01, the matters set forth in Section 4.02(a) and (b) and, (ii) in respect of Vertex Ireland only, of Vertex Ireland as of the Closing Date, that (A) its entry into the Loan

Documents and performance of the transactions thereby contemplated would not constitute "financial assistance" within the meaning of section 82 of the Companies Act 2014 of Ireland and (B) the Loan Parties are members of the same group of companies consisting of a holding company and its subsidiaries (within the meanings of sections 7 and 8 of the Companies Act 2014 of Ireland) for the purposes of section 243 of the Companies Act 2014 of Ireland.

(f) Loan Notice. The Administrative Agent shall have received a Loan Notice with respect to any Loans to be made on the Closing Date.

(g) Existing Indebtedness of the Loan Parties. The Administrative Agent shall have received a customary payoff letter with respect to, and evidence (reasonably satisfactory to the Administrative Agent) that, all Indebtedness of the Company and its Restricted Subsidiaries under the Existing Credit Agreement shall be repaid in full and all security interests related thereto shall be terminated substantially concurrently with, or prior to, the Closing Date.

(h) Material Adverse Effect. There shall have been no event or circumstance since the date of the Audited Financial Statements (including any action, suit, investigation or proceeding pending or, to the knowledge of the Borrowers, threatened in writing) that has had or would be reasonably expected to have, either individually or in the aggregate, a Material Adverse Effect.

(i) Anti-Money-Laundering; Beneficial Ownership. (x) The Administrative Agent shall have received, at least three (3) Business Days prior to the Closing Date, the documentation and other information regarding the Borrowers requested by the Administrative Agent and the Lenders in order to comply with "know your customer" and anti-money laundering rules and regulations, including without limitation, the Patriot Act, to the extent requested in writing by the Administrative Agent on behalf of the Lenders at least ten (10) days prior to the Closing Date and (y) to the extent any Borrower qualifies as a "legal entity customer" under 31 C.F.R. § 1010.230 (the "Beneficial Ownership Regulation"), at least three (3) Business Days prior to the Closing Date, any Lender that has requested in a written notice to the Company at least ten (10) days prior to the Closing Date, a certification regarding beneficial ownership required by the Beneficial Ownership Regulation (the "Beneficial Ownership Certification") in relation to the Borrowers shall have received such Beneficial Ownership Certification (provided that, execution and delivery of a Beneficial Ownership Certification in the form published by The Loan Syndication and Trading Association is acceptable to all Lenders for purposes of satisfying the condition set forth in this clause (y) of Section 4.01(i)).

(j) Consents. The Administrative Agent (or its counsel) shall have received a certificate of a Responsible Officer of the Company either (i) attaching copies of all consents, licenses and approvals required in connection with the execution, delivery and performance by each Loan Party and the validity against such Loan Party of the Loan Documents to which it is a party, and such consents, licenses and approvals shall be in full force and effect or (ii) stating that no such consents, licenses or approvals are so required.

(k) Fees and Expenses. The Administrative Agent, the Lenders and the Arrangers shall have received all reasonable, documented and out-of-pocket fees and expenses (including the reasonable, document and out-of-pocket fees and expenses of one primary counsel and one local counsel as necessary in each appropriate jurisdiction for the Administrative Agent, the Lenders and the Arrangers, taken as a whole) owing pursuant to the Loan Documents; provided that in the case of any such expenses, such expenses shall be invoiced at least three (3) Business Days prior to the Closing Date (except as otherwise agreed by the Company).

Without limiting the generality of the provisions of the last paragraph of Section 9.03, for purposes of determining compliance with the conditions specified in this Section, each Lender that has signed this Agreement shall be deemed to have consented to, approved or accepted or to be satisfied with, each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to a Lender unless the Administrative Agent shall have received notice from such Lender prior to the proposed Closing Date specifying its objection thereto. The Administrative Agent shall promptly notify the Lenders and the Borrowers in writing of the occurrence of the Closing Date and each of the Lenders hereby agrees that the receipt of such notification shall be conclusive and binding.

4.02 Conditions to all Credit Extensions**.**

The obligation of each Lender and each L/C Issuer to honor any Request for Credit Extension (other than a Loan Notice requesting only a conversion of Loans to the other Type, or a continuation of Eurocurrency Rate Loans) is subject to the following conditions precedent:

(a) Representations and Warranties. The representations and warranties of the Company and each other Loan Party contained in Article V (other than, solely with respect to Credit Extensions after the Closing Date, Section 5.05(c)) shall (i) with respect to representations and warranties that contain a materiality qualification, be true and correct on and as of the date of such Credit Extension, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct as of such earlier date and (ii) with respect to representations and warranties that do not contain a materiality qualification, be true and correct in all material respects on and as of the date of such Credit Extension, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date, and, further, except that for purposes of this Section 4.02, the representations and warranties contained in Sections 5.05(a) and (b) shall be deemed to refer to the most recent statements furnished pursuant to Sections 6.01(a) and (b), respectively.

(b) Default. No Default or Event of Default shall exist, or would result from such proposed Credit Extension or from the application of the proceeds thereof.

(c) Request for Credit Extension. The Administrative Agent and, if applicable, the applicable L/C Issuer or the Swingline Lender, shall have received a Request for Credit Extension in accordance with the requirements hereof.

(d) Designated Foreign Borrower. If the applicable Borrower is a Designated Foreign Borrower pursuant to Section 2.16(b) (other than Vertex Europe or Vertex Ireland), then the Designated Foreign Borrower Requirements shall have been met to the reasonable satisfaction of the Administrative Agent.

(e) Alternative Currency. In the case of a Credit Extension to be denominated in an Alternative Currency, such currency remains an Eligible Currency.

Each Request for Credit Extension (other than a Loan Notice requesting only a conversion of Loans to the other Type or a continuation of Eurocurrency Rate Loans) submitted by the Company shall be deemed to be a representation and warranty that the conditions specified in Sections 4.02(a) and (b) have been satisfied on and as of the date of the applicable Credit Extension.

ARTICLE V
REPRESENTATIONS AND WARRANTIES

Each Loan Party represents and warrants to the Administrative Agent and the Lenders, as of the date made or deemed made, that:

5.01 Existence, Qualification and Power**.**

Each Loan Party and each of its Restricted Subsidiaries (a) is duly organized, formed or incorporated, validly existing and, as applicable, in good standing (to the extent that such concept exists in such jurisdiction) under the Laws of the jurisdiction of its organization, formation or incorporation, (b) has all requisite power and authority to (i) own or lease its assets and carry on its business and (ii) execute, deliver and perform its obligations under the Loan Documents to which it is a party and consummate the transactions contemplated thereby, and (c) is duly qualified and, as applicable, in good standing (to the extent that such concept exists in such jurisdiction) under the Laws of each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification; except in each case referred to in clause (a) (other than with respect to any Loan Party), (b)(i) (other than with respect to any Borrower) or (c), to the extent that failure to do so would not reasonably be expected to have a Material Adverse Effect.

5.02 Authorization; No Contravention**.**

The execution, delivery and performance by each Loan Party of each Loan Document to which such Person is a party have been duly authorized by all necessary corporate or other organizational action, and do not and will not (with the passage of time) (i) contravene the terms of any of such Person's Organization Documents, (ii) conflict with or result in any breach or contravention of, or the creation of any Lien under (A) any Contractual Obligation to which such Person is a party or affecting such Person or the properties of such Person or any of its Subsidiaries or (B) any order, injunction, writ or decree of any Governmental Authority or any arbitral award to which such Person or its property is subject or (iii) violate any applicable Law, except in the case of this clauses (ii) and (iii) above, with respect to any conflict, breach or violation to the extent that such conflict, breach or violation would not reasonably be expected to result in, individually or in the aggregate, a Material Adverse Effect.

5.03 Governmental Authorization; Other Consents**.**

No approval, consent, exemption, authorization, or other action by, or notice to, or filing with, any Governmental Authority or any other Person is necessary or required in connection with the execution, delivery or performance by, or enforcement against, any Loan Party of this Agreement or any other Loan Document, except for (i) the approvals, consents, exemptions, authorizations, actions, notices and filings which have been duly obtained, taken, given or made and which are in full force and effect, (ii) filings with the SEC, including a Current Report on Form 8-K and (iii) those approvals, consents, exemptions, authorizations or other actions, notices or filings, the failure of which to obtain or make would not reasonably be expected to have a Material Adverse Effect.

5.04 Binding Effect**.**

This Agreement has been, and each other Loan Document, when delivered hereunder, will have been, duly executed and delivered by each Loan Party that is party thereto. This Agreement constitutes, and each other Loan Document when so delivered will constitute, a legal, valid and binding obligation of such Loan Party, enforceable against each Loan Party that is party thereto in accordance with its terms, subject to applicable bankruptcy, insolvency, examinership, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

5.05 Financial Statements; No Material Adverse Effect**.**

(a) Audited Financial Statements. The Audited Financial Statements (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein; and (ii) fairly present in all material respects the financial condition of the Company and its Restricted Subsidiaries as of the date thereof and their results of operations, cash flows and changes in shareholder's equity for the period covered thereby in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein.

(b) Quarterly Financial Statements. The unaudited Consolidated balance sheets of the Company and its Restricted Subsidiaries dated March 31, 2019 and June 30, 2019, and the related Consolidated statements of income or operations, shareholders' equity and cash flows for the fiscal quarters ended on such dates (i) were prepared in accordance with GAAP consistently applied throughout the period covered thereby, except as otherwise expressly noted therein, and (ii) fairly present in all material respects the financial condition of the Company and its Restricted Subsidiaries as of the dates thereof and their results of operations, cash flows and changes in shareholders' equity for the periods covered thereby, subject, in the case of clauses (i) and (ii), to the absence of footnotes and to normal year-end audit adjustments.

(c) Material Adverse Effect. Since the date of the balance sheet included in the Audited Financial Statements, there has been no event or circumstance, either individually

or in the aggregate, that has had or would reasonably be expected to have a Material Adverse Effect.

(d) Forecasted Financials. The Consolidated forecasted balance sheets, statements of income and cash flows of the Company and its Restricted Subsidiaries delivered pursuant to Section 6.01 were prepared in good faith on the basis of the assumptions stated therein, which assumptions were believed by management of the Company to be reasonable at the time made; it being understood and recognized by the Administrative Agent and the Lenders that such projections are as to future events and are not to be viewed as facts, the forecasts and projections are as to future events, and not to be viewed as facts and are subject to significant uncertainties and contingencies, many of which are beyond the control of the Company and its Restricted Subsidiaries, that no assurance can be given that any particular projections will be realized and that actual results during the period or periods covered by any such projections may differ significantly from the projected results and such differences may be material.

5.06 Litigation**.**

There are no actions, suits, proceedings, claims or disputes pending or, to the knowledge of the Loan Parties, threatened in writing, at law, in equity, in arbitration or before any Governmental Authority, by or against the Company or any Restricted Subsidiary or against any of their properties or revenues that (a) purport to affect or pertain to this Agreement or any other Loan Document or any of the transactions contemplated hereby, or (b) that are reasonably likely to be adversely determined and, if so determined, either individually or in the aggregate would reasonably be expected to have a Material Adverse Effect.

5.07 No Default**.**

No Default has occurred and is continuing or would result from the consummation of the transactions contemplated by this Agreement or any other Loan Document.

5.08 Ownership of Property**.**

Each Loan Party and each of its Restricted Subsidiaries has good and marketable title in fee simple to, or valid leasehold interests in, all real property necessary or material to the present conduct of its business, in each case, except for defects in title that do not materially interfere with its ability to conduct its business or to utilize such properties for their intended purposes or where the failure to have such title or interests would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

5.09 Environmental Compliance**.**

The Loan Parties and their respective Restricted Subsidiaries (i) are in compliance with applicable Environmental Laws, which compliance includes possession of and compliance with all required Environmental Permits, (ii) are not subject to any Environmental Liability, and (iii) have not received written notice of any claim pursuant to Environmental Laws or with respect to the

release of or exposure to Hazardous Materials, excluding any matters with respect to the foregoing that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

5.10 Insurance**.**

The properties of the Company and its Restricted Subsidiaries are insured with financially sound and reputable insurance companies, in such amounts (after giving effect to any self-insurance compatible with the following standards), with such deductibles and covering such risks as are customarily carried by companies of a similar size engaged in similar businesses and owning similar properties.

5.11 Taxes**.**

Each Loan Party and their respective Restricted Subsidiaries have filed all material federal income Tax and other material Tax returns and reports required to be filed, and have paid, caused to be paid or made a provision for the payment of, all material federal income Taxes and other material Taxes required to be paid by it except (i) those which are not overdue for a period of more than 30 days, so long as the failure to make any such payment during such 30-day period would not reasonably be expected to have a Material Adverse Effect, or (ii) those which are being contested in good faith by appropriate proceedings and for which adequate reserves have been provided in accordance with GAAP. There is no proposed tax assessment against any Loan Party or any of their respective Restricted Subsidiaries that would, if made, have a Material Adverse Effect, nor is there any tax sharing agreement applicable to any Loan Party or any of their respective Restricted Subsidiaries.

The Company is not required to make any deduction on account of Irish tax from any payment it may make under any Loan Document to a Lender which is an Irish Qualifying Lender subject, in the case of an Irish Treaty Lender, to the completion of any necessary procedural formalities.

No Loan Party is required to make any UK Tax Deduction from any payment it may make under a Loan Document to a Lender which is (a) a UK Qualifying Lender (i) falling within paragraph (a) of the definition of "UK Qualifying Lender" or (ii) except where a UK Direction has been given under Section 931 of the UK Taxes Act in relation to the payment concerned, falling within paragraph (b) of the definition of "UK Qualifying Lender", or (b) a UK Treaty Lender and the payment is one specified in a direction given by the Commissioners of Revenue and Customs under Regulation 2 of the Double Taxation Relief (Taxes on Income) (General) Regulations 1970 (SI 1970/488).

5.12 ERISA Compliance**.**

(a) Each Plan is in compliance in all material respects with the applicable provisions of ERISA, the Code and other federal or state laws except for instances of noncompliance that, either individually or in the aggregate, have not resulted or would not reasonably be expected to result in a Material Adverse Effect. Each Pension Plan that is intended to be a qualified plan under Section 401(a) of the Code has received a favorable determination letter or is subject to a favorable opinion letter from the IRS to the effect that

the form of such Plan is qualified under Section 401(a) of the Code and the trust related thereto has been determined by the IRS to be exempt from federal income tax under Section 501(a) of the Code, or an application for such a letter is currently being processed by the IRS. To the best knowledge of the Loan Parties, nothing has occurred that would prevent or cause the loss of such tax-qualified status other than qualification defects that can be corrected under the Employee Plans Compliance Resolution System described in IRS Revenue Procedure 2019-19 where such correction would not be expected to result in a Material Adverse Effect.

(b) There are no pending or, to the knowledge of the Loan Parties, threatened claims, actions or lawsuits, or action by any Governmental Authority, with respect to any Plan that would reasonably be expected to have a Material Adverse Effect. There has been no prohibited transaction or violation of the fiduciary responsibility rules with respect to any Plan that has resulted or would reasonably be expected to result in a Material Adverse Effect.

(c) Except as would not, either individually or in the aggregate, reasonably be expected to result in, a Material Adverse Effect: (i) no ERISA Event has occurred, and no Loan Party nor any ERISA Affiliate is aware of any fact, event or circumstance that would reasonably be expected to constitute or result in an ERISA Event with respect to any Pension Plan or Multiemployer Plan; (ii) as of the most recent valuation date for any Pension Plan, the funding target attainment percentage (as defined in Section 430(d)(2) of the Code) is 60% or higher and no Loan Party nor any ERISA Affiliate knows of any facts or circumstances that would reasonably be expected to cause the funding target attainment percentage for any such plan to drop below 60% as of the most recent valuation date; (iii) no Loan Party nor any ERISA Affiliate has incurred any liability to the PBGC other than for the payment of premiums, and there are no premium payments which have become due that are unpaid; (iv) neither the Company nor any ERISA Affiliate has engaged in a transaction that could be subject to Section 4069 or Section 4212(c) of ERISA; and (v) no Pension Plan has been terminated by the plan administrator thereof nor by the PBGC, and no event or circumstance has occurred or exists that would reasonably be expected to cause the PBGC to institute proceedings under Title IV of ERISA to terminate any Pension Plan.

(d) With respect to each scheme or arrangement mandated by a government other than the United States (a "Foreign Government Scheme or Arrangement") and with respect to each employee benefit plan maintained or contributed to by any Loan Party or any of their respective Restricted Subsidiaries that is not subject to United States Law (a "Foreign Plan"), except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect:

(i) any employer and employee contributions required by law or by the terms of any Foreign Government Scheme or Arrangement or any Foreign Plan have been made, or, if applicable, accrued, in accordance with normal accounting practices of the jurisdiction in which such plan is maintained;

(ii) the Fair Market Value of the assets of each funded Foreign Plan, the liability of each insurer for any Foreign Plan funded through insurance or the book reserve established for any Foreign Plan, together with any accrued contributions, is sufficient to procure or provide for the accrued benefit obligations, as of the date hereof, with respect to all current and former participants in such Foreign Plan according to the actuarial assumptions and valuations most recently used to account for such obligations in accordance with applicable generally accepted accounting principles of the jurisdiction in which such plan is maintained; and

(iii) each Foreign Plan required to be registered has been registered and has been maintained in good standing with applicable regulatory authorities.

5.13 Margin Regulations; Investment Company Act**.**

(a) Margin Regulations. None of the Borrowers is engaged, nor will it engage, principally or as one of its important activities, in the business of purchasing or carrying margin stock (within the meaning of Regulation U issued by the FRB), or extending credit for the purpose of purchasing or carrying margin stock, and the proceeds of the Loans will not be used, in each case, in a manner that would violate Regulation U.

(b) Investment Company Act. None of the Loan Parties is or is required to be registered as an "investment company" under the Investment Company Act of 1940.

5.14 Disclosure**.**

No report, financial statement, certificate or other information furnished in writing by or on behalf of any Loan Party (other than projected financial information, other forward-looking information and information of a general economic or industry nature) to the Administrative Agent or any Lender in connection with this Agreement or any other Loan Document or the transactions contemplated hereby or thereby or delivered hereunder or thereunder (in each case as modified or supplemented by other information so furnished) when taken as a whole, together with disclosures made by the Company in filings with the SEC that are made available to the Administrative Agent and the Lenders pursuant to the terms of this Agreement, contains any material misstatement of fact or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not materially misleading; provided that, with respect to projected financial information, each Loan Party represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time made; it being understood (a) that such projections and forecasts are as to future events and are not to be viewed as facts, that such projections are subject to significant uncertainties and contingencies, many of which are beyond the control of the Company and its Subsidiaries, that no assurance can be given that any particular projection or forecast will be realized and that actual results during the period or periods covered by any such projections or forecasts may differ significantly from the projected results and such differences may be material and that such projections and forecast are not a guarantee of future financial performance and (b) that no representation is made with respect to information of a general economic or general industry nature.

5.15 Compliance with Laws**.**

Each Loan Party and each Restricted Subsidiary thereof is in compliance with the requirements of all Laws and all orders, writs, injunctions and decrees applicable to it or to its properties, except in such instances in which (a) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate proceedings diligently conducted or (b) the failure to comply therewith, either individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect.

5.16 Solvency**.**

The Company, together with its Restricted Subsidiaries, on a Consolidated basis are Solvent.

5.17 Sanctions Concerns and Anti-Corruption Laws**.**

(a) Sanctions Concerns. No Loan Party, nor any Restricted Subsidiary, nor, to the knowledge of the Company and its Restricted Subsidiaries, any director, officer, employee, agent, or affiliate thereof, is an individual or entity that is, or is owned or controlled by any individual or entity that is (i) included on OFAC's List of Specially Designated Nationals and HMT's Consolidated List of Financial Sanctions Targets, or (ii) located, organized or resident in a Designated Jurisdiction (such Persons referred to herein as "Sanctioned Persons").

(b) Anti-Corruption Laws; Sanctions. The Loan Parties and their Restricted Subsidiaries have conducted their business in compliance in all material respects with the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010, other similar anti-corruption legislation in other jurisdictions and applicable Sanctions, and have instituted and maintained policies and procedures designed to promote and achieve compliance in all material respects with such laws and applicable Sanctions.

5.18 Subsidiaries; Equity Interests; Loan Parties**.**

(a) Subsidiaries. Set forth on Schedule 5.18(a), is the following information which is true and complete in all respects as of the Closing Date and as of the last date such Schedule was required to be updated in accordance with Section 6.02: (i) a complete and accurate list of all Subsidiaries of the Loan Parties, (ii) the number of shares of each class of Equity Interests in each Subsidiary outstanding, (iii) the number and percentage of outstanding shares of each class of Equity Interests owned by the Loan Parties and their Subsidiaries and (iv) the class or nature of such Equity Interests (i.e. voting, non-voting, preferred, etc.).

(b) Loan Parties. Set forth on Schedule 5.18(b) is a complete and accurate list of all Loan Parties, showing as of the Closing Date, or as of the last date such Schedule was required to be updated in accordance with Section 6.02, (as to each Loan Party) (i) the exact legal name, (ii) any former legal names of such Loan Party in the four (4) months prior to the Closing Date, (iii) the jurisdiction of its incorporation or organization, as applicable,

(iv) the type of organization, (v) the address of its chief executive office, (vi) its U.S. federal taxpayer identification number (if any), (vii) the organization identification number, and (viii) ownership information (e.g. publicly held or if private or partnership, the owners and partners of each of the Loan Parties).

5.19 Covered Entities**.**

No Loan Party is a Covered Entity.

5.20 [Reserved]

5.21 Intellectual Property; Licenses, Etc**.**

Each Loan Party and each of its Restricted Subsidiaries own, or possess the right to use, all of the trademarks, service marks, trade names, copyrights, patents, patent rights, franchises, licenses and other intellectual property rights (collectively, "IP Rights") that consist of the Material Intellectual Property or other IP Rights reasonably necessary for the operation of their respective businesses, except where the failure to own or possess the right to use such IP Rights would not reasonably be expected to have a Material Adverse Effect. To the knowledge of the Loan Parties, no slogan or other advertising device, product, process, method, substance, part or other material now employed, by any Loan Party or any of their Restricted Subsidiaries infringes upon any rights held by any other Person, except in each case, to the extent that such infringement would not reasonably be expected to result in a Material Adverse Effect. No claim or litigation regarding any of the foregoing is pending or, to the knowledge of the Loan Parties, threatened in writing, against the Loan Parties or any of their Restricted Subsidiaries which, either individually or in the aggregate, would reasonably be expected to have a Material Adverse Effect.

5.22 EEA Financial Institutions**.**

No Loan Party is an EEA Financial Institution.

5.23 Representations as to Designated Foreign Borrowers**.**

(a) Each Designated Foreign Borrower is subject to civil and commercial Laws with respect to its obligations under this Agreement and the other Loan Documents to which it is a party (collectively as to such Designated Foreign Borrower, the "Applicable Designated Foreign Borrower Documents"), and the execution, delivery and performance by such Designated Foreign Borrower of the Applicable Designated Foreign Borrower Documents constitute and will constitute private and commercial acts and not public or governmental acts. Neither such Designated Foreign Borrower nor any of its property has any immunity from jurisdiction of any court or from any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) under the Laws of the jurisdiction in which such Designated Foreign Borrower is organized and existing in respect of its obligations under the Applicable Designated Foreign Borrower Documents.

(b) The Applicable Designated Foreign Borrower Documents are in proper legal form under the Laws of the jurisdiction in which such Designated Foreign Borrower is organized and existing for the enforcement thereof against such Designated Foreign Borrower under the Laws of such jurisdiction, and to ensure the legality, validity, enforceability, priority or admissibility in evidence of the Applicable Designated Foreign Borrower Documents. It is not necessary to ensure the legality, validity, enforceability, priority or admissibility in evidence of the Applicable Designated Foreign Borrower Documents that the Applicable Designated Foreign Borrower Documents be filed, registered or recorded with, or executed or notarized before, any court or other authority in the jurisdiction in which such Designated Foreign Borrower is organized and existing or that any registration charge or stamp or similar tax be paid on or in respect of the Applicable Designated Foreign Borrower Documents or any other document, except for (i) any such filing, registration, recording, execution or notarization as has been made or is not required to be made until the Applicable Designated Foreign Borrower Document or any other document is sought to be enforced and (ii) any charge or tax as has been timely paid.

(c) For purposes of Regulation (EU) 2015/848 of the European Parliament and of the Council of 20 May 2015 on insolvency proceedings (recast) (the "Regulation"), the centre of main interest (as that term is used in Article 3(1) of the Regulation) for Vertex Europe and Vertex Ireland is situated in its jurisdiction of incorporation and, in each case, neither Vertex Europe nor Vertex Ireland has any "establishment" (as that term is used in Article 2(10) of the Regulation) in any other jurisdiction.

ARTICLE VI
AFFIRMATIVE COVENANTS

Each of the Loan Parties hereby covenants and agrees that on the Closing Date and thereafter until the Facility Termination Date, such Loan Party shall, and shall cause each of their Restricted Subsidiaries to:

6.01 Financial Statements**.**

Deliver to the Administrative Agent for further distribution to each Lender:

(a) Audited Financial Statements. As soon as available, but in any event within ninety (90) days after the end of each fiscal year of the Company, a Consolidated balance sheet of the Company and its Restricted Subsidiaries as at the end of such fiscal year, and the related Consolidated statements of income or operations, changes in shareholders' equity and cash flows for such fiscal year, setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail and prepared in accordance with GAAP, audited and accompanied by a report and opinion of an independent certified public accountant of nationally recognized standing reasonably acceptable to the Administrative Agent, which report and opinion shall be prepared in accordance with generally accepted auditing standards and shall not be subject to any "going concern" or like qualification or exception or any qualification or exception as to the scope of such audit (except for any

qualification pertaining to a maturity occurring under this Revolving Facility within twelve (12) months of the relevant audit).

(b) Quarterly Financial Statements. As soon as available, but in any event within forty-five (45) days after the end of each of the first three (3) fiscal quarters of each fiscal year of the Company (commencing with the fiscal quarter ended September 30, 2019), a Consolidated balance sheet of the Company and its Restricted Subsidiaries as at the end of such fiscal quarter, and the related Consolidated statements of income or operations, changes in shareholders' equity and cash flows for such fiscal quarter and for the portion of the Company's fiscal year then ended, setting forth in each case in comparative form the figures for the corresponding fiscal quarter of the previous fiscal year and the corresponding portion of the previous fiscal year, all in reasonable detail and prepared in accordance with GAAP, such Consolidated statements to be certified by the chief executive officer, chief financial officer, treasurer or controller who is a Responsible Officer of the Company as fairly presenting in all material respects the financial condition, results of operations, shareholders' equity and cash flows of the Company and its Restricted Subsidiaries, subject only to normal year-end audit adjustments and the absence of footnotes.

(c) Budget. As soon as available, but in any event within ninety (90) days after the end of each fiscal year of the Company, an annual budget of the Company and its Restricted Subsidiaries on a Consolidated basis, including forecasts prepared by management of the Company, in a form reasonably satisfactory to the Administrative Agent, of projected Consolidated statements of income or operations and projected cash flows of the Company and its Restricted Subsidiaries on a quarterly basis for the immediately following fiscal year.

As to any information contained in materials furnished pursuant to Section 6.02(c), the Company shall not be separately required to furnish such information under Section 6.01(a) or (b) above, but the foregoing shall not be in derogation of the obligation of the Company to furnish the information and materials described in Sections 6.01(a) and (b) above at the times specified therein.

6.02 Certificates; Other Information**.**

Deliver to the Administrative Agent for further distribution to each Lender:

(a) Compliance Certificate. Within five (5) Business Days of delivery of the financial statements referred to in Sections 6.01(a) and (b), a duly completed Compliance Certificate signed by the chief executive officer, chief financial officer, treasurer or controller which is a Responsible Officer of the Company.

(b) Updated Schedules. Within fifteen (15) days of delivery of the financial statements referred to in Section 6.01(a), updated Schedules 5.18(a) and 5.18(b) (which may, if delivered earlier, be attached to the Compliance Certificate) to the extent required to make the representation related to such Schedule true and correct in all material respects as of the date of such update is provided.

(c) Annual Reports; Etc. Promptly after the same are publicly available, copies of all annual, regular, periodic and special reports and registration statements which the Company may file or be required to file with the SEC under Section 13 or 15(d) of the Securities Exchange Act of 1934, or with any national securities exchange, and in any case not otherwise required to be delivered to the Administrative Agent pursuant hereto.

(d) Anti-Money-Laundering; Beneficial Ownership Regulation. Promptly following any request therefor, information and documentation reasonably requested by the Administrative Agent or any Lender in writing for purposes of compliance with applicable "know your customer" and anti-money-laundering rules and regulations, including, without limitation, the Patriot Act.

(e) Beneficial Ownership. To the extent any Loan Party qualifies as a "legal entity customer" under the Beneficial Ownership Regulation, an updated Beneficial Ownership Certification promptly following any change in the information provided in the Beneficial Ownership Certification delivered to any Lender in relation to such Loan Party that would result in a change to the list of beneficial owners identified in such certification.

(f) Additional Information. Promptly, such additional information regarding the business, financial, legal or corporate affairs of the Company or any of its Restricted Subsidiaries, or compliance with the terms of the Loan Documents, as the Administrative Agent or any Lender may from time to time reasonably request.

Documents required to be delivered pursuant to Section 6.01(a) or (b) or Section 6.02(c) (to the extent any such documents are included in materials otherwise filed with the SEC) may be delivered electronically and if so delivered, shall be deemed to have been delivered on the date on which such documents are (a) available via the SEC's Electronic Data Gathering, Analysis and Retrieval system ("EDGAR") on the internet or (b) posted on the Company's website on the Internet at the website address listed on Schedule 1.01(a); or on the Company's behalf on an Internet or intranet website, if any, to which each Lender and the Administrative Agent have access (whether a commercial, third-party website or whether sponsored by the Administrative Agent); provided that: (i) the Company shall deliver paper copies of such documents to the Administrative Agent or any Lender upon its request to the Company to deliver such paper copies until a written request to cease delivering paper copies is given by the Administrative Agent or such Lender and (ii) the Company shall notify the Administrative Agent (by fax transmission or e-mail transmission) of the posting of any such documents and provide to the Administrative Agent by e-mail electronic versions (i.e., soft copies) of such documents. The Administrative Agent shall have no obligation to request the delivery of or to maintain paper copies of the documents referred to above, and in any event shall have no responsibility to monitor compliance by the Company with any such request by a Lender for delivery, and each Lender shall be solely responsible for requesting delivery to it or maintaining its copies of such documents.

The Borrowers hereby acknowledge that (A) the Administrative Agent and/or an Affiliate thereof may, but shall not be obligated to, make available to the Lenders and the L/C Issuers materials and/or information provided by or on behalf of the Borrowers hereunder (collectively, "Borrower Materials") by posting the Borrower Materials on IntraLinks, Syndtrak, ClearPar or a substantially

similar electronic transmission system (the "Platform") and (B) certain of the Lenders (each, a "Public Lender") may have personnel who do not wish to receive material non-public information with respect to the Company or its Affiliates, or the respective securities of any of the foregoing, and who may be engaged in investment and other market-related activities with respect to such Persons' securities. The Borrowers hereby agree that they will use commercially reasonable efforts to identify that portion of the Borrower Materials that may be distributed to the Public Lenders and that (1) all such Borrower Materials shall be clearly and conspicuously marked "PUBLIC" which, at a minimum, shall mean that the word "PUBLIC" shall appear prominently on the first page thereof; (2) by marking Borrower Materials "PUBLIC," the Borrowers shall be deemed to have authorized the Administrative Agent, any Affiliate thereof, the Arrangers, the L/C Issuers and the Lenders to treat such Borrower Materials as not containing any material non-public information (although it may be sensitive and proprietary) with respect to the Borrowers or their securities for purposes of United States federal and state securities laws (provided, however, that to the extent such Borrower Materials constitute Information, they shall be treated as set forth in Section 11.07); (3) all Borrower Materials marked "PUBLIC" are permitted to be made available through a portion of the Platform designated "Public Side Information;" and (4) the Administrative Agent and any Affiliate thereof and the Arrangers shall be entitled to treat any Borrower Materials that are not marked "PUBLIC" as being suitable only for posting on a portion of the Platform not designated "Public Side Information." Notwithstanding the foregoing, the Borrowers shall be under no obligation to mark any Borrower Materials "PUBLIC".

Notwithstanding anything to the contrary in this Section 6.02, no Loan Party shall be required to provide any information in respect of which disclosure is prohibited by any applicable Laws binding on such Loan Party.

6.03 Notices**.**

Promptly, but in any event within three (3) Business Days of a Responsible Officer of any Borrower obtaining actual knowledge thereof, notify the Administrative Agent (which will promptly furnish such information to each Lender):

(a) of the occurrence of any Default;

(b) of any matter that has resulted or would reasonably be expected to result in a Material Adverse Effect; and

(c) of the occurrence of any ERISA Event that has resulted or would reasonably be expected to result in a Material Adverse Effect.

Each notice pursuant to this Section 6.03 shall be accompanied by a statement of a Responsible Officer of the Company setting forth details of the occurrence referred to therein and, to the extent applicable, stating what action the Company has taken and proposes to take with respect thereto. Each notice pursuant to Section 6.03(a) shall describe with reasonable particularity any and all provisions of this Agreement and any other Loan Document that have been breached.

6.04 Payment of Taxes**.**

The Company and its Restricted Subsidiaries will pay all material federal income Taxes and other material Taxes required to be paid by them, unless the same are being contested in good faith by appropriate proceedings and adequate reserves in accordance with GAAP are being maintained by the Company or such Restricted Subsidiary.

6.05 Preservation of Existence, Etc**.**

(a) Except as otherwise permitted under Section 7.04, preserve, renew and maintain in full force and effect its legal existence and good standing (to the extent that such concept exists in such jurisdiction) under the Laws of the jurisdiction of its organization, formation or incorporation, as applicable, except, in the case of any Restricted Subsidiary of the Company that is not a Loan Party, to the extent the failure to do so would not reasonably be expected to result in a Material Adverse Effect; and

(b) take all reasonable action to maintain all rights, privileges, permits, licenses and franchises necessary in the normal conduct of its business, except to the extent that failure to do so would not reasonably be expected to have a Material Adverse Effect, or as otherwise permitted hereunder.

6.06 Maintenance of Properties; Intellectual Property**.**

(a) Except if the failure to do so would not reasonably be expected to have a Material Adverse Effect, maintain, preserve and protect all of its material tangible properties and equipment necessary in the operation of its business in good working order and condition, ordinary wear and tear and casualty excepted.

(b) Except as may be permitted pursuant to Section 7.04, take all reasonable actions necessary to maintain and pursue each application, to obtain the relevant registration and to maintain the registration of each of its Material Intellectual Property (now or hereafter existing) of the Loan Parties and their Restricted Subsidiaries, including, where appropriate, the filing of applications for renewal, affidavits of use, affidavits of non-contestability and opposition and interference and cancellation proceedings.

6.07 Maintenance of Insurance**.**

Maintain with financially sound and reputable insurance companies, insurance with respect to its properties and business against loss or damage of the kinds customarily insured against by Persons engaged in the same or similar business, of such types and in such amounts (after giving effect to any self-insurance compatible with the following standards) as are customarily carried by companies of a similar size engaged in similar businesses.

6.08 Compliance with Laws**.**

Comply with the requirements of all applicable Laws and all orders, writs, injunctions and decrees applicable to it or to its business or property, except in such instances in which (a) such requirement of Law or order, writ, injunction or decree is being contested in good faith by appropriate

proceedings diligently conducted; or (b) the failure to comply therewith would not reasonably be expected to have a Material Adverse Effect.

6.09 Books and Records**.**

Maintain proper books of record and account, in which full, true and correct entries in conformity, in all material respects, with GAAP consistently applied shall be made of all financial transactions and matters involving the assets and business of such Loan Party or such Restricted Subsidiary, as the case may be.

6.10 Inspection Rights**.**

Permit representatives and independent contractors of the Administrative Agent to visit and inspect any of its properties, to examine its corporate, financial and operating records, and make copies thereof or abstracts therefrom, and to discuss its affairs, finances and accounts with its officers, and independent public accountants, all at such reasonable times during normal business hours and as often as may be reasonably desired, upon reasonable advance notice to the Company, in each case, subject to reasonable requirements of confidentiality and attorney-client privilege, including requirements imposed by law or by contract; provided that in the event that information is withheld as a result of any confidentiality or attorney-client privilege, the Company shall (a) use commercially reasonable efforts to obtain waivers of such confidentiality obligations or eliminate any such restriction and to communicate, to the extent permitted, the applicable information in a way that would not violate such restrictions and (b) notify the Administrative Agent to the extent the Company and its Restricted Subsidiaries are not providing otherwise requested information; provided, however, that (i) except during the occurrence and continuance of an Event of Default, the Borrowers shall not be required to reimburse the Administrative Agent for the charges, costs and expenses in connection with such visits or inspections and the Administrative Agent shall not exercise rights under this Section 6.10 more often than one (1) time per year and (ii) after the occurrence and during the continuance of an Event of Default, the Administrative Agent (or any of its representatives or independent contractors) may do any of the foregoing at the expense of the Borrowers at any time during normal business hours and without advance notice.

6.11 Use of Proceeds**.**

Use the proceeds of the Credit Extensions (a) to refinance on the Closing Date Indebtedness outstanding under the Existing Credit Agreement and (b) otherwise for working capital and any other general corporate purpose not in contravention of any Law or of any Loan Document.

6.12 Covenant to Guarantee Obligations**.**

The Loan Parties will cause each of their Restricted Subsidiaries (other than any Excluded Subsidiary) whether newly formed, after acquired or otherwise existing to promptly (and in any event within forty-five (45) days thereafter (or such longer period of time as agreed to by the Administrative Agent in its reasonable discretion)) become a Guarantor hereunder by way of execution of a Joinder Agreement. In connection with the foregoing, the Loan Parties shall deliver to the Administrative Agent, with respect to each new Subsidiary Guarantor to the extent applicable,

(i) substantially the same documentation required pursuant to Sections 4.01(b), (c) and (d), and (ii) such information necessary to complete any required "know your customer", Patriot Act, Sanctions, OFAC and FCPA diligence, in scope, and with results, reasonably satisfactory to the Administrative Agent.

6.13 Further Assurances.

Promptly upon the reasonable request by the Administrative Agent, or any Lender through the Administrative Agent, (a) correct any objective material defect or error that may be discovered in any Loan Document or in the execution, acknowledgment, filing or recordation thereof, and (b) do, execute, acknowledge, and deliver any and all such further acts, deeds, certificates, assurances and other instruments as the Administrative Agent, or any Lender through the Administrative Agent, may reasonably require from time to time in order to carry out more effectively the purposes of the Loan Documents.

6.14 Compliance with Environmental Laws**.**

Comply and make all reasonable efforts to cause all lessees and other Persons operating or occupying its properties to comply, with all applicable Environmental Laws and Environmental Permits, except to the extent that such non-compliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; obtain and renew all Environmental Permits necessary for its operations and properties, except to the extent that such failure to have obtained or renewed such permits would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and to the extent required by Environmental Laws, conduct any investigation, study, sampling and testing, and undertake any cleanup, removal, remedial or other action necessary to remove and clean up all Hazardous Materials from any of its properties, in accordance with the requirements of all Environmental Laws, except for the failure to conduct any such action that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; provided, however, that neither the Company nor any of its Restricted Subsidiaries shall be required to undertake any such cleanup, removal, remedial or other action to the extent that its obligation to do so is being contested in good faith and by proper proceedings and appropriate reserves are being maintained with respect to such circumstances in accordance with GAAP.

6.15 Approvals and Authorizations.

Without limiting the generality of Section 6.08, the Company and each Restricted Subsidiary shall maintain all authorizations, consents, approvals and licenses from, exemptions of, and filings and registrations with, each Governmental Authority of the jurisdiction in which each Loan Party is organized and existing, and all approvals and consents of each other Person in such jurisdiction, in each case that are required in connection with the Loan Documents, unless the failure to do so would not reasonably be expected to have a Material Adverse Effect.

6.16 Anti-Corruption Laws**.**

Conduct its business in material compliance with the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 and other similar applicable anti-corruption legislation in other jurisdictions and maintain policies and procedures reasonably designed to promote and achieve such compliance with such laws.

6.17 Conduct of Business**.**

Continue to engage in lines of business consistent with the activities of a biotechnology company.

ARTICLE VII
NEGATIVE COVENANTS

Each of the Loan Parties hereby covenants and agrees that on the Closing Date and thereafter until the Facility Termination Date, no Loan Party shall, nor shall it permit any of its Restricted Subsidiaries to, directly or indirectly:

7.01 Liens.

Create, incur, assume or suffer to exist any Lien upon any of its property, assets or revenues, whether now owned or hereafter acquired, except for the following (the "Permitted Liens"):

(a) Liens (if any) pursuant to any Loan Document (including Liens on Cash Collateral);

(b) Liens existing on the Closing Date and listed on Schedule 7.01 and any amendments, modifications, replacements, renewals, or extensions thereof; provided that (i) the Lien does not encumber any property other than (A) property encumbered on the Closing Date, (B) after-acquired property that is affixed or incorporated into the property encumbered by such Lien on the Closing Date, (C) proceeds and products thereof, (ii) the replacement, renewal, extension or refinancing of the obligations secured or benefited by such Liens, to the extent constituting Indebtedness, is permitted by Section 7.02(b), and (iii) the direct or any contingent obligor with respect thereto is not changed;

(c) (i) Liens for Taxes which are not yet due or which are being contested in good faith and by appropriate proceedings diligently conducted, if adequate reserves with respect thereto are maintained on the books of the applicable Person in accordance with GAAP (or, for Foreign Subsidiaries, in conformity with generally accepted accounting principles that are applicable in their respective jurisdiction of organization) and (ii) other Liens for Taxes (securing Tax liabilities in an aggregate amount not in excess of $2,500,000 at any time outstanding) which are not yet delinquent for a period of more than forty-five (45) days;

(d) Liens imposed by law such as carriers', landlords', warehousemen's, mechanics', materialmen's, repairmen's construction, or other like Liens arising in the ordinary course of business which are not overdue for a period of more than sixty (60) days

or which are being contested in good faith and by appropriate proceedings, if adequate reserves with respect thereto are maintained on the books of the applicable Person;

(e) (i) pledges or deposits in the ordinary course of business in connection with workers' compensation, unemployment insurance and other social security legislation, other than any Lien imposed by ERISA; (ii) pledges and deposits to secure insurance premiums or reimbursement obligations under insurance policies or (iii) obligations in respect of letters of credit or bank guarantees that have been posted by the Company or any of its Restricted Subsidiaries to support the payments of the items set forth in the foregoing clauses (i) and (ii);

(f) (i) deposits to secure the performance of bids, trade contracts and leases (other than Indebtedness), statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business; and (ii) obligations in respect of letters of credit or bank guarantees that have been posted to support payment of the items set forth in the foregoing clause (i);

(g) easements, rights-of-way, restrictions and other similar encumbrances affecting real property which, in the aggregate do not in any case materially detract from the value of the property subject thereto or materially interfere with the ordinary conduct of the business of the applicable Person;

(h) Liens securing judgments for the payment of money (or appeal or other surety bonds relating to such judgments) not constituting an Event of Default under Section 8.01(h);

(i) Liens securing Indebtedness permitted under Section 7.02(c); provided that such Liens do not at any time encumber any property other than the property financed by such Indebtedness except for accessions to such property and the proceeds and the products thereof; provided that individual financings of equipment permitted to be secured hereunder provided by one Person (or its Affiliates) may be cross collateralized to other financings of equipment under Section 7.02(c) provided by such Person (or its Affiliates);

(j) bankers' Liens, rights of setoff and other similar Liens existing solely with respect to cash and Cash Equivalents on deposit in one or more accounts maintained by the Company or any of its Restricted Subsidiaries, in each case in the ordinary course of business in favor of the bank or banks with which such accounts are maintained; provided, that in no case shall any such Liens secure (either directly or indirectly) the repayment of any Indebtedness for borrowed money;

(k) any interest or title of a lessor, licensor, sublicensor, or sublessor under any lease, license, sublicense or sublease entered into by any Loan Party or any Restricted Subsidiary thereof in the ordinary course of business and covering only the assets so leased, licensed, sublicensed or subleased;

(l) Liens (i) of a collection bank arising under Section 4-208 or 4-210 of the UCC on items in the course of collection, (ii) attaching to commodities trading accounts or other commodities brokerage accounts in the ordinary course of business or (iii) in favor of a banking institution or securities intermediary arising as a matter of law or under the banking institution's general terms of business encumbering deposits (including the right of set-off) and which are within the general parameters customary in the banking industry; provided, that in no case shall any such Liens secure (either directly or indirectly) the repayment of any Indebtedness for borrowed money;

(m) any zoning, building or similar laws or rights reserved to or vested in any Governmental Authority;

(n) [reserved]

(o) leases, licenses, subleases or sublicenses to the extent permitted under Section 7.04(b);

(p) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods in the ordinary course of business;

(q) Liens (A) on cash or Cash Equivalent advances or escrow deposits in favor of the seller of any property to be acquired in an Investment to be applied against the purchase price for such Investment or otherwise in connection with any escrow arrangements with respect to any such Investment or any Disposition not prohibited by this Agreement (including any letter of intent or purchase agreement with respect to such Investment or Disposition), or (B) consisting of an agreement to dispose of any property in a Disposition not prohibited by this Agreement, in each case, solely to the extent such Investment or Disposition, as the case may be, would have been permitted on the date of the creation of such Lien;

(r) Liens granted by (i) a Restricted Subsidiary that is not a Loan Party in favor of the Company or any other Restricted Subsidiary, (ii) a Loan Party in favor of a U.S. Loan Party or (iii) a Designated Foreign Borrower in favor of a Designated Foreign Borrower;

(s) Liens existing on property (other than Liens on the Equity Interests of any Person that becomes a Restricted Subsidiary) at the time of its acquisition or existing on the property of any Person at the time such Person becomes a Restricted Subsidiary (other than as a result of a Subsidiary Redesignation), in each case, after the date hereof securing Indebtedness permitted under Section 7.02(i); provided that (A) such Lien was not created in contemplation of such Acquisition or such Person becoming a Restricted Subsidiary, (B) such Lien does not extend to or cover any other assets or property of such Person (other than improvements thereon, replacements and products thereof, additions and accessions thereto or proceeds thereof and other after-acquired property subjected to a Lien securing Indebtedness and other obligations incurred prior to such time and which Indebtedness and other obligations are not prohibited hereunder that require, pursuant to their terms at such

time, a pledge of after-acquired property), and (C) such Lien shall secure only those obligations which it secures on the date of such acquisition or the date such Person becomes a Restricted Subsidiary, as the case may be (and amendments, modifications, extensions, refinancings, renewals and replacements thereof that do not increase the outstanding principal amount thereof (other than as not prohibited by this Agreement));

(t) Liens deemed to exist in connection with Investments in repurchase agreements related to Cash Equivalents;

(u) [reserved]

(v) Liens on insurance policies and the proceeds thereof securing the financing of the premiums with respect thereto and deposits made in the ordinary course of business to secure liability to insurance carriers;

(w) Liens arising out of conditional sale, title retention, consignment or similar arrangements for the purchase or sale of goods entered into by the Company or any Restricted Subsidiary in the ordinary course of business;

(x) Liens that are contractual rights of set-off relating to purchase orders and other agreements entered into with customers and other counterparties of the Company or any of its Restricted Subsidiaries in the ordinary course of business;

(y) the prior rights of consignees and their lenders under consignment arrangements entered into in the ordinary course of business;

(z) Liens arising from precautionary UCC financing statements regarding operating leases or other obligations not constituting Indebtedness;

(aa) Liens securing insurance premiums financing arrangements; provided that such Liens are limited to the applicable unearned insurance premiums;

(bb) (i) Liens on cash and Cash Equivalents in connection with a Guaranteed Hedge Agreement securing customary initial deposits and margin deposits which are required as a matter of Law and (ii) pledges or transfers of collateral to support bilateral mark-to-market security arrangements in respect of uncleared swap or derivative transactions;

(cc) Liens consisting of pledges or deposits of cash or Cash Equivalents securing obligations in respect of customary (i) letters of credit or bank guarantees permitted under Section 7.02(m) or (ii) warehouse receipts or similar obligations permitted hereunder and, in each case, incurred in the ordinary course of business or consistent with past practice (provided that no such letters of credit, bank guarantees, warehouse receipts or similar obligations support obligations in respect of Indebtedness);

(dd) Liens of sellers of goods to any Loan Party and any of their respective Subsidiaries arising under Article 2 of the UCC or similar provisions of applicable law in

the ordinary course of business, covering only the goods sold and securing only the unpaid purchase price for such goods and related expenses;

(ee) in the case of any joint venture, any put and call arrangements related to its Equity Interests set forth in its organizational documents or any related joint venture or similar agreement; and

(ff) Liens securing Indebtedness and other obligations of the Company or any Restricted Subsidiary; *provided* that immediately after giving effect to the incurrence of any Indebtedness or obligations secured by Liens in reliance on this clause (ff), the aggregate outstanding principal amount of all Priority Indebtedness shall not exceed fifteen percent (15%) of Consolidated Net Worth (determined as of the last day of the most recent fiscal quarter for which financial statements shall have been delivered pursuant to Section 6.01(a) or 6.01(b) (or, prior to the delivery of any such financial statements, determined as of June 30, 2019)).

For purposes of determining compliance with this Section 7.01, in the event that a Lien securing an item of Indebtedness (or any portion thereof) meets the criteria of one or more of the categories of Permitted Liens (or any portion thereof) described in this Sections 7.01, the Borrowers may, in their sole discretion, classify or divide such Lien securing such item of Indebtedness (or any portion thereof) in any manner that complies with this Section 7.01 and will be entitled to only include the amount and type of such Lien or such item of Indebtedness secured by such Lien (or any portion thereof) in one of the above clauses and such Lien securing such item of Indebtedness (or portion thereof) will be treated as being incurred or existing pursuant to only such clause or clauses (or any portion thereof).

Notwithstanding the foregoing to the contrary, no Loan Party shall, nor shall it permit any of its Restricted Subsidiaries to, directly or indirectly create, incur, assume or suffer to exist any Lien upon any Cystic Fibrosis Drug Franchise Assets to secure any Indebtedness.

7.02 Indebtedness.

Create, incur, assume or suffer to exist any Indebtedness, except:

(a) Indebtedness under the Loan Documents;

(b) Indebtedness outstanding on the date hereof and listed on Schedule 7.02 and any amendments, refinancings, refundings, renewals or extensions thereof; provided that the amount of such Indebtedness is not increased at the time of such refinancing, refunding, renewal or extension except by an amount equal to a reasonable premium or other reasonable amount paid, and fees and expenses reasonably incurred, in connection with such refinancing (including upfront fees and original issue discount thereon) and by an amount equal to any existing commitments unutilized thereunder and the direct or any contingent obligor with respect thereto is not changed, as a result of or in connection with such refinancing, refunding, renewal or extension; and, still further, that the terms relating to principal amount, amortization, maturity, collateral (if any) and subordination, standstill and related terms (if

any), and other material terms taken as a whole, of any such refinancing, refunding, renewing or extending Indebtedness, and of any agreement entered into and of any instrument issued in connection therewith, are no less favorable in any material respect to the Loan Parties or the Lenders (as determined in good faith by a Responsible Officer of the Company) than the terms of any agreement or instrument governing the Indebtedness being refinanced, refunded, renewed or extended;

(c) Indebtedness in respect of Capitalized Leases, Synthetic Lease Obligations and purchase money obligations for fixed or capital assets within the limitations set forth in Section 7.01(i); provided, however, that the aggregate amount of all such Indebtedness shall not exceed $30,000,000 in any fiscal year;

(d) Indebtedness of (i) a Loan Party to any other Loan Party, (ii) a Loan Party to any Restricted Subsidiary that is not a Loan Party and (iii) any Restricted Subsidiary that is not a Loan Party to any Loan Party or any other Restricted Subsidiary; provided that, in the case of Indebtedness owed by any Loan Party to any Restricted Subsidiary that is not a Loan Party, such Indebtedness shall be unsecured and, to the extent all such Indebtedness exceeds $1,000,000 at any time outstanding, be subordinated in right of payment to the Guaranteed Obligations on the terms set forth in the Intercompany Subordination Agreement or otherwise on terms reasonably satisfactory to the Administrative Agent ("Intercompany Debt");

(e) Guarantees of Indebtedness of the Company or any Subsidiary Guarantor otherwise permitted hereunder;

(f) obligations (contingent or otherwise) existing or arising under any Swap Contract, provided that such obligations are (or were) entered into by such Person in the ordinary course of business for the purpose of directly mitigating risks associated with fluctuations in interest rates or foreign exchange rates;

(g) [reserved]

(h) to the extent constituting Indebtedness, Warrant Transactions not otherwise prohibited by this Agreement;

(i) Indebtedness of any Person that becomes a Restricted Subsidiary of the Company (or of any Person not previously a Subsidiary that is merged, amalgamated or consolidated with or into the Company or a Restricted Subsidiary) after the Closing Date as a result of an Acquisition, or Indebtedness of any Person that is assumed by the Company or any of its Restricted Subsidiaries in connection with an Acquisition of assets by the Company or such Restricted Subsidiary in an Acquisition; provided that (A) such Indebtedness is not incurred in contemplation of such Acquisition and (B) that the aggregate principal amount of Indebtedness that is outstanding in reliance on this clause (i) shall not, at any time outstanding, exceed $50,000,000;

(j) [reserved]

(k) obligations of the Company or any of its Restricted Subsidiaries in respect of any overdraft and related liabilities arising from treasury, depository, credit card, purchasing card and cash management services or any automated clearing house transfers of funds and other Indebtedness in respect of netting services, overdraft protections, cash pooling, employee credit cards and similar arrangements, in each case, in connection with deposit accounts in the ordinary course of business;

(l) Indebtedness consisting of obligations in respect of surety, stay, customs and appeal bonds, performance bonds and performance and completion guarantees provided by the Company or any of its Restricted Subsidiaries, in each case in the ordinary course of business or consistent with past practice;

(m) Indebtedness under letters of credit or bank guarantees issued on behalf of Foreign Subsidiaries (and not issued under this Agreement) in an aggregate amount not to exceed $10,000,000 at any one time outstanding;

(n) Indebtedness representing deferred compensation or stock-based compensation or severance, pension and health and welfare benefits to employees and former employees, as applicable, of the Company and its Restricted Subsidiaries incurred in the ordinary course of business;

(o) Indebtedness constituting indemnification obligations or obligations for the payment of the purchase price (pending the consummation of such transaction) or other contingent purchase price adjustments incurred in an Investment or any Disposition permitted under this Agreement;

(p) Indebtedness consisting of obligations under deferred consideration (earnouts, royalty payments, indemnifications, incentive non-competes, milestone payments and other contingent obligations) incurred in connection with any Acquisition or other Investment or otherwise in connection with research and development licensing agreements, collaboration agreements or development agreements;

(q) Indebtedness consisting of insurance premium financing and take or pay obligations contained in supply agreements in the ordinary course of business;

(r) Guarantees by the Company with respect to any operating lease payment obligations of any Subsidiaries of the Company;

(s) to the extent constituting Indebtedness, obligations that are being contested in accordance with Section 6.04;

(t) customer advances or deposits or other endorsements for collection, deposit or negotiation and warranties of products or services, in each case received or incurred in the ordinary course of business; and

(u) other Indebtedness of the Company or any Restricted Subsidiary; provided that immediately after giving effect to the incurrence of any Indebtedness in reliance on this clause (u), (i) the aggregate outstanding principal amount of all Priority Indebtedness shall not exceed fifteen percent (15%) of Consolidated Net Worth (determined as of the last day of the most recent fiscal quarter for which financial statements shall have been delivered pursuant to Section 6.01(a) or 6.01(b) (or, prior to the delivery of any such financial statements, determined as of June 30, 2019)) and (ii) the Loan Parties are in Pro Forma Compliance.

For purposes of determining compliance with this Section 7.02, in the event that an item of Indebtedness (or any portion thereof) meets the criteria of one or more of the categories of permitted Indebtedness (or any portion thereof) described in this Sections 7.02, the Borrowers may, in their sole discretion, classify or divide such item of Indebtedness (or any portion thereof) in any manner that complies with this Section 7.02 and will be entitled to only include the amount and type of such item of Indebtedness (or any portion thereof) in one of the above clauses (or any portion thereof) and such item of Indebtedness (or any portion thereof) shall be treated as having been incurred or existing pursuant to only such clause or clauses (or any portion thereof); provided that all Indebtedness outstanding under this Agreement shall at all times be deemed to have been incurred pursuant to clause (a) of this Section 7.02.

Notwithstanding the foregoing to the contrary, the CF Asset Subsidiaries shall not create, incur, assume or suffer to exist any Indebtedness (other than (x) Intercompany Debt, except Intercompany Debt owed by any CF Asset Subsidiary to any Restricted Subsidiary that is not a Loan Party and (y) Obligations of any Designated Foreign Borrower or any Subsidiary Guarantor) in an aggregate amount in excess of $100,000,000 at any one time outstanding.

7.03 [Reserved]

7.04 Fundamental Changes.

(a) Merge, dissolve, liquidate, consolidate with or into another Person, or Dispose of (whether in one transaction or in a series of transactions) all or substantially all of its assets (whether now owned or hereafter acquired) to or in favor of any Person, except that:

(i) any Restricted Subsidiary that is a Domestic Subsidiary may merge or consolidate with or dissolve or liquidate into (A) the Company; provided that the Company shall be the continuing or surviving Person, or (B) so long as no Event of Default would result therefrom, any one or more other Restricted Subsidiaries that are Domestic Subsidiaries; provided that (x) in any such transaction involving a Subsidiary Guarantor, such Subsidiary Guarantor shall be the continuing or surviving Person, and (y) no such transaction shall cause any then existing Subsidiary Guarantor to become a Subsidiary that would not be required to be a Subsidiary Guarantor pursuant to Section 6.12;

(ii) any Designated Foreign Borrower may merge or consolidate with or dissolve or liquidate into any other Designated Foreign Borrower which is organized or existing under the Laws of the jurisdiction in which the first Designated Foreign Borrower is organized;

(iii) any Restricted Subsidiary that is a Foreign Subsidiary (other than a Designated Foreign Borrower) may merge or consolidate with or dissolve or liquidate into (A) a Designated Foreign Borrower which is organized or existing under the Laws of the jurisdiction in which the first Designated Foreign Borrower is organized; provided that such Designated Foreign Borrower shall be the continuing or surviving Person, or (B) so long as no Event of Default would result therefrom, any one or more other Restricted Subsidiaries that are Foreign Subsidiaries;

(iv) (A) any Subsidiary Guarantor may Dispose of all or substantially all of its assets (including any Disposition that is in the nature of a liquidation) to any other U.S. Loan Party, (B) any Designated Foreign Borrower may Dispose of all or substantially all of its assets (including any Disposition that is in the nature of a liquidation) to any other Loan Party, and (C) any Restricted Subsidiary that is not a Loan Party may Dispose of all or substantially all of its assets (including any Disposition that is in the nature of a liquidation) to any Loan Party or, so long as no Event of Default would result therefrom, any other Restricted Subsidiary;

(v) so long as no Event of Default shall exist or would result therefrom, each of the Company and any of its Restricted Subsidiaries may merge into or consolidate with any other Person (other than the Company or any of its Subsidiaries) or permit any other Person (other than the Company or any of its Subsidiaries) to merge into or consolidate with it; provided, however, that in each case, immediately after giving effect thereto (i) in the case of any such merger or consolidation to which a Borrower is a party (the "Existing Borrower"), (x) the Existing Borrower is the surviving Person (and if the Company is a party to such merger or consolidation, the Company is the surviving Person) or (y) if the Person formed by or surviving any such merger or consolidation is not the Existing Borrower (any such Person, the "Successor Borrower"), (A) (1) if the Existing Borrower is the Company, the Successor Borrower shall be an entity organized or existing under the Laws of the United States, any state thereof or the District of Columbia, and (2) if the Existing Borrower is a Designated Foreign Borrower, the Successor Borrower shall be an entity organized or existing under the Laws of the jurisdiction in which the Existing Borrower is organized, (B) the Successor Borrower shall expressly assume all the obligations of the Existing Borrower under this Agreement and the other Loan Documents to which the Existing Borrower is a party pursuant to documents in form and substance reasonably satisfactory to the Administrative Agent, (C) each applicable Guarantor shall have confirmed that its Guarantee shall apply to the Successor Borrower's obligations under the Loan Documents (to the same extent as such Guarantee applied to the Existing Borrower's obligations under the Loan Documents) pursuant to documents in form and substance reasonably satisfactory

to the Administrative Agent, (D) the Company shall have delivered to the Administrative Agent such supporting resolutions, incumbency certificates, opinions of counsel and other documents or information, in form, content and scope reasonably satisfactory to the Administrative Agent, as may be required by the Administrative Agent and (E) the Administrative Agent and the Lenders shall have received satisfactory results of "know your customer", Sanctions, Act and other similar due diligence reasonably requested by the Administrative Agent and the Lenders, (ii) in the case of any such merger or consolidation to which any Subsidiary Guarantor is a party, such Subsidiary Guarantor is the surviving Person, and (iii) in the case of any such merger or consolidation to which any Restricted Subsidiary (other than a Loan Party) is a party, such Restricted Subsidiary is the surviving Person; and

(vi) so long as no Default or Event of Default has occurred and is continuing or would result therefrom, the Company and its Restricted Subsidiaries may consummate Permitted Restructurings.

(b) Make any Disposition (including, for avoidance of doubt and without limitation, by way of Investment, Restricted Payment, sale, transfer or other Disposition) of any Cystic Fibrosis Drug Franchise Assets, except:

(i) (A) Dispositions of inventory in the ordinary course of business and (B) Dispositions of cash and Cash Equivalents;

(ii) Dispositions of equipment or real property to the extent that (A) such property is exchanged for credit against the purchase price of similar replacement property or (B) the proceeds of such Disposition are reasonably promptly applied to the purchase price of such replacement property;

(iii) Dispositions of property by a Restricted Subsidiary to the Company or to a Wholly Owned Subsidiary of the Company; provided that (A) if the transferor of such property is a Subsidiary Guarantor, the transferee thereof must be a U.S. Loan Party, and (B) if the transferor of such property is a Designated Foreign Borrower, the transferee thereof must be a Loan Party;

(iv) Dispositions of accounts receivable in connection with the collection, discounting, settlement or compromise thereof in the ordinary course of business;

(v) Dispositions in the ordinary course of business consisting of the abandonment, or allowing to lapse, of Intellectual Property which, in the reasonable good faith determination of the Borrowers, is uneconomical to maintain, non-strategic, negligible, obsolete or otherwise not material to the value of the Cystic Fibrosis Drug Franchise Assets (taken as a whole) or the conduct of their business (taken as a whole);

(vi) Dispositions of Intellectual Property owned by a Loan Party to a Foreign Subsidiary of a Borrower that is a Restricted Subsidiary, to the extent the Administrative Agent (acting in its reasonable credit judgment) approves such Disposition; provided that (i) the Foreign Subsidiary receiving such Intellectual Property shall covenant and agree not to pledge any interest in such Intellectual Property to any Person (other than a Loan Party); (ii) any such transferred Intellectual Property shall be subject to a perpetual exclusive license in favor of the Loan Parties for use in the North America in form and substance reasonably satisfactory to the Administrative Agent, and which license shall (1) not be subject to any anti-assignment or change of control provisions (in each case limiting the Loan Party), (2) expressly permit the creation, continuation and performance of any Lien thereon securing the Guaranteed Obligations (as such Guaranteed Obligations may be modified, increased, extended, refinanced, renewed or replaced from time to time), (3) be terminable at will by the Loan Parties (which termination shall require the Administrative Agent's consent), (4) require the Administrative Agent's consent for any amendment of the license agreement that alters the terms and conditions of the license agreement in any manner adverse to the interests of a Loan Party or the Lenders, (5) specify that it may not be terminated in connection with a Loan Party's bankruptcy, (6) include the right of any Loan Party that is a party thereto to assume and assign the license in the event of its bankruptcy or insolvency, and (7) include a covenant by the Foreign Subsidiary not to move for, or consent to, the termination of or rejection of the license in a bankruptcy or insolvency of the Foreign Subsidiary; and (iii) any Foreign Subsidiary receiving such Intellectual Property shall at all times remain a Restricted Subsidiary and shall not conduct any other material business other than (1) holding such Intellectual Property, (2) entering into license agreements in the ordinary course of business with Foreign Subsidiaries that are Restricted Subsidiaries for use of such Intellectual Property in foreign jurisdictions in the ordinary course of business and (3) entering into license agreements with third parties for use in foreign jurisdictions in the ordinary course of business, on customary terms for fair value; and

(vii) Dispositions consisting of (A) non-exclusive licenses or sublicenses of (or other non-exclusive grants of rights to use or exploit) Intellectual Property in the ordinary course of business (including inter-company agreements between or among any Loan Parties and Restricted Subsidiaries), (B) outside of the United States, Canada, Ireland, the United Kingdom, France, Germany, Italy, Spain, Australia and the Netherlands, exclusive licenses or sublicenses of (or other exclusive grants of rights to use or exploit) Intellectual Property of the Loan Parties and their Restricted Subsidiaries to third parties, in the ordinary course of business consistent with past practices, to the extent necessary to facilitate the commercial distribution of products and services in regions and territories in which the Loan Parties and their Restricted Subsidiaries do not distribute their products directly, provided that none of the licenses or sublicenses described in the foregoing clauses (A) and (B) (either individually or in the aggregate) could reasonably be expected to (x) result in a Material Adverse Effect, (y) materially interfere with the business of the Loan Parties

and their Restricted Subsidiaries, taken as a whole, or (z) solely with respect to clause (B), impair in any material respect the value of the Intellectual Property licensed or granted and (C) licenses or sublicenses of (or other exclusive grants of rights to use or exploit) Intellectual Property approved by the Administrative Agent (acting in its reasonable credit judgment);

provided, that any Disposition pursuant to this Section 7.04(b) (other than Section 7.04(b)(i)(A), (b)(iv), (b)(vi) and (b)(vii)) shall be for Fair Market Value; provided further, that nothing herein shall preclude the Company or any Restricted Subsidiary from consummating any Permitted Restructuring so long as no Default or Event of Default has occurred and is continuing or would result therefrom.

7.05 [Reserved]

7.06 Restricted Payments.

Declare or make, directly or indirectly, any Restricted Payment, or issue or sell any Equity Interests, except:

(a) each Restricted Subsidiary may make, either directly or indirectly, Restricted Payments to the Company, the Subsidiary Guarantors and any other Person that owns an Equity Interest in such Restricted Subsidiary, provided that, in the case of any Restricted Subsidiary that is not a Wholly Owned Subsidiary, such Restricted Payments are made to the holders of such Equity Interests ratably (or on a more favorable basis from the perspective of the Company and its Wholly Owned Subsidiaries, taken as a whole) according to their respective holdings of the type of Equity Interest in respect of which such Restricted Payment is being made;

(b) the Company and each Restricted Subsidiary may declare and make dividend payments or other distributions payable solely in the common stock, other common Equity Interests of such Person or Qualified Stock of such Person;

(c) the Company may issue and sell any warrants or options with respect to its Qualified Stock pursuant to any executive compensation or stock option plan;

(d) the Company may issue and sell its Equity Interests constituting Qualified Stock;

(e) the Company and each Restricted Subsidiary may purchase, redeem or otherwise acquire Equity Interests issued by it with the proceeds received from the substantially concurrent issue of new shares of its common stock or other Qualified Stock;

(f) the Company and each Restricted Subsidiary may make Restricted Payments to shareholders of any Person (other than an Affiliate of the Company) acquired by merger pursuant to an Investment, at the time of such Investment;

(g) the Company and each of its Restricted Subsidiaries may (A) repurchase, retire, or otherwise acquire or retire at value, Equity Interests held by former directors, officers, employees and consultants; (B) pay withholding or similar Taxes payable by present or former directors, officers, employees or consultants in respect of their Equity Interests; (C) repurchase Equity Interests deemed to occur upon a cashless exercise of options or warrants and (D) pay withholding amounts in respect of Equity Interests of present or former directors, officers, employees or consultants in cash and Cash Equivalents;

(h) the Company may make Restricted Payments to implement Capped Call Transactions and Convertible Bond Hedge Transactions in connection with the issuance of Convertible Bond Indebtedness, provided such Restricted Payments are made solely with the proceeds of such related Convertible Bond Indebtedness and any Warrant Transactions;

(i) the Company may declare and make other Restricted Payments not otherwise permitted by this Section 7.06 (including, making Restricted Payments to exercise, settle, unwind or terminate any Convertible Bond Hedge Transaction, Capped Call Transaction or Warrant Transaction, as applicable, or honor any request in connection with any conversion of Convertible Bond Indebtedness and make cash payments in lieu of fractional shares in connection therewith), provided that (x) no Event of Default shall exist or would result therefrom and (y) immediately after giving effect to such Restricted Payment, the Company shall be in Pro Forma Compliance, provided that the Consolidated Leverage Ratio shall not exceed, on a Pro Forma Basis, 3.00 to 1.00;

(j) the Company and any Restricted Subsidiary may pay cash in lieu of fractional shares in connection with any dividend, split or combination of its Equity Interests;

(k) the Company or any Restricted Subsidiary may make Restricted Payments pursuant to and in accordance with equity compensation plans or programs and other benefit and compensation plans, programs or agreements for directors, officers, employees, consultants or advisors of the Company and its Subsidiaries; and

(l) the Company may pay any dividend or distribution or make any irrevocable Restricted Payment within 60 days after the date of declaration of such dividend or distribution or giving irrevocable notice with respect to such Restricted Payment, as the case may be, if at the date of declaration or notice such Restricted Payment would have complied with the provisions of this Agreement (including the other provisions of this Section 7.06).

7.07 [Reserved]

7.08 Transactions with Affiliates.

Enter into or permit to exist any transaction or series of transactions with any officer, director or Affiliate of such Person other than (a) transactions among the Loan Parties and their Restricted Subsidiaries (or any entity that becomes a Restricted Subsidiary as a result of such transaction not prohibited by this Agreement); (b) Investments by the Loan Parties and their Restricted Subsidiaries in any other Loan Party or any Subsidiary; (c) R&D Collaboration Payments; (d) customary

directors' fees, indemnification (including the provision of directors and officers insurance), expense reimbursement and similar arrangements, consulting fees, employee salaries, bonuses or employment agreements, compensation or employee benefit arrangements, incentive and severance arrangements with any past, present or future officer, director or employee of a Loan Party or a Restricted Subsidiary entered into in the ordinary course of business; (e) Restricted Payments permitted under Section 7.06; (f) advances of payroll payments to employees of the Company or any Restricted Subsidiary in the ordinary course of business; (g) advances to officers, directors, managers, consultants and employees (or, in the case of the following clause (g)(ii), any future or present officer, director, manager, consultant or employee (or their respective estates, heirs, family members, spouses and former spouses, domestic partners and former domestic partners or beneficiaries under their estates)) of the Company or any Restricted Subsidiary (i) for relocation, (ii) in connection with such Person's purchase of Equity Interests of the Company; provided that no cash is actually advanced pursuant to this clause (g)(ii), and (iii) for entertainment, travel and similar purposes in the ordinary course of business; (h) written agreements entered into or assumed in connection with acquisitions of other businesses with Persons who were not Affiliates prior to such transactions approved by a majority of the Board of Directors of the Company; (i) transactions undertaken in connection with the consummation of any Permitted Restructuring; (j) issuances of Equity Interests to Affiliates and the registration rights and other customary rights associated therewith; (k) transactions with joint ventures for the purchase or sale of property or other assets and services entered into in the ordinary course of business and investments in joint ventures; (l) transactions approved by (i) a majority of disinterested directors of the Company or of the applicable Restricted Subsidiary in good faith or (ii) a committee of the board of directors (or other governing body) of such Person that is comprised of disinterested directors (or such committee otherwise approves such transactions by action of disinterested directors); (m) any transaction or series of related transactions with respect to which the aggregate consideration paid, or fair market value of property Disposed of, by the Company and its Restricted Subsidiaries is less than $5,000,000 for any such individual transaction or series of related transactions; (n) any transaction in respect of which the Company delivers to the Administrative Agent (for delivery to the Lenders) a letter addressed to the board of directors of the Company (or the board of directors or other relevant governing body of the relevant Restricted Subsidiary) from an accounting, appraisal or investment banking firm that is in the good faith determination of the Company qualified to render such letter, which letter states that such transaction is on terms that are no less favorable to the Company or the relevant Restricted Subsidiary, as applicable, than would be obtained on an arm's-length basis from a Person that is not an Affiliate for a comparable transaction; (o) any transaction with an Affiliate where the only consideration paid consists of Equity Interests of the Company; and (p) except as otherwise specifically limited in this Agreement, other transactions which are entered into in the ordinary course of such Person's business on fair and reasonable terms and conditions substantially as favorable to such Person as would be obtainable by it in a comparable arm's length transaction with a Person other than an officer, director or Affiliate.

7.09 Burdensome Agreements.

Enter into, or permit to exist, any Contractual Obligation (except for this Agreement and the other Loan Documents) that (a) restricts the ability of any Loan Party or its Restricted Subsidiaries to (i) make Restricted Payments to any Loan Party or Restricted Subsidiary except for (A) any

agreement in effect on the date hereof and set forth on Schedule 7.09, (B) any agreement in effect at the time any Restricted Subsidiary becomes a Restricted Subsidiary of the Company, so long as such agreement was not entered into in contemplation of such Person becoming a Restricted Subsidiary of the Company, or (C) any reimbursement agreement entered into in the ordinary course of business, to the extent necessary, to effect periodic settlements mandated by such Loan Parties or Restricted Subsidiaries pursuant to such reimbursement agreements, or (ii) create any Lien upon any of their properties or assets to secure the Guaranteed Obligations, except, in the case of clause (a)(ii) only, for (A) any document or instrument governing Indebtedness incurred pursuant to Section 7.02(c), provided that any such restriction contained therein relates only to the asset or assets constructed or acquired in connection therewith, (B) any negative pledge contained in secured Indebtedness incurred pursuant to Section 7.02 so long as such negative pledge does not restrict Liens on the Cystic Fibrosis Drug Franchise Assets of the Loan Parties securing the Guaranteed Obligations (as such Guaranteed Obligations may be modified, increased, extended, refinanced, renewed or replaced from time to time), (C) Contractual Obligations that (1) are customary restrictions that arise in connection with any Disposition not prohibited by this Agreement, so long as such Contractual Obligations relate only to the asset or Person subject to such Disposition, (2) are customary provisions in joint venture agreements and other similar agreements applicable to joint ventures, so long as such Contractual Obligations are applicable only to such joint venture, (3) are customary restrictions on leases, subleases, in-licenses (including sublicenses thereof) or asset sale agreements otherwise permitted hereby so long as such restrictions relate only to the assets subject thereto or (4) are contained in sales agreements, purchase agreements, acquisition agreements (including by way of merger, acquisition or consolidation) entered into by the Company or any Restricted Subsidiary and solely to the extent in effect pending the closing of such transaction and with respect to the assets covered thereby, (D) restrict subletting or assignment of any lease governing a leasehold interest, and (E) restrictions imposed by applicable Law; or (b) requires the grant of any Lien on property for any obligation if a Lien on such property is given as security for the Guaranteed Obligations.

7.10 Use of Proceeds.

Use the proceeds of any Credit Extension, whether directly or indirectly, and whether immediately, incidentally or ultimately, to (a) purchase or carry margin stock (within the meaning of Regulation U of the FRB) or to extend credit to others for the purpose of purchasing or carrying margin stock or to refund indebtedness originally incurred for such purpose or (b) finance any hostile Acquisition (as evidenced by a calculation of cash and Cash Equivalents on hand at the Company immediately after giving effect to the consummation of such Acquisition and reflecting the application of all cash and Cash Equivalents utilized in connection with the consummation of such Acquisition).

7.11 Financial Covenants.

(a) Consolidated Leverage Ratio. Permit the Consolidated Leverage Ratio as of the end of any Measurement Period (commencing with the Measurement Period ending December 31, 2019) to be greater than 3.50 to 1.00 (such ratio, the "Stated Ratio"); provided, however, that upon consummation of a Material Acquisition and upon the written election

of the Company (which may be exercised not more than three (3) times during the term of this Agreement) to the Administrative Agent (which shall promptly notify the Lenders), the Company may increase the maximum Consolidated Leverage Ratio to 4.00 to 1.00 (the "Adjusted Consolidated Leverage Ratio"). The Adjusted Consolidated Leverage Ratio shall be effective as of the date of consummation of the Material Acquisition (including, without limitation, for determining Pro Forma Compliance with the requirements of this Agreement for such Material Acquisition) and (i) shall step down by 0.25x (*i.e.*, a quarter turn) after two (2) full fiscal quarters following the date of the consummation of such Material Acquisition and (ii) shall step down by an additional 0.25x (*i.e.*, a quarter turn) and return to the Stated Ratio after four (4) full fiscal quarters following the date of the consummation of such Material Acquisition. Notwithstanding anything in the foregoing to the contrary, in the event that the Company makes any such election to adjust the Consolidated Leverage Ratio as set forth above during concurrent periods for Material Acquisitions occurring within any period of four (4) full fiscal quarters following the date of the consummation of such Material Acquisitions, the step downs (as set forth above) shall occur after the end of the two (2) and four (4) (respectively) full fiscal quarters following the date of consummation of the most recent Material Acquisition (on account of which the Consolidated Leverage Ratio was adjusted).

(b) Consolidated Interest Coverage Ratio. Permit the Consolidated Interest Coverage Ratio as of the end of any Measurement Period (commencing with the Measurement Period ending December 31, 2019) to be less than 2.50 to 1.00.

7.12 Amendments of Organization Documents; Fiscal Year; Legal Name, State of Formation; Form of Entity and Accounting Changes.

(a) Amend any Organization Documents of the Company or any of its Restricted Subsidiaries, in a manner adverse to the Lenders in any material respect;

(b) change the fiscal year of the Company or any of its Restricted Subsidiaries, provided, however, that any Person that becomes a Restricted Subsidiary after the date hereof may change its fiscal year to be the same as the Company;

(c) without providing prompt prior written notice to the Administrative Agent following any change in the name, state of formation or organization, form of organization or principal place of business of any Loan Party; or

(d) make any other change in accounting policies or reporting practices of the Company or any of its Restricted Subsidiaries, except as required by GAAP.

7.13 [Reserved]

7.14 [Reserved]

7.15 [Reserved]

7.16 Sanctions.

Directly or indirectly, use any Credit Extension or the proceeds of any Credit Extension, or lend, contribute or otherwise make available such Credit Extension or the proceeds of any Credit Extension to any Person, to fund any activities of or business with any Sanctioned Person, or in any Designated Jurisdiction, in each case, in violation of applicable Sanctions, or in any other manner that will result in a violation by any Person party hereto (including any Person participating in the transaction, whether as Lender, as Arranger, Administrative Agent, L/C Issuer, Swingline Lender, or otherwise) of Sanctions.

7.17 Anti-Corruption Laws.

Directly or indirectly, use any Credit Extension or the proceeds of any Credit Extension for any purpose which would breach the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 and other similar anti-corruption legislation in other jurisdictions.

7.18 Massachusetts Security Corporation.

With regard to any Restricted Subsidiary that is a Massachusetts Security Corporation, conduct, transact or otherwise engage in any material operating or business activities other than investment activities that would not reasonably be expected to result in the loss of such Person's qualification as a Massachusetts security corporation under Mass. Gen. L. c. 63, §38B.

7.19 Unrestricted Subsidiaries.

Permit any Unrestricted Subsidiary to (i) own, or possess the right to use, any Intellectual Property, or (ii) own any of the material economic rights derived from any Intellectual Property, in each case with respect to clause (i) or (ii), covering the Cystic Fibrosis Drug Franchise Assets.

ARTICLE VIII

EVENTS OF DEFAULT AND REMEDIES

8.01 Events of Default**.**

Any of the following shall constitute an event of default (each, an "Event of Default"):

(a) Non-Payment. Any Borrower or any other Loan Party fails to pay, in the currency required hereunder, (i) when and as required to be paid herein, any amount of principal of any Loan or any L/C Obligation or deposit any funds as Cash Collateral in respect of L/C Obligations, (ii) within three (3) Business Days after the same becomes due, any interest on any Loan or on any L/C Obligation, or any fee due hereunder, or (iii) within five (5) Business Days after the same becomes due, any other amount payable hereunder or under any other Loan Document; or

(b) Specific Covenants. Any Loan Party fails to perform or observe any term, covenant or agreement contained in any of Section 6.01, 6.02(a), 6.03(a), 6.05(a), 6.10, 6.11, 6.12, Article VII or Article X; or

(c) Other Defaults. Any Loan Party fails to perform or observe any other covenant or agreement (not specified in Section 8.01(a) or (b) above) contained in any Loan Document on its part to be performed or observed and such failure continues for thirty (30) days after the earlier of (x) any Responsible Officer of any Loan Party becoming aware thereof and (y) the Administrative Agent providing the Company written notice thereof; or

(d) Representations and Warranties. Any representation, warranty, certification or statement of fact made or deemed made by or on behalf of any Borrower or any other Loan Party herein, in any other Loan Document, or in any Compliance Certificate or other certificate delivered pursuant to or in connection with this Agreement or any other Loan Document shall be incorrect or misleading in any material respect (except that such materiality qualifier shall not be applicable to any representations, warranties, certificates or statement of fact that already are qualified or modified by materiality in the text thereof) when made or deemed made; or

(e) Cross-Default. (i) Any Loan Party or any Restricted Subsidiary thereof (other than an Immaterial Subsidiary) (A) fails to make any payment when due (whether by scheduled maturity, required prepayment, acceleration, demand, or otherwise) in respect of any Indebtedness or Guarantee (other than Indebtedness hereunder, Intercompany Debt owing to a Loan Party and Indebtedness under Swap Contracts) having an aggregate principal amount (including undrawn committed or available amounts and including amounts owing to all creditors under any combined or syndicated credit arrangement) of more than the Threshold Amount, or (B) fails to observe or perform any other agreement or condition relating to any such Indebtedness or Guarantee or contained in any instrument or agreement evidencing, securing or relating thereto, or any other event occurs, the effect of which default or other event is to require, or to permit the holder or holders of such Indebtedness or the beneficiary or beneficiaries of such Guarantee (or a trustee or agent on behalf of such holder or holders or beneficiary or beneficiaries) to require, with the giving of notice if required, such Indebtedness to be demanded or to become due or to be repurchased, prepaid, defeased or redeemed (automatically or otherwise), or an offer to repurchase, prepay, defease or redeem such Indebtedness to be made, prior to its stated maturity (it being understood, for the avoidance of any doubt, the occurrence of events causing Convertible Bond Indebtedness to become convertible, or conversions of Convertible Bond Indebtedness in accordance with its terms and the satisfaction by the Company of its obligations in connection with conversions of Convertible Bond Indebtedness through (x) the issuance of Qualified Stock and (y) cash payments in lieu of fractional shares required to be paid upon such conversions, shall not constitute an Event of Default under this clause (e)(i)(B)), or such Guarantee to become payable or cash collateral in respect thereof to be demanded; or (ii) there occurs under any Swap Contract an Early Termination Date (as defined in such Swap Contract) resulting from (A) any event of default under such Swap Contract as to which a Loan Party or any Restricted Subsidiary thereof is the Defaulting Party (as defined in such Swap

Contract) or (B) any Termination Event (as so defined) under such Swap Contract as to which a Loan Party or any Restricted Subsidiary thereof is an Affected Party (as so defined) and, in either event, the Swap Termination Value owed by such Loan Party or such Restricted Subsidiary as a result thereof is greater than the Threshold Amount; or (iii) any Loan Party or any Restricted Subsidiary thereof fails to make any payment beyond the applicable grace period with respect thereto under any lease for the Specified Leased Locations (or contained in any instrument or agreement evidencing or relating thereto), the effect of which payment default is to cause, or to permit the landlord under such lease to cause, with the giving of notice if required, such lease to be terminated; or

(f) Insolvency Proceedings, Etc. Any Loan Party or any Restricted Subsidiary thereof (other than an Immaterial Subsidiary) institutes or consents to the institution of any proceeding under any Debtor Relief Law, or makes an assignment for the benefit of creditors; or applies for or consents to the appointment of any receiver, examiner, trustee, custodian, conservator, liquidator, rehabilitator or similar officer for it or for all or any material part of its property; or any receiver, trustee, custodian, conservator, liquidator, administrator, administrative receiver, compulsory manager, rehabilitator or similar officer is appointed without the application or consent of such Person and the appointment continues undischarged or unstayed for sixty (60) calendar days; or any proceeding under any Debtor Relief Law relating to any such Person or to all or any material part of its property is instituted without the consent of such Person and continues undismissed or unstayed for sixty (60) calendar days, or an order for relief is entered in any such proceeding; or

(g) Inability to Pay Debts; Attachment. (i) Any Loan Party or any Restricted Subsidiary (other than an Immaterial Subsidiary) thereof becomes unable or admits in writing its inability or fails generally to pay its debts as they become due, or (ii) any writ or warrant of attachment or execution or similar process is issued or levied against all or any material part of the property of any such Person and is not released, vacated or fully bonded within forty-five (45) days after its issue or levy; or

(h) Judgments. There is entered against any Loan Party or any Restricted Subsidiary (other than an Immaterial Subsidiary) thereof one or more final judgments or orders for the payment of money in an aggregate amount (as to all such judgments and orders) exceeding the Threshold Amount (to the extent not paid, fully bonded or covered by independent third-party insurance as to which the insurer has been notified of the potential claim and has not denied coverage) and (A) enforcement proceedings are commenced by any creditor upon such judgment or order or (B) there is a period of sixty (60) consecutive days during which a stay of enforcement of such judgment, by reason of a pending appeal or otherwise, is not in effect; or

(i) ERISA. (i) An ERISA Event occurs with respect to a Pension Plan or Multiemployer Plan which has resulted or would reasonably be expected to result in liability of any Loan Party under Title IV of ERISA to the Pension Plan, Multiemployer Plan or the PBGC in an aggregate amount in excess of the Threshold Amount, or (ii) the Company or any ERISA Affiliate fails to pay when due, after the expiration of any applicable grace

period, any installment payment with respect to its withdrawal liability under Section 4201 of ERISA under a Multiemployer Plan in an aggregate amount in excess of the Threshold Amount; or

(j) Invalidity of Loan Documents. Any provision of any Loan Document, at any time after its execution and delivery and for any reason other than as expressly permitted hereunder or thereunder or satisfaction in full of all Obligations arising under the Loan Documents, ceases to be in full force and effect; or any Loan Party or any other Person contests in any manner the validity or enforceability of any provision of any Loan Document other than in connection with the release of a Subsidiary Guarantor in accordance with the terms hereof; any Loan Party denies that it has any or further liability or obligation under any provision of any Loan Document, or purports to revoke, terminate or rescind any provision of any Loan Document; or it is or becomes unlawful for a Loan Party to perform any of its obligations under the Loan Documents; or

(k) Change of Control. There occurs any Change of Control.

8.02 Remedies upon Event of Default**.**

If any Event of Default occurs and is continuing, the Administrative Agent shall, at the request of, or may, with the consent of, the Required Lenders, take any or all of the following actions:

(a) declare the Revolving Commitment of each Lender to make Loans and any obligation of each L/C Issuer to make L/C Credit Extensions to be terminated, whereupon such commitments and obligation shall be terminated;

(b) declare the unpaid principal amount of all outstanding Loans, all interest accrued and unpaid thereon, and all other amounts owing or payable hereunder or under any other Loan Document to be immediately due and payable, without presentment, demand, protest or other notice of any kind, all of which are hereby expressly waived by the Borrowers;

(c) require that the Borrowers Cash Collateralize the L/C Obligations (in an amount equal to the Minimum Collateral Amount with respect thereto); and

(d) exercise on behalf of itself, the Lenders and the L/C Issuers all rights and remedies available to it, the Lenders and the L/C Issuers under the Loan Documents or applicable Law or equity;

provided, however, that upon the occurrence of an actual or deemed entry of an order for relief with respect to the Borrowers under the Bankruptcy Code of the United States, the obligation of each Lender to make Loans and any obligation of any L/C Issuer to make L/C Credit Extensions shall automatically terminate, the unpaid principal amount of all outstanding Loans and all interest and other amounts as aforesaid shall automatically become due and payable, and the obligation of the Borrowers to Cash Collateralize the L/C Obligations as aforesaid shall automatically become effective, in each case without further act of the Administrative Agent or any Lender.

8.03 Application of Funds**.**

After the exercise of remedies provided for in Section 8.02 (or after the Loans have automatically become immediately due and payable and the L/C Obligations have automatically been required to be Cash Collateralized as set forth in the proviso to Section 8.02) or if at any time insufficient funds are received by and available to the Administrative Agent to pay fully all Guaranteed Obligations then due hereunder, any amounts received on account of the Guaranteed Obligations shall, subject to the provisions of Sections 2.14 and 2.15, be applied by the Administrative Agent in the following order:

1 , to payment of that portion of the Guaranteed Obligations constituting fees, indemnities, expenses and other amounts (including fees, charges and disbursements of counsel to the Administrative Agent and amounts payable under Article III) payable to the Administrative Agent in its capacity as such;

2 , to payment of that portion of the Guaranteed Obligations constituting fees, indemnities and other amounts (other than principal, interest and Letter of Credit Fees) payable to the Lenders, and the L/C Issuers (including fees, charges and disbursements of counsel to the respective Lenders, and the L/C Issuers arising under the Loan Documents and amounts payable under Article III), ratably among them in proportion to the respective amounts described in this clause Second payable to them;

3 , to payment of that portion of the Guaranteed Obligations constituting accrued and unpaid Letter of Credit Fees and interest on the Loans, L/C Borrowings and other Guaranteed Obligations arising under the Loan Documents, ratably among the Lenders and the L/C Issuers in proportion to the respective amounts described in this clause Third payable to them;

4 , to payment of that portion of the Guaranteed Obligations constituting unpaid principal of the Loans and L/C Borrowings and to the Administrative Agent for the account of the L/C Issuers, to Cash Collateralize that portion of L/C Obligations comprised of the aggregate undrawn amount of Letters of Credit to the extent not otherwise Cash Collateralized by the Borrowers pursuant to Sections 2.03 and 2.14, in each case ratably among the Administrative Agent, the Lenders and the L/C Issuers in proportion to the respective amounts described in this clause Fourth held by them;

5 , to payment of that portion of the Guaranteed Obligations then owing under the Guaranteed Hedge Agreements and Guaranteed Cash Management Agreements, in each case ratably among the Hedge Banks and the Cash Management Banks in proportion to the respective amounts described in this clause Fifth held by them; and

Last, the balance, if any, after all of the Guaranteed Obligations have been indefeasibly paid in full, to the Borrowers or as otherwise required by Law.

Subject to Sections 2.03(c) and 2.14, amounts used to Cash Collateralize the aggregate undrawn amount of Letters of Credit pursuant to clause Fourth above shall be applied to satisfy drawings

under such Letters of Credit as they occur. If any amount remains on deposit as Cash Collateral after all Letters of Credit have either been fully drawn or expired, such remaining amount shall be applied to the other Guaranteed Obligations, if any, in the order set forth above. Excluded Swap Obligations with respect to any Guarantor shall not be paid with amounts received from such Guarantor or its assets, but appropriate adjustments shall be made with respect to payments from other Loan Parties to preserve the allocation to Guaranteed Obligations otherwise set forth above in this Section.

Notwithstanding the foregoing, (a) Guaranteed Obligations arising under Guaranteed Cash Management Agreements and Guaranteed Hedge Agreements shall be excluded from the application described above if the Administrative Agent has not received a Guaranteed Party Designation Notice, together with such supporting documentation as the Administrative Agent may reasonably request, from the applicable Cash Management Bank or Hedge Bank, as the case may be, and (b) no amounts received from or on account of a Designated Foreign Borrower shall be used to pay or applied against any Guaranteed Obligations of or attributable to any U.S. Loan Party or any other Domestic Subsidiary. Each Cash Management Bank or Hedge Bank not a party to this Agreement that has given the notice contemplated by the preceding sentence shall, by such notice, be deemed to have acknowledged and accepted the appointment of the Administrative Agent pursuant to the terms of Article IX for itself and its Affiliates as if a "Lender" party hereto.

ARTICLE IX
ADMINISTRATIVE AGENT

9.01 Appointment and Authority**.**

Each of the Lenders and each of the L/C Issuers hereby irrevocably appoints, designates and authorizes Bank of America to act on its behalf as the Administrative Agent hereunder and under the other Loan Documents and authorizes the Administrative Agent to take such actions on its behalf and to exercise such powers as are delegated to the Administrative Agent by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto. The provisions of this Article IX are solely for the benefit of the Administrative Agent, the Lenders and the L/C Issuers, and neither the Borrowers nor any other Loan Party shall have rights as a third party beneficiary of any of such provisions. It is understood and agreed that the use of the term "agent" herein or in any other Loan Documents (or any other similar term) with reference to the Administrative Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable Law. Instead such term is used as a matter of market custom, and is intended to create or reflect only an administrative relationship between contracting parties.

9.02 Rights as a Lender**.**

The Person serving as the Administrative Agent hereunder shall have the same rights and powers in its capacity as a Lender as any other Lender and may exercise the same as though it were not the Administrative Agent and the term "Lender" or "Lenders" shall, unless otherwise expressly indicated or unless the context otherwise requires, include the Person serving as the Administrative Agent hereunder in its individual capacity. Such Person and its Affiliates may accept deposits from,

lend money to, own securities of, act as the financial advisor or in any other advisory capacity for and generally engage in any kind of banking, trust, financial, advisory, underwriting or other business with any Loan Party or any Subsidiary or other Affiliate thereof as if such Person were not the Administrative Agent hereunder and without any duty to account therefor to the Lenders or to provide notice to or consent of the Lenders with respect thereto.

9.03 Exculpatory Provisions**.**

(a) The Administrative Agent shall not have any duties or obligations except those expressly set forth herein and in the other Loan Documents, and its duties hereunder shall be administrative in nature. Without limiting the generality of the foregoing, the Administrative Agent and its Related Parties:

(i) shall not be subject to any fiduciary or other implied duties, regardless of whether a Default has occurred and is continuing;

(ii) shall not have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby or by the other Loan Documents that the Administrative Agent is required to exercise as directed in writing by the Required Lenders (or such other number or percentage of the Lenders as shall be expressly provided for herein or in the other Loan Documents), provided that the Administrative Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose the Administrative Agent to liability or that is contrary to any Loan Document or applicable Law, including for the avoidance of doubt any action that may be in violation of the automatic stay under any Debtor Relief Law or that may effect a forfeiture, modification or termination of property of a Defaulting Lender in violation of any Debtor Relief Law; and

(iii) shall not, except as expressly set forth herein and in the other Loan Documents, have any duty or responsibility to disclose, and shall not be liable for the failure to disclose, any information relating to any Loan Party or any of its Affiliates that is communicated to or obtained by the Person serving as the Administrative Agent or any of its Affiliates in any capacity.

(b) Neither the Administrative Agent nor any of its Related Parties shall be liable for any action taken or not taken by the Administrative Agent under or in connection with this Agreement or any other Loan Document or the transactions contemplated hereby or thereby (i) with the consent or at the request of the Required Lenders (or such other number or percentage of the Lenders as shall be necessary), or as the Administrative Agent shall believe in good faith shall be necessary, under the circumstances as provided in Sections 11.01 and 8.02 or (ii) in the absence of its own gross negligence, willful misconduct or bad faith as determined by a court of competent jurisdiction by final and nonappealable judgment. The Administrative Agent shall be deemed not to have knowledge of any Default unless and until notice describing such Default is given in writing to the Administrative Agent by the Company, a Lender or an L/C Issuer.

(c) Neither the Administrative Agent nor any of its Related Parties shall be responsible or have any liability for, or have any duty to ascertain, inquire into, monitor or enforce, compliance with the provisions of this Agreement relating to Disqualified Institutions. Without limiting the generality of the foregoing, the Administrative Agent shall not (i) be obligated to ascertain, monitor or inquire as to whether any Lender or prospective Lender is a Disqualified Institution or (ii) have any liability with respect to or arising out of any assignment of Loans, or disclosure of confidential information to any Disqualified Institution.

(d) Neither the Administrative Agent nor any of its Related Parties have any duty or obligation to any Lender or participant or any other Person to ascertain or inquire into (i) any statement, warranty or representation made in or in connection with this Agreement or any other Loan Document, (ii) the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, (iii) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any Default, (iv) the validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, instrument or document or (v) the satisfaction of any condition set forth in Article IV or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Administrative Agent.

9.04 Reliance by Administrative Agent**.**

The Administrative Agent shall be entitled to rely upon, and shall be fully protected in relying and shall not incur any liability for relying upon, any notice, request, certificate, communication, consent, statement, instrument, document or other writing (including any electronic message, Internet or intranet website posting or other distribution) believed by it to be genuine and to have been signed, sent or otherwise authenticated by the proper Person. The Administrative Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall be fully protected in relying and shall not incur any liability for relying thereon. In determining compliance with any condition hereunder to the making of a Loan, or the issuance, extension, renewal or increase of a Letter of Credit, that by its terms must be fulfilled to the satisfaction of a Lender or an L/C Issuer, the Administrative Agent may presume that such condition is satisfactory to such Lender or such L/C Issuer unless the Administrative Agent shall have received notice to the contrary from such Lender or such L/C Issuer prior to the making of such Loan or the issuance of such Letter of Credit. The Administrative Agent may consult with legal counsel (who may be counsel for the Loan Parties), independent accountants and other experts selected by it, and shall not be liable for any action taken or not taken by it in accordance with the advice of any such counsel, accountants or experts. For purposes of determining compliance with the conditions specified in Section 4.01, each Lender that has signed this Agreement shall be deemed to have consented to, approved or accepted or to be satisfied with, each document or other matter required thereunder to be consented to or approved by or acceptable or satisfactory to a Lender unless the Administrative Agent shall have received notice from such Lender prior to the proposed Closing Date specifying its objections.

9.05 Delegation of Duties**.**

The Administrative Agent may perform any and all of its duties and exercise its rights and powers hereunder or under any other Loan Document by or through any one or more sub-agents appointed by the Administrative Agent. The Administrative Agent and any such sub-agent may perform any and all of its duties and exercise its rights and powers by or through their respective Related Parties. The exculpatory provisions of this Article shall apply to any such sub-agent and to the Related Parties of the Administrative Agent and any such sub-agent, and shall apply to their respective activities in connection with the syndication of the Revolving Facility as well as activities as Administrative Agent. The Administrative Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and nonappealable judgment that the Administrative Agent acted with gross negligence, willful misconduct or bad faith in the selection of such sub-agents.

9.06 Resignation of Administrative Agent**.**

(a) Notice. The Administrative Agent may at any time give notice of its resignation to the Lenders, the L/C Issuers and the Company. Upon receipt of any such notice of resignation, the Required Lenders shall have the right, in consultation with the Company, to appoint a successor, which shall be a bank with an office in the United States, or an Affiliate of any such bank with an office in the United States, and in each case such successor shall require the consent of the Company at all times other than during the existence of an Event of Default under Section 8.01(a) or 8.01(f) (such consent not to be unreasonably withheld or delayed). If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within thirty (30) days after the retiring Administrative Agent gives notice of its resignation (or such earlier day as shall be agreed by the Required Lenders) (the "Resignation Effective Date"), then the retiring Administrative Agent may (but shall not be obligated to) on behalf of the Lenders and the L/C Issuers, appoint a successor Administrative Agent meeting the qualifications set forth above; provided that in no event shall any successor Administrative Agent be a Defaulting Lender or a Disqualified Institution. Whether or not a successor has been appointed, such resignation shall become effective in accordance with such notice on the Resignation Effective Date.

(b) Defaulting Lender. If the Person serving as Administrative Agent is a Defaulting Lender pursuant to clause (d) of the definition thereof, the Required Lenders may, to the extent permitted by applicable Law, by notice in writing to the Company and such Person remove such Person as Administrative Agent and, in consultation with the Company, appoint a successor. If no such successor shall have been so appointed by the Required Lenders and shall have accepted such appointment within thirty (30) days (or such earlier day as shall be agreed by the Required Lenders) (the "Removal Effective Date"), then such removal shall nonetheless become effective in accordance with such notice on the Removal Effective Date.

(c) Effect of Resignation or Removal. With effect from the Resignation Effective Date or the Removal Effective Date (as applicable) (i) the retiring or removed Administrative

Agent shall be discharged from its duties and obligations hereunder and under the other Loan Documents (except that in the case of any collateral security held by the Administrative Agent on behalf of the Lenders or the L/C Issuers under any of the Loan Documents, the retiring or removed Administrative Agent shall continue to hold such collateral security until such time as a successor Administrative Agent is appointed) and (ii) except for any indemnity payments or other amounts then owed to the retiring or removed Administrative Agent, all payments, communications and determinations provided to be made by, to or through the Administrative Agent shall instead be made by or to each Lender and each L/C Issuer directly, until such time, if any, as the Required Lenders appoint a successor Administrative Agent as provided for above. Upon the acceptance of a successor's appointment as Administrative Agent hereunder, such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring (or removed) Administrative Agent (other than as provided in Section 3.01(j) and other than any rights to indemnity payments or other amounts owed to the retiring or removed Administrative Agent as of the Resignation Effective Date or the Removal Effective Date, as applicable), and the retiring or removed Administrative Agent shall be discharged from all of its duties and obligations hereunder or under the other Loan Documents (if not already discharged therefrom as provided above in this Section). The fees payable by the Company to a successor Administrative Agent shall be the same as those payable to its predecessor unless otherwise agreed between the Company and such successor, and the retiring or removed Administrative Agent shall cease to be entitled to all such fees upon the effectiveness of its resignation or removal as Administrative Agent, except to the extent it continues to act in any capacity hereunder or under the other Loan Documents after such resignation or removal. After the retiring or removed Administrative Agent's resignation or removal hereunder and under the other Loan Documents, the provisions of this Article XI and Section 11.04 shall continue in effect for the benefit of such retiring or removed Administrative Agent, its sub-agents and their respective Related Parties in respect of any actions taken or omitted to be taken by any of them (A) while the retiring or removed Administrative Agent was acting as Administrative Agent and (B) after such resignation or removal for as long as any of them continues to act in any capacity hereunder or under the other Loan Documents, including, without limitation, (1) acting as collateral agent or otherwise holding any collateral security on behalf of any of the Credit Parties and (2) in respect of any actions taken in connection with transferring the agency to any successor Administrative Agent.

(d) L/C Issuer and Swingline Lender. Any resignation or removal by Bank of America as Administrative Agent pursuant to this Section 9.06 shall also constitute its resignation as an L/C Issuer and Swingline Lender. If Bank of America resigns as an L/C Issuer, it shall retain all the rights, powers, privileges and duties of the L/C Issuers hereunder with respect to all Letters of Credit issued by it outstanding as of the effective date of its resignation as an L/C Issuer and all L/C Obligations with respect thereto, including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c). If Bank of America resigns as Swingline Lender, it shall retain all the rights of the Swingline Lender provided for hereunder with respect to Swingline Loans made by it and outstanding as of the effective date of such resignation, including the right to require the Lenders to make Base Rate Loans or fund risk participations

in outstanding Swingline Loans pursuant to Section 2.04(c). Upon the appointment by the Company of a successor L/C Issuer or Swingline Lender hereunder (which successor shall in all cases be a Lender other than a Defaulting Lender), (i) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring L/C Issuer or Swingline Lender, as applicable, (ii) the retiring L/C Issuer and Swingline Lender shall be discharged from all of their respective duties and obligations hereunder or under the other Loan Documents, and (iii) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit, if any, outstanding at the time of such succession or make other arrangements satisfactory to Bank of America to effectively assume the obligations of Bank of America with respect to such Letters of Credit.

9.07 Non-Reliance on Administrative Agent and Other Lenders**.**

Each Lender and each L/C Issuer acknowledges that it has, independently and without reliance upon the Administrative Agent or any other Lender or any of their Related Parties and based on such documents and information as it has deemed appropriate, made its own credit analysis and decision to enter into this Agreement. Each Lender and each L/C Issuer also acknowledges that it will, independently and without reliance upon the Administrative Agent or any other Lender or any of their Related Parties and based on such documents and information as it shall from time to time deem appropriate, continue to make its own decisions in taking or not taking action under or based upon this Agreement, any other Loan Document or any related agreement or any document furnished hereunder or thereunder.

9.08 No Other Duties, Etc**.**

Anything herein to the contrary notwithstanding, none of the titles listed on the cover page hereof shall have any powers, duties or responsibilities under this Agreement or any of the other Loan Documents, except in its capacity, as applicable, as the Administrative Agent, a Lender or an L/C Issuer hereunder.

9.09 Administrative Agent May File Proofs of Claim**.**

(a) In case of the pendency of any proceeding under any Debtor Relief Law or any other judicial proceeding relative to any Loan Party, the Administrative Agent (irrespective of whether the principal of any Loan or L/C Obligation shall then be due and payable as herein expressed or by declaration or otherwise and irrespective of whether the Administrative Agent shall have made any demand on the Borrowers) shall be entitled and empowered, by intervention in such proceeding or otherwise:

(i) to file and prove a claim for the whole amount of the principal and interest owing and unpaid in respect of the Loans, L/C Obligations and all other Guaranteed Obligations that are owing and unpaid and to file such other documents as may be necessary or advisable in order to have the claims of the Lenders, the L/C Issuers and the Administrative Agent (including any claim for the reasonable compensation, expenses, disbursements and advances of the Lenders, the L/C Issuers and the Administrative Agent and their respective agents and counsel and all other

amounts due the Lenders, the L/C Issuers and the Administrative Agent under Sections 2.03(h) and (i), 2.09, 2.10(b) and 11.04) allowed in such judicial proceeding; and

(ii) to collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same;

and any custodian, receiver, examiner, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Lender and each L/C Issuer to make such payments to the Administrative Agent and, in the event that the Administrative Agent shall consent to the making of such payments directly to the Lenders and the L/C Issuers, to pay to the Administrative Agent any amount due for the reasonable compensation, expenses, disbursements and advances of the Administrative Agent and its agents and counsel, and any other amounts due the Administrative Agent under Sections 2.09, 2.10(b) and 11.04.

(b) Nothing contained herein shall be deemed to authorize the Administrative Agent to authorize or consent to or accept or adopt on behalf of any Lender or any L/C Issuer any plan of reorganization, arrangement, adjustment or composition affecting the Guaranteed Obligations or the rights of any Lender or any L/C Issuer to authorize the Administrative Agent to vote in respect of the claim of any Lender or any L/C Issuer or in any such proceeding.

9.10 Guaranty Matters**.**

(a) Each of the Lenders (including in its capacities as a potential Cash Management Bank and a potential Hedge Bank) and each of the L/C Issuers irrevocably authorize the Administrative Agent, at its option and in its discretion,

(i) to release any Guarantor from its obligations under the Guaranty if (A) such Person ceases to be a Subsidiary or a Loan Party as a result of a transaction permitted under the Loan Documents (including pursuant to Section 7.04) or (B) such Person is designated as an Unrestricted Subsidiary hereunder; and

(ii) to release any Designated Foreign Borrower from its obligations under each Loan Document if such Person ceases to be a Designated Foreign Borrower as provided in Section 2.16(e).

(b) Upon request by the Administrative Agent at any time, the Required Lenders will confirm in writing the Administrative Agent's authority to release any Guarantor from its obligations under the Guaranty and/or any Designated Foreign Borrower from its obligations under the Loan Documents pursuant to this Section 9.10. In each case as specified in this Section 9.10, the Administrative Agent will promptly, at the Borrowers' expense, execute and deliver to the applicable Loan Party such documents as such Loan Party may reasonably request to evidence the release of such Guarantor from its obligations under the Guaranty and/or such Designated Foreign Borrower from its obligations under

the Loan Documents, in each case, in accordance with the terms of the Loan Documents and this Section 9.10. The Administrative Agent shall have no liability whatsoever to any Credit Party as the result of effectuating or executing any document evidencing any release of any Loan Party by it as permitted (or which the Administrative Agent in good faith believes to be permitted) by this Section 9.10 and any execution and delivery of documents pursuant to this Section 9.10 shall be without recourse or warranty by the Administrative Agent.

9.11 Guaranteed Cash Management Agreements and Guaranteed Hedge Agreements**.**

Except as otherwise expressly set forth herein, no Cash Management Bank or Hedge Bank that obtains the benefit of the provisions of Section 8.03 or the Guaranty by virtue of the provisions hereof shall have any right to notice of or to consent to any amendment, waiver or modification of the provisions hereof or of the Guaranty (or to notice of or to consent to any amendment, waiver or modification of the provisions hereof of or the Guaranty) other than in its capacity as a Lender and, in such case, only to the extent expressly provided in the Loan Documents (it being understood that Administrative Agent may take any and all action expressly specified in Section 9.10). Notwithstanding any other provision of this Article IX to the contrary, the Administrative Agent shall not be required to verify the payment of, or that other satisfactory arrangements have been made with respect to, Guaranteed Obligations arising under Guaranteed Cash Management Agreements and Guaranteed Hedge Agreements except to the extent expressly provided herein and unless the Administrative Agent has received a Guaranteed Party Designation Notice of such Guaranteed Obligations, together with such supporting documentation as the Administrative Agent may request, from the applicable Cash Management Bank or Hedge Bank, as the case may be. The Administrative Agent shall not be required to verify the payment of, or that other satisfactory arrangements have been made with respect to, Guaranteed Obligations arising under Guaranteed Cash Management Agreements and Guaranteed Hedge Agreements in the case of a Facility Termination Date. Each Lender hereby acknowledges and agrees (including on behalf of any of its Affiliates that may be a Cash Management Bank or a potential Hedge Bank) that (x) obligations of the Company or any of its Subsidiaries under any Guaranteed Cash Management Agreement or Guaranteed Hedge Agreement shall be guaranteed pursuant to the Guaranty only until such time as the Guaranty terminates pursuant to Section 10.06 and (y) any release of Guarantors and/or Designated Foreign Borrowers effected in a manner not prohibited by this Agreement and the other Loan Documents shall not require the consent of holders of obligations under Guaranteed Cash Management Agreements or Guaranteed Hedge Agreements.

9.12 Certain ERISA Matters.

(a) Each Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and not, for the avoidance of doubt, to or for the benefit of the Company or any other Loan Party, that at least one of the following is and will be true:

(i) such Lender is not using “plan assets” (within the meaning of Section 3(42) of ERISA or otherwise) of one or more benefit plans with respect to

such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Revolving Commitments, or this Agreement;

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84–14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95–60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90–1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91–38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96–23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Revolving Commitments and this Agreement;

(iii) (A) such Lender is an investment fund managed by a "Qualified Professional Asset Manager" (within the meaning of Part VI of PTE 84–14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Letters of Credit, the Revolving Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Revolving Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84–14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84–14 are satisfied with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Revolving Commitments and this Agreement, or

(iv) such other representation, warranty and covenant as may be agreed in writing between the Administrative Agent, in its sole discretion, and such Lender.

(b) In addition, unless either (1) clause (i) in the immediately preceding clause (a) is true with respect to a Lender or (2) a Lender has provided another representation, warranty and covenant in accordance with clause (iv) in the immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and not, for the avoidance of doubt, to or for the benefit of the Company or any other Loan Party, that the Administrative Agent is not a fiduciary with respect to the assets of such Lender involved in such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Revolving Commitments and this Agreement (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any Loan Document or any documents related hereto or thereto).

ARTICLE X
CONTINUING GUARANTY

10.01 Guaranty**.**

Each Guarantor hereby absolutely and unconditionally, jointly and severally guarantees, as primary obligor and as a guaranty of payment and performance and not merely as a guaranty of collection, prompt payment when due, whether at stated maturity, by required prepayment, upon acceleration, demand or otherwise, and at all times thereafter, of any and all Obligations and Additional Obligations (or, if the scope of such Guarantor's Guaranty is limited to a portion of the Obligations and/or Additional Obligations under the definition of "Guarantors", such portion) (collectively, for each Guarantor, subject to the proviso in this sentence, its "Guaranteed Obligations"); provided that (a) the Guaranteed Obligations of a Guarantor shall exclude any Excluded Swap Obligations with respect to such Guarantor, (b) the liability of each Guarantor individually with respect to this Guaranty shall be limited to an aggregate amount equal to the largest amount that would not render its obligations hereunder subject to avoidance under Section 548 of the Bankruptcy Code of the United States or any comparable provisions of any applicable state law or other applicable Law, (c) for avoidance of doubt, the Designated Foreign Borrowers shall not be liable under this Guaranty for any Obligations or Additional Obligations of or attributable to any U.S. Loan Party or any other Domestic Subsidiary, (d) the guaranty given by a Guarantor which is incorporated in England and Wales does not apply to any liability to the extent that it would result in this Guaranty constituting unlawful financial assistance within the meaning of sections 678 or 679 of the Companies Act 2006, and (e) notwithstanding anything contrary in this Section 10.1, the guaranty under this Section 10.1 of any Guarantor incorporated in Ireland does not apply to any liability to the extent that it would (A) result in this Guaranty constituting unlawful financial assistance within the meaning of section 82 of the Companies Act 2014 of Ireland; or (B) constitute a breach of section 239 of the Companies Act 2014 of Ireland. Without limiting the generality of the foregoing, the Guaranteed Obligations shall include any such indebtedness, obligations, and liabilities with respect to Guaranteed Obligations, or portion thereof, which may be or hereafter become unenforceable or compromised or shall be an allowed or disallowed claim under any proceeding or case commenced by or against any Debtor under any Debtor Relief Laws. The Administrative Agent's books and records showing the amount of the Obligations shall be admissible in evidence in any action or proceeding, and shall be binding upon each Guarantor, and conclusive for the purpose of establishing the amount of the Guaranteed Obligations absent manifest error. This Guaranty shall not be affected by the genuineness, validity, regularity or enforceability of the Guaranteed Obligations or any instrument or agreement evidencing any Guaranteed Obligations, or by the existence, validity, enforceability, perfection, non-perfection or extent of any collateral therefor, or by any fact or circumstance relating to the Guaranteed Obligations which might otherwise constitute a defense to the obligations of the Guarantors, or any of them, under this Guaranty, and each Guarantor hereby irrevocably waives any defenses it may now have or hereafter acquire in any way relating to any or all of the foregoing.

10.02 Rights of Lenders**.**

Each Guarantor consents and agrees that the Credit Parties may, at any time and from time to time, without notice or demand, and without affecting the enforceability or continuing effectiveness hereof: (a) amend, extend, renew, compromise, discharge, accelerate or otherwise change the time for payment or the terms of the Guaranteed Obligations or any part thereof; (b) take,

hold, exchange, enforce, waive, release, fail to perfect, sell, or otherwise dispose of any security for the payment of this Guaranty or any Guaranteed Obligations; (c) apply such security and direct the order or manner of sale thereof as the Administrative Agent, the L/C Issuers and the Lenders in their sole discretion may determine; and (d) release or substitute one or more of any endorsers or other guarantors of any of the Guaranteed Obligations. Without limiting the generality of the foregoing, each Guarantor consents to the taking of, or failure to take, any action which might in any manner or to any extent vary the risks of such Guarantor under this Guaranty or which, but for this provision, might operate as a discharge of such Guarantor.

10.03 Certain Waivers**.**

Each Guarantor waives (a) any defense arising by reason of any disability or other defense of the Borrowers or any other guarantor, or the cessation from any cause whatsoever (including any act or omission of any Credit Party) of the liability of the Borrowers or any other Loan Party; (b) any defense based on any claim that such Guarantor's obligations exceed or are more burdensome than those of the Borrowers or any other Loan Party; (c) the benefit of any statute of limitations affecting any Guarantor's liability hereunder; (d) any right to proceed against the Borrowers or any other Loan Party, proceed against or exhaust any security for the Guaranteed Obligations, or pursue any other remedy in the power of any Credit Party whatsoever; (e) any benefit of and any right to participate in any security now or hereafter held by any Credit Party; and (f) to the fullest extent permitted by law, any and all other defenses or benefits that may be derived from or afforded by applicable Law limiting the liability of or exonerating guarantors or sureties other than the occurrence of the Facility Termination Date and the payment in full in cash (or other arrangement satisfactory to the applicable Cash Management Bank or Hedge Bank) of all Additional Obligations to the extent then due and payable. Each Guarantor expressly waives all setoffs and counterclaims and all presentments, demands for payment or performance, notices of nonpayment or nonperformance, protests, notices of protest, notices of dishonor and all other notices or demands of any kind or nature whatsoever with respect to the Guaranteed Obligations, and all notices of acceptance of this Guaranty or of the existence, creation or incurrence of new or additional Guaranteed Obligations.

10.04 Obligations Independent**.**

The obligations of each Guarantor hereunder are those of primary obligor, and not merely as surety, and are independent of the Guaranteed Obligations and the obligations of any other guarantor, and a separate action may be brought against each Guarantor to enforce this Guaranty whether or not the Borrowers or any other person or entity is joined as a party.

10.05 Subrogation**.**

No Guarantor shall exercise any right of subrogation, contribution, indemnity, reimbursement or similar rights with respect to any payments it makes under this Guaranty until all of the Guaranteed Obligations and any amounts payable under this Guaranty have been indefeasibly paid and performed in full and the Revolving Commitments and the Revolving Facility are terminated. If any amounts are paid to a Guarantor in violation of the foregoing limitation, then such amounts shall be held in trust for the benefit of the Credit Parties and shall forthwith be paid

to the Credit Parties to reduce the amount of the Guaranteed Obligations, whether matured or unmatured.

10.06 Termination; Reinstatement**.**

This Guaranty is a continuing and irrevocable guaranty of all Guaranteed Obligations now or hereafter existing and shall remain in full force and effect until the Facility Termination Date and the payment in full in cash (or other arrangement satisfactory to the applicable Cash Management Bank or Hedge Bank) of all Additional Obligations to the extent then due and payable. Notwithstanding the foregoing, this Guaranty shall continue in full force and effect or be revived, as the case may be, if any payment by or on behalf of the Borrowers or a Guarantor is made, or any of the Credit Parties exercises its right of setoff, in respect of the Guaranteed Obligations and such payment or the proceeds of such setoff or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by any of the Credit Parties in their discretion) to be repaid to a trustee, receiver, examiner or any other party, in connection with any proceeding under any Debtor Relief Laws or otherwise, all as if such payment had not been made or such setoff had not occurred and whether or not the Credit Parties are in possession of or have released this Guaranty and regardless of any prior revocation, rescission, termination or reduction. The obligations of each Guarantor under this Section 10.06 shall survive termination of this Guaranty.

10.07 Stay of Acceleration**.**

If acceleration of the time for payment of any of the Guaranteed Obligations is stayed, in connection with any case commenced by or against a Guarantor or the Borrowers under any Debtor Relief Laws, or otherwise, all such amounts shall nonetheless be payable by each Guarantor, jointly and severally, immediately upon demand by the Credit Parties.

10.08 Condition of Borrowers**.**

Each Guarantor acknowledges and agrees that it has the sole responsibility for, and has adequate means of, obtaining from the Borrowers and any other guarantor such information concerning the financial condition, business and operations of the Borrowers and any such other guarantor as such Guarantor requires, and that none of the Credit Parties has any duty, and such Guarantor is not relying on the Credit Parties at any time, to disclose to it any information relating to the business, operations or financial condition of the Borrowers or any other guarantor (each Guarantor waiving any duty on the part of the Credit Parties to disclose such information and any defense relating to the failure to provide the same).

10.09 Appointment of Company**.**

Each of the Loan Parties hereby appoints the Company to act as its agent for all purposes of this Agreement, the other Loan Documents and all other documents and electronic platforms entered into in connection herewith and agrees that (a) the Company may execute such documents and provide such authorizations on behalf of such Loan Parties as the Company deems appropriate in its sole discretion and each Loan Party shall be obligated by all of the terms of any such document

and/or authorization executed on its behalf, (b) any notice or communication delivered by the Administrative Agent, an L/C Issuer or a Lender to the Company shall be deemed delivered to each Loan Party and (c) the Administrative Agent, the L/C Issuers or the Lenders may accept, and be permitted to rely on, any document, authorization, instrument or agreement executed by the Company on behalf of each of the Loan Parties.

10.10 Right of Contribution**.**

The Guarantors agree among themselves that, in connection with payments made hereunder, each Guarantor shall have contribution rights against the other Guarantors as permitted under applicable Law.

10.11 Keepwell**.**

Each Loan Party that is a Qualified ECP Guarantor at the time the Guaranty or the grant of a Lien under the Loan Documents, in each case, by any Specified Loan Party becomes effective with respect to any Swap Obligation, hereby jointly and severally, absolutely, unconditionally and irrevocably undertakes to provide such funds or other support to each Specified Loan Party with respect to such Swap Obligation as may be needed by such Specified Loan Party from time to time to honor all of its obligations under the Loan Documents in respect of such Swap Obligation (but, in each case, only up to the maximum amount of such liability that can be hereby incurred without rendering such Qualified ECP Guarantor's obligations and undertakings under this Article X voidable under applicable Law relating to fraudulent conveyance or fraudulent transfer, and not for any greater amount). The obligations and undertakings of each Qualified ECP Guarantor under this Section 10.11 shall remain in full force and effect until the Guaranteed Obligations have been indefeasibly paid and performed in full. Each Loan Party intends this Section 10.11 to constitute, and this Section 10.11 shall be deemed to constitute, a guarantee of the obligations of, and a "keepwell, support, or other agreement" for the benefit of, each Specified Loan Party for all purposes of the Commodity Exchange Act.

ARTICLE XI
MISCELLANEOUS

11.01 Amendments, Etc**.**

(a) No amendment or waiver of any provision of this Agreement or any other Loan Document, and no consent to any departure by the Company or any other Loan Party therefrom, shall be effective unless in writing signed by the Required Lenders (or by the Administrative Agent with the consent of the Required Lenders) and the Company or the applicable Loan Party, as the case may be, and acknowledged by the Administrative Agent, and each such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given; provided, however, that no such amendment, waiver or consent shall:

(i) waive any condition set forth in Section 4.01, or, in the case of the initial Credit Extension, Section 4.02, in each case, except as expressly provided therein, without the written consent of each Lender;

(ii) without limiting the generality of clause (a) above, waive any condition set forth in Section 4.02 without the written consent of the Required Lenders;

(iii) extend or increase the Revolving Commitment of any Lender (or reinstate any Revolving Commitment terminated pursuant to Section 8.02) without the written consent of such Lender (it being understood and agreed that a waiver (or amendment to the terms of) of any condition precedent in Section 4.02 or of any Default or Event of Default or a mandatory reduction in Revolving Commitments shall not constitute an extension or increase in Revolving Commitments of any Lender);

(iv) postpone any date fixed by this Agreement or any other Loan Document for any payment (excluding mandatory prepayments) of principal, interest, fees or other amounts due to the Lenders (or any of them) hereunder or under such other Loan Document without the written consent of each Lender directly and adversely affected thereby, provided, however, that only the consent of the Required Lenders shall be necessary to waive any obligation of the Borrowers to pay interest or Letter of Credit Fees at the Default Rate;

(v) reduce the principal of, or the rate of interest specified herein on, any Loan or L/C Borrowing, or (subject to clause (iv) of the second proviso to this Section 11.01) any fees or other amounts payable hereunder or under any other Loan Document without the written consent of each Lender directly and adversely affected thereby; provided, however, that only the consent of the Required Lenders shall be necessary (i) to amend the definition of "Default Rate" or to waive any obligation of the Borrowers to pay interest or Letter of Credit Fees at the Default Rate or (ii) to amend any financial covenant hereunder (or any defined term used therein) even if the effect of such amendment would be to reduce the rate of interest on any Loan or L/C Borrowing or to reduce any fee payable hereunder;

(vi) change Section 8.03, or Section 2.13 in a manner that would alter the pro rata sharing of payments required thereby without the written consent of each Lender or (ii) Section 2.12(f) in a manner that would alter the pro rata application required thereby without the written consent of each Lender directly affected thereby;

(vii) change (i) any provision of this Section 11.01 or the definition of "Required Lenders" or any other provision of any Loan Document specifying the number or percentage of Lenders required to amend, waive or otherwise modify any rights hereunder or thereunder or make any determination or grant any consent hereunder, without the written consent of each Lender;

(viii) release all or substantially all of the value of the Guaranty, without the written consent of each Lender, except to the extent the release of any Subsidiary from the Guaranty is permitted pursuant to Section 9.10 (in which case such release may be made by the Administrative Agent acting alone);

(ix) amend Section 1.06 or the definition of "Alternative Currency" without the written consent of each Lender and each L/C Issuer;

(x) release any Borrower or permit any Borrower to assign or transfer any of its rights or obligations under this Agreement or the other Loan Documents without the consent of each Lender, except to the extent the release of any Designated Foreign Borrower is permitted pursuant to Section 9.10 (in which case such release may be made by the Administrative Agent acting alone); or

(xi) amend Section 2.16(b) to permit the designation of a Designated Foreign Borrower without the consent of the Administrative Agent, the Lenders and the L/C Issuers to such designation, without the written consent of each Lender;

and provided, further, that (A) no amendment, waiver or consent shall, unless in writing and signed by the applicable L/C Issuer in addition to the Lenders required above, affect the rights or duties of such L/C Issuer under this Agreement or any Issuer Document relating to any Letter of Credit issued or to be issued by it; (B) no amendment, waiver or consent shall, unless in writing and signed by the Swingline Lender in addition to the Lenders required above, affect the rights or duties of the Swingline Lender under this Agreement; (C) no amendment, waiver or consent shall, unless in writing and signed by the Administrative Agent in addition to the Lenders required above, affect the rights or duties of the Administrative Agent under this Agreement or any other Loan Document; (D) the Fee Letter may be amended, or rights or privileges thereunder waived, in a writing executed only by the parties thereto. Notwithstanding anything to the contrary herein, (A) no Defaulting Lender shall have any right to approve or disapprove any amendment, waiver or consent hereunder (and any amendment, waiver or consent which by its terms requires the consent of all Lenders or each affected Lender, may be effected with the consent of the applicable Lenders other than Defaulting Lenders), except that (1) the Revolving Commitment of any Defaulting Lender may not be increased or extended without the consent of such Lender and (2) any waiver, amendment or modification requiring the consent of all Lenders or each affected Lender, that by its terms affects any Defaulting Lender disproportionately adversely relative to other affected Lenders shall require the consent of such Defaulting Lender; (B) each Lender is entitled to vote as such Lender sees fit on any bankruptcy reorganization plan that affects the Loans, and each Lender acknowledges that the provisions of Section 1126(c) of the Bankruptcy Code of the United States supersedes the unanimous consent provisions set forth herein and (C) the Required Lenders shall determine whether or not to allow a Loan Party to use cash collateral in the context of a bankruptcy or insolvency proceeding and such determination shall be binding on all of the Lenders.

(b) Notwithstanding anything to the contrary herein (including the other provisions of this Section 11.01) (i) the Administrative Agent may, with the prior written consent of the Company only, amend, modify or supplement this Agreement or any of the other Loan Documents to cure any omission, mistake, defect or inconsistency, and (ii) this

Agreement may be amended, amended and restated or otherwise supplemented or modified without the consent of any Lender (but with the consent of Company and the Administrative Agent) if, upon giving effect to such amendment, amendment and restatement or other supplement or modification, such Lender shall no longer be a party to this Agreement (as so amended, amended and restated or otherwise supplemented or modified), the Revolving Commitments of such Lender shall have terminated (but such Lender shall be entitled to the benefits of the provisions of this Agreement which expressly survive the termination of such Lender's Revolving Commitments), such Lender shall have no other obligation to provide additional Credit Extensions to the Borrowers under this Agreement and such Lender shall have been paid in full all Obligations (other than (A) contingent indemnification and expense reimbursement obligations as to which no claim has been asserted and (B) for the avoidance of any doubt, any Additional Obligations) owing to it or accrued for its account under this Agreement.

The Lenders hereby authorize the Administrative Agent to enter into amendments to this Agreement and the other Loan Documents with the Company as may be necessary or appropriate in the reasonable opinion of the Administrative Agent and the Company in order to give effect to, and the reflect the existence of, any Incremental Revolving Facility pursuant to Section 2.18 or any Revolving Extension Series pursuant to Section 2.19.

If any Lender does not consent to a proposed amendment, waiver, consent or release with respect to any Loan Document that requires the consent of each Lender and that has been approved by the Required Lenders, the Company may replace such Non-Consenting Lender in accordance with Section 11.13; provided that such amendment, waiver, consent or release can be effected as a result of the assignment contemplated by such Section (together with all other such assignments required by the Company to be made pursuant to this paragraph).

11.02 Notices; Effectiveness; Electronic Communications**.**

(a) Notices Generally. Except in the case of notices and other communications expressly permitted to be given by telephone (and except as provided in subsection (b) below), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by fax transmission or e-mail transmission as follows, and all notices and other communications expressly permitted hereunder to be given by telephone shall be made to the applicable telephone number, as follows:

(i) if to the Company or any other Loan Party, the Administrative Agent, Bank of America as an L/C Issuer, or the Swingline Lender, to the address, fax number (to the extent applicable), e-mail address or telephone number specified for such Person on Schedule 1.01(a); and

(ii) if to any other Lender or any other L/C Issuer, to the address, fax number, e-mail address or telephone number specified in its Administrative Questionnaire (including, as appropriate, notices delivered solely to the Person designated by a Lender on its Administrative Questionnaire then in effect for the

delivery of notices that may contain material non-public information relating to the Borrowers).

Notices and other communications sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices and other communications sent by fax transmission shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient). Notices and other communications delivered through electronic communications to the extent provided in subsection (b) below shall be effective as provided in such subsection (b).

(b) Electronic Communications.

(i) Notices and other communications to the Administrative Agent, the Lenders, the Swingline Lender and the L/C Issuers hereunder may be delivered or furnished by electronic communication (including e-mail, FPML messaging and Internet or intranet websites) pursuant to procedures approved by the Administrative Agent; provided that the foregoing shall not apply to notices to any Lender, the Swingline Lender or any L/C Issuer pursuant to Article II if such Lender, the Swingline Lender or such L/C Issuer, as applicable, has notified the Administrative Agent that it is incapable of receiving notices under such Article II by electronic communication. The Administrative Agent, the Swingline Lender, any L/C Issuer or the Borrowers may each, in its discretion, agree to accept notices and other communications to it hereunder by electronic communications pursuant to procedures approved by it, provided that approval of such procedures may be limited to particular notices or communications.

(ii) Unless the Administrative Agent otherwise prescribes, (A) notices and other communications sent to an e-mail address shall be deemed received upon the sender's receipt of an acknowledgment from the intended recipient (such as by the "return receipt requested" function, as available, return e-mail or other written acknowledgement) and (B) notices and other communications posted to an Internet or intranet website shall be deemed received by the intended recipient upon the sender's receipt of an acknowledgement from the intended recipient (such as by the "return receipt requested" function, as available, return e-mail address or other written acknowledgement) indicating that such notice or communication is available and identifying the website address therefor; provided that for both clauses (A) and (B), if such notice or other communication is not sent during the normal business hours of the recipient, such notice, email or communication shall be deemed to have been sent at the opening of business on the next Business Day for the recipient.

(c) The Platform. THE PLATFORM IS PROVIDED "AS IS" AND "AS AVAILABLE." THE AGENT PARTIES (AS DEFINED BELOW) DO NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE BORROWER MATERIALS OR THE ADEQUACY OF THE PLATFORM, AND EXPRESSLY DISCLAIM LIABILITY FOR

ERRORS IN OR OMISSIONS FROM THE BORROWER MATERIALS. NO WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS OR FREEDOM FROM VIRUSES OR OTHER CODE DEFECTS, IS MADE BY ANY AGENT PARTY IN CONNECTION WITH THE BORROWER MATERIALS OR THE PLATFORM. In no event shall the Administrative Agent or any of its Related Parties (collectively, the "Agent Parties") have any liability to the Borrowers, any Lender, any L/C Issuer or any other Person for losses, claims, damages, liabilities or expenses of any kind (whether in tort, contract or otherwise) arising out of any Loan Party's or the Administrative Agent's transmission of Borrower Materials or notices through the Platform, any other electronic platform or electronic messaging service, or through the Internet, except with respect to such losses, claims, damages, liabilities or expenses of the Borrowers only that are determined by a court of competent jurisdiction by a final and nonappealable judgment to have resulted from the gross negligence or willful misconduct of such Agent Party with respect to any such transmission of Borrower Materials or notices through the Platform by such Agent Party.

(d) Change of Address, Etc. Each of the Borrowers, the Administrative Agent, the L/C Issuers and the Swingline Lender may change its address, fax number (to the extent applicable) or telephone number or e-mail address for notices and other communications hereunder by notice to the other parties hereto. Each other Lender may change its address, fax number or telephone number or e-mail address for notices and other communications hereunder by notice to the Company, the Administrative Agent, the L/C Issuers and the Swingline Lender. In addition, each Lender agrees to notify the Administrative Agent from time to time to ensure that the Administrative Agent has on record (i) an effective address, contact name, telephone number, fax number and e-mail address to which notices and other communications may be sent and (ii) accurate wire instructions for such Lender. Furthermore, each Public Lender agrees to cause at least one (1) individual at or on behalf of such Public Lender to at all times have selected the "Private Side Information" or similar designation on the content declaration screen of the Platform in order to enable such Public Lender or its delegate, in accordance with such Public Lender's compliance procedures and applicable Law, including United States federal and state securities Laws, to make reference to Borrower Materials that are not made available through the "Public Side Information" portion of the Platform and that may contain material non-public information with respect to the Company or its securities for purposes of United States federal or state securities laws.

(e) Reliance by Administrative Agent, L/C Issuers and Lenders. The Administrative Agent, the L/C Issuers and the Lenders shall be entitled to rely and act upon any notices (including, without limitation, telephonic or electronic notices, Loan Notices, Letter of Credit Applications, Notice of Loan Prepayment and Swingline Loan Notices) purportedly given by or on behalf of any Loan Party even if (i) such notices were not made in a manner specified herein, were incomplete or were not preceded or followed by any other form of notice specified herein, or (ii) the terms thereof, as understood by the recipient, varied from any confirmation thereof. The Loan Parties shall indemnify the Administrative Agent, each L/C Issuer, each Lender and the Related Parties of each of them from all losses,

costs, expenses and liabilities resulting from the reliance by such Person on each notice purportedly given by or on behalf of a Loan Party. All telephonic notices to and other telephonic communications with the Administrative Agent may be recorded by the Administrative Agent, and each of the parties hereto hereby consents to such recording.

11.03 No Waiver; Cumulative Remedies; Enforcement**.**

(a) No failure by any Lender, any L/C Issuer or the Administrative Agent to exercise, and no delay by any such Person in exercising, any right, remedy, power or privilege hereunder or under any other Loan Document shall operate as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder or under any other Loan Document preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights, remedies, powers and privileges herein provided, and provided under each other Loan Document, are cumulative and not exclusive of any rights, remedies, powers and privileges provided by law.

(b) Notwithstanding anything to the contrary contained herein or in any other Loan Document, the authority to enforce rights and remedies hereunder and under the other Loan Documents against the Loan Parties or any of them shall be vested exclusively in, and all actions and proceedings at law in connection with such enforcement shall be instituted and maintained exclusively by, the Administrative Agent in accordance with Section 8.02 for the benefit of all the Lenders and the L/C Issuers; provided, however, that the foregoing shall not prohibit (a) the Administrative Agent from exercising on its own behalf the rights and remedies that inure to its benefit (solely in its capacity as Administrative Agent) hereunder and under the other Loan Documents, (b) any L/C Issuer or the Swingline Lender from exercising the rights and remedies that inure to its benefit (solely in its capacity as an L/C Issuer or Swingline Lender, as the case may be) hereunder and under the other Loan Documents, (c) any Lender from exercising setoff rights in accordance with Section 11.08 (subject to the terms of Section 2.13), or (d) any Lender from filing proofs of claim or appearing and filing pleadings on its own behalf during the pendency of a proceeding relative to any Loan Party under any Debtor Relief Law; and provided, further, that if at any time there is no Person acting as Administrative Agent hereunder and under the other Loan Documents, then (i) the Required Lenders shall have the rights otherwise ascribed to the Administrative Agent pursuant to Section 8.02 and (ii) in addition to the matters set forth in clauses (b), (c) and (d) of the preceding proviso and subject to Section 2.13, any Lender may, with the consent of the Required Lenders, enforce any rights and remedies available to it and as authorized by the Required Lenders. Each Credit Party, whether or not a party hereto, will be deemed, by its acceptance of the benefits of the Guarantees of the Guaranteed Obligations provided under the Loan Documents, to have agreed to the foregoing provisions.

11.04 Expenses; Indemnity; Damage Waiver**.**

(a) Costs and Expenses. The Loan Parties shall pay (i) all reasonable and documented or invoiced out-of-pocket expenses incurred by the Administrative Agent and its Affiliates (including the reasonable and documented or invoiced out-of-pocket fees, charges and disbursements of one primary counsel for the Administrative Agent and the

Arrangers, taken as a whole, and, after consultation with the Company, one local counsel as necessary in each appropriate jurisdiction for the Administrative Agent and the Arrangers, taken as a whole), in connection with the syndication of the credit facilities provided for herein, the preparation, due diligence, negotiation, execution, delivery, closing and administration of this Agreement and the other Loan Documents or any amendments, modifications or waivers of the provisions hereof or thereof (whether or not the transactions contemplated hereby or thereby shall be consummated), (ii) all reasonable and documented or invoiced out-of-pocket expenses incurred by each L/C Issuer in connection with the issuance, amendment, renewal or extension of any Letter of Credit or any demand for payment thereunder and (iii) all out-of-pocket expenses incurred by the Administrative Agent, any Lender or any L/C Issuer (including reasonable and invoiced out-of-pocket fees, charges and disbursements of (x) one primary counsel for the Administrative Agent, the Lenders and the L/C Issuers, (y) to the extent deemed reasonably necessary by the Administrative Agent, the Lenders and the L/C Issuers, one local counsel as reasonably necessary in each appropriate jurisdiction for the Administrative Agent, the Lenders and the L/C Issuers, taken as a whole, and (z) solely in the event of a conflict of interest where the Administrative Agent, Lender or applicable L/C Issuer informs the Company of such conflict, one additional counsel in each relevant jurisdiction to each group of similarly situated parties, taken as a whole), in connection with the enforcement or protection of its rights (A) in connection with this Agreement and the other Loan Documents, including its rights under this Section, or (B) in connection with Loans made or Letters of Credit issued hereunder, including all such out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such Loans or Letters of Credit.

(b) Indemnification by the Loan Parties. The Loan Parties shall indemnify the Administrative Agent (and any sub-agent thereof), the Arrangers, each Lender, the Swingline Lender and each L/C Issuer, and each Related Party of any of the foregoing Persons (each such Person being called an "Indemnitee") against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses (including the reasonable and invoiced out-of-pocket fees, charges and disbursements of one primary counsel for the Indemnitees and one local counsel as necessary in each appropriate jurisdiction for the Indemnitees, taken as a whole, and, solely in the event of a conflict of interest (where the indemnitees inform the Company of such conflict), one additional counsel in each relevant jurisdiction to each group of similarly situated Indemnitees, taken as a whole, and settlement costs), incurred by any Indemnitee or asserted against any Indemnitee by any Person (including the Company or any other Loan Party) arising out of, in connection with, or as a result of (i) the execution or delivery of this Agreement, any other Loan Document or any agreement or instrument contemplated hereby or thereby, the performance by the parties hereto of their respective obligations hereunder or thereunder or the consummation of the transactions contemplated hereby or thereby, or, in the case of the Administrative Agent (and any sub-agent thereof) and its Related Parties only, the administration of this Agreement and the other Loan Documents (including in respect of any matters addressed in Section 3.01), (ii) any Loan or Letter of Credit or the use or proposed use of the proceeds therefrom (including any refusal by any L/C Issuer to honor a demand for payment under a Letter of Credit if the documents presented in connection with such demand do not strictly

comply with the terms of such Letter of Credit), (iii) any actual or alleged presence or release of Hazardous Materials on or from any property owned or operated by a Loan Party or any of its Subsidiaries, or any Environmental Liability related in any way to a Loan Party or any of its Subsidiaries to the extent such losses, claims, damages, liabilities or related expenses of any Indemnitee result (directly or indirectly) from (or is incidental to) the Indemnitees relationship with the Loan Parties and their Subsidiaries under the Loan Documents and the transactions contemplated hereunder, or (iv) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, whether based on contract, tort or any other theory, whether brought by a third party or by the Company or any other Loan Party or any of the Company's or such Loan Party's directors, shareholders or creditors, and regardless of whether any Indemnitee is a party thereto**, IN ALL CASES, WHETHER OR NOT CAUSED BY OR ARISING, IN WHOLE OR IN PART, OUT OF THE COMPARATIVE, CONTRIBUTORY OR SOLE NEGLIGENCE OF THE INDEMNITEE**; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses (x) are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the gross negligence, willful misconduct or bad faith of such Indemnitee, (y) result from a claim brought by the Company or any other Loan Party against an Indemnitee for a material breach of such Indemnitee's material obligations hereunder or under any other Loan Document, if the Company or such Loan Party has obtained a final and nonappealable judgment in its favor on such claim as determined by a court of competent jurisdiction or (z) arise from a dispute solely among Indemnitees that does not involve, result from, or relate to, directly or indirectly, any act or omission by the Loan Parties or their respective Affiliates (other than a Claim against a party hereto solely in its capacity as Swingline Lender, an L/C Issuer, Arranger or Administrative Agent or any other Person performing a similar role under the Loan Documents). Without limiting the provisions of Section 3.01(c), this Section 11.04(b) shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim.

(c) Reimbursement by Lenders. To the extent that the Loan Parties for any reason fail to pay any amount required under subsection (a) or (b) of this Section to be paid by it to the Administrative Agent (or any sub-agent thereof), each L/C Issuer, the Swingline Lender or any Related Party of any of the foregoing, each Lender severally agrees to pay to the Administrative Agent (or any such sub-agent), each L/C Issuer, the Swingline Lender or such Related Party, as the case may be, such Lender's pro rata share (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought based on each Lender's share of the Total Revolving Credit Exposure at such time) of such unpaid amount (including any such unpaid amount in respect of a claim asserted by such Lender), such payment to be made severally among them based on such Lender's Applicable Percentage (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought), provided that the unreimbursed expense or indemnified loss, claim, damage, liability or related expense, as the case may be, was incurred by or asserted against the Administrative Agent (or any such sub-agent), each L/C Issuer or the Swingline Lender in its capacity as such, or against any Related Party of any of the foregoing acting for the Administrative Agent (or any such sub-agent), each L/C Issuer or the Swingline Lender in

connection with such capacity. The obligations of the Lenders under this subsection (c) are subject to the provisions of Section 2.12(d).

(d) Waiver of Consequential Damages, Etc. To the fullest extent permitted by applicable Law, none of the parties hereto shall assert, and each party hereto hereby waives, and acknowledges that no other Person shall have, any claim against any other party hereto or any Indemnitee, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, any other Loan Document or any agreement or instrument contemplated hereby, the transactions contemplated hereby or thereby, any Loan or Letter of Credit or the use of the proceeds thereof; provided, that nothing contained in this sentence shall limit the Loan Parties' indemnity obligations to the extent set forth in Section 11.04(b). No Indemnitee referred to in subsection (b) above shall be liable for any damages arising from the use by unintended recipients of any information or other materials distributed to such unintended recipients by such Indemnitee through telecommunications, electronic or other information transmission systems in connection with this Agreement or the other Loan Documents or the transactions contemplated hereby or thereby.

(e) Payments. All amounts due under this Section 11.04 shall be payable not later than ten (10) Business Days after demand therefor. Notwithstanding anything to the contrary herein, the Designated Foreign Borrowers shall not be required to make any payment under this Section 11.04 in respect of any Obligations of or attributable to any U.S. Loan Party, and all other payments under this Section 11.04 shall be made by the Administrative Borrower and/or the U.S. Loan Parties.

(f) Survival. The agreements in this Section 11.04 and the indemnity provisions of Section 11.02(e) shall survive the resignation of the Administrative Agent, each L/C Issuer and the Swingline Lender, the replacement of any Lender, the termination of the Aggregate Revolving Commitments and the repayment, satisfaction or discharge of all the other Guaranteed Obligations.

11.05 Payments Set Aside**.**

To the extent that any payment by or on behalf of the Company is made to the Administrative Agent, any L/C Issuer or any Lender, or the Administrative Agent, any L/C Issuer or any Lender exercises its right of setoff, and such payment or the proceeds of such setoff or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Administrative Agent, such L/C Issuer or such Lender in its discretion) to be repaid to a trustee, receiver, examiner or any other party, in connection with any proceeding under any Debtor Relief Law or otherwise, then (a) to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such setoff had not occurred, and (b) each Lender and each L/C Issuer severally agrees to pay to the Administrative Agent upon demand its applicable share (without duplication) of any amount so recovered from or repaid by the Administrative Agent, plus interest thereon from the date of such demand to the date such payment is made at a rate per annum equal to the applicable Overnight Rate from time to time in

effect, in the applicable currency of such recovery or payment. The obligations of the Lenders and the L/C Issuers under clause (b) of the preceding sentence shall survive the payment in full of the Obligations and the termination of this Agreement.

11.06 Successors and Assigns**.**

(a) Successors and Assigns Generally. The provisions of this Agreement and the other Loan Documents shall be binding upon and inure to the benefit of the parties hereto and thereto and their respective successors and assigns permitted hereby, except neither the Company nor any other Loan Party may assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of the Administrative Agent and each Lender and no Lender may assign or otherwise transfer any of its rights or obligations hereunder except (i) to an assignee in accordance with the provisions of Section 11.06(b), (ii) by way of participation in accordance with the provisions of Section 11.06(d), or (iii) by way of pledge or assignment of a security interest subject to the restrictions of Section 11.06(e) (and any other attempted assignment or transfer by any party hereto shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in Section 11.06(d) and, to the extent expressly contemplated hereby, the Related Parties of each of the Administrative Agent, the L/C Issuers and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) Assignments by Lenders. Any Lender may at any time assign to one or more assignees all or a portion of its rights and obligations under this Agreement and the other Loan Documents (including all or a portion of its Revolving Commitment and the Loans (including for purposes of this subsection (b), participations in L/C Obligations and in Swingline Loans) at the time owing to it); provided that any such assignment shall be subject to the following conditions:

(i) Minimum Amounts.

(A) in the case of an assignment of the entire remaining amount of the assigning Lender's Revolving Commitment and/or the Loans at the time owing to it or contemporaneous assignments to related Approved Funds (determined after giving effect to such assignments) that equal at least the amount specified in Section 11.06(b)(i)(B) in the aggregate or in the case of an assignment to a Lender, an Affiliate of a Lender or an Approved Fund, no minimum amount need be assigned; and

(B) in any case not described in Section 11.06(b)(i)(A), the aggregate amount of the Revolving Commitment (which for this purpose includes Loans outstanding thereunder) or, if the Revolving Commitment is not then in effect, the principal outstanding balance of the Loans of the assigning Lender subject to each such assignment, determined as of the date the Assignment and Assumption with respect to such assignment is delivered

to the Administrative Agent or, if "Trade Date" is specified in the Assignment and Assumption, as of the Trade Date, shall not be less than $5,000,000, unless each of the Administrative Agent and, so long as no Event of Default has occurred and is continuing, the Company otherwise consents (each such consent not to be unreasonably withheld or delayed).

(ii) Proportionate Amounts. Each partial assignment shall be made as an assignment of a proportionate part of all the assigning Lender's rights and obligations under this Agreement and the other Loan Documents with respect to the Loans and/or the Revolving Commitment assigned, except that this Section 11.06(b)(ii) shall not apply to the Swingline Lender's rights and obligations in respect of Swingline Loans.

(iii) Required Consents. No consent shall be required for any assignment except to the extent required by Section 11.06(b)(i)(B) and, in addition:

(A) the consent of the Company (such consent not to be unreasonably withheld or delayed) shall be required unless (1) an Event of Default has occurred and is continuing at the time of such assignment or (2) such assignment is to a Lender, an Affiliate of a Lender or an Approved Fund; provided that the Company shall be deemed to have consented to any such assignment unless it shall object thereto by written notice to the Administrative Agent within ten (10) Business Days after having received notice thereof;

(B) the consent of the Administrative Agent (such consent not to be unreasonably withheld or delayed) shall be required for assignments in respect of any Revolving Commitment if such assignment is to a Person that is not a Lender, an Affiliate of such Lender or an Approved Fund with respect to such Lender; and

(C) the consent of the L/C Issuers and the Swingline Lender shall be required for any assignment in respect of the Revolving Facility.

(iv) Assignment and Assumption. The parties to each assignment shall execute and deliver to the Administrative Agent an Assignment and Assumption, together with a processing and recordation fee in the amount of $3,500; provided, however, that the Administrative Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment. The assignee, if it is not a Lender, shall deliver to the Administrative Agent an Administrative Questionnaire.

(v) No Assignment to Certain Persons. No such assignment shall be made (A) to any Borrower or any of the Borrowers' Affiliates or Subsidiaries, (B) to any Defaulting Lender or any of its Subsidiaries, or any Person who, upon becoming a Lender hereunder, would constitute any of the foregoing Persons described in this

clause (B), (C) to a natural Person (or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of a natural person) or (D) any holder of subordinated Indebtedness.

(vi) Certain Additional Payments. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments to the Administrative Agent in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations or subparticipations, or other compensating actions, including funding, with the consent of the Company and the Administrative Agent, the applicable pro rata share of Loans previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (A) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Administrative Agent, any L/C Issuer or any Lender hereunder (and interest accrued thereon) and (B) acquire (and fund as appropriate) its full pro rata share of all Loans and participations in Letters of Credit and Swingline Loans in accordance with its Applicable Percentage. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under applicable Law without compliance with the provisions of this Section 11.06(b)(vi), then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

(vii) Subject to acceptance and recording thereof by the Administrative Agent pursuant to Section 11.06(c), from and after the effective date specified in each Assignment and Assumption, the assignee thereunder shall be a party to this Agreement and, to the extent of the interest assigned by such Assignment and Assumption, have the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto but shall continue to be entitled to the benefits of Sections 3.01, 3.04, 3.05 and 11.04 with respect to facts and circumstances occurring prior to the effective date of such assignment); provided, that except to the extent otherwise expressly agreed by the affected parties, no assignment by a Defaulting Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender's having been a Defaulting Lender. Upon request, the Borrowers (at their expense) shall execute and deliver a Revolving Note to the assignee Lender. Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with this Section 11.06(b) shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with Section 11.06(d).

(c) Register. The Administrative Agent, acting solely for this purpose as a non-fiduciary agent of the Borrowers (and such agency being solely for tax purposes), shall maintain at the Administrative Agent's Office, or if the Administrative Agent's Office is not located in the United States, at such other office of the Administrative Agent that is located within the United States, a copy of each Assignment and Assumption delivered to it (or the equivalent thereof in electronic form) and a register for the recordation of the names and addresses of the Lenders, and the Revolving Commitments of, and principal amounts (and stated interest) of the Loans and L/C Obligations owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive, absent manifest error, and the Borrowers, the Administrative Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. Any assignment of any Loans or other obligations hereunder shall be effective only upon appropriate entries with respect thereto being made in the Register. The Register shall be available for inspection by the Borrowers and any Lender, at any reasonable time and from time to time upon reasonable prior notice.

(d) Participations.

(i) Any Lender may at any time, without the consent of, or notice to, the Borrowers or the Administrative Agent, sell participations to any Person (other than a natural Person, or a holding company, investment vehicle or trust for, or owned and operated for the primary benefit of a natural Person, a Defaulting Lender or any Borrower or any of the Borrowers' Affiliates or Subsidiaries) (each, a "Participant") in all or a portion of such Lender's rights and/or obligations under this Agreement (including all or a portion of its Revolving Commitment and/or the Loans (including such Lender's participations in L/C Obligations and/or Swingline Loans) owing to it); provided that (i) such Lender's obligations under this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations and (iii) the Borrowers, the Administrative Agent, the Lenders and the L/C Issuers shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. For the avoidance of doubt, each Lender shall be responsible for the indemnity under Section 11.04(c) without regard to the existence of any participations.

(ii) Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender will not, without the consent of the Participant, agree to any amendment, waiver or other modification described in the first proviso to Section 11.01 that affects such Participant. The Borrowers agree that each Participant shall be entitled to the benefits of Sections 3.01, 3.04 and 3.05 (subject to the requirements and limitations therein, including the requirements under Section 3.01

(e), 3.01(f), 3.01(g) and 3.01(h) (it being understood that the documentation required under Section 3.01(e), 3.01(f), 3.01(g) and 3.01(h) shall be delivered to the Lender who sells the participation)) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to Section 11.06(b); provided that such Participant (A) agrees to be subject to the provisions of Sections 3.06 and 11.13 as if it were an assignee under Section 11.06(b) and (B) shall not be entitled to receive any greater payment under Sections 3.01 or 3.04, with respect to any participation, than the Lender from whom it acquired the applicable participation would have been entitled to receive, except to the extent such entitlement to receive a greater payment results from a Change in Law that occurs after the Participant acquired the applicable participation. Each Lender that sells a participation agrees, at the Borrowers' request and expense, to use reasonable efforts to cooperate with the Borrowers to effectuate the provisions of Section 3.06 with respect to any Participant. To the extent permitted by law, each Participant also shall be entitled to the benefits of Section 11.08 as though it were a Lender; provided that such Participant agrees to be subject to Section 2.13 as though it were a Lender. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrowers, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans, letters of credit or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan, letter of credit or other obligation is in registered form under Section 5f.103–1(c) of the United States Treasury Regulations or to comply with Section 3.01(g) or 3.01(h). The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

(e) Certain Pledges. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement (including under its Revolving Note or Revolving Notes, if any) to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(f) Resignation as L/C Issuer or Swingline Lender after Assignment. Notwithstanding anything to the contrary contained herein, if at any time Bank of America assigns all of its Revolving Commitment and Revolving Loans pursuant to Section 11.06(b), Bank of America may, (i) upon thirty (30) days' notice to the Company and the Lenders,

resign as L/C Issuer and/or (ii) upon thirty (30) days' notice to the Company, resign as Swingline Lender. In the event of any such resignation as L/C Issuer or Swingline Lender, the Company shall be entitled to appoint from among the Lenders a successor L/C Issuer or Swingline Lender hereunder; provided, however, that no failure by the Company to appoint any such successor shall affect the resignation of Bank of America as L/C Issuer or Swingline Lender, as the case may be. If Bank of America resigns as L/C Issuer, it shall retain all the rights, powers, privileges and duties of the L/C Issuer hereunder with respect to all Letters of Credit outstanding as of the effective date of its resignation as L/C Issuer and all L/C Obligations with respect thereto (including the right to require the Lenders to make Base Rate Loans or fund risk participations in Unreimbursed Amounts pursuant to Section 2.03(c)). If Bank of America resigns as Swingline Lender, it shall retain all the rights of the Swingline Lender provided for hereunder with respect to Swingline Loans made by it and outstanding as of the effective date of such resignation, including the right to require the Lenders to make Base Rate Loans or fund risk participations in outstanding Swingline Loans pursuant to Section 2.04(c). Upon the appointment of a successor L/C Issuer and/or Swingline Lender, (A) such successor shall succeed to and become vested with all of the rights, powers, privileges and duties of the retiring L/C Issuer or Swingline Lender, as the case may be, and (B) the successor L/C Issuer shall issue letters of credit in substitution for the Letters of Credit, if any, outstanding at the time of such succession or make other arrangements satisfactory to Bank of America to effectively assume the obligations of Bank of America with respect to such Letters of Credit.

(g) [Reserved]

(h) Disqualified Institutions.

(i) No assignment shall be made to any Person that was a Disqualified Institution as of the "Trade Date" on which the applicable Lender entered into a binding agreement to sell and assign all or a portion of its rights and obligations under this Agreement to such Person (unless the Company has consented to such assignment as otherwise contemplated by this Section 11.06, in which case such Person will not be considered a Disqualified Institution for the purpose of such assignment). For the avoidance of doubt, with respect to any assignee that becomes a Disqualified Institution after the applicable Trade Date (including as a result of the delivery of a notice pursuant to, and/or the expiration of the notice period referred to in, the definition of "Disqualified Institution"), such assignee shall not retroactively be considered a Disqualified Institution. Any assignment in violation of this Section 11.06(h)(i) shall not be void, but the other provisions of this Section 11.06(h) shall apply.

(ii) If any assignment is made to any Disqualified Institution without the Company's prior consent in violation of Section 11.06(h)(i), the Borrowers may, at their effort and the sole expense of the assigning institution, upon notice to the applicable Disqualified Institution and the Administrative Agent, (A) terminate any Revolving Commitment of such Disqualified Institution and repay all obligations

of the Borrowers owing to such Disqualified Institution in connection with such Revolving Commitment, and/or (B) require such Disqualified Institution to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in this Section 11.06), all of its interest, rights and obligations under this Agreement and related Loan Documents to an Eligible Assignee that shall assume such obligations at the lesser of (x) the principal amount thereof and (y) the amount that such Disqualified Institution paid to acquire such interests, rights and obligations, in each case plus accrued interest, accrued fees and all other amounts (other than principal amounts) payable to it hereunder and other the other Loan Documents; provided that such assignment does not conflict with applicable Laws.

(iii) Notwithstanding anything to the contrary contained in this Agreement, Disqualified Institutions (A) will not (x) have the right to receive information, reports or other materials provided to Lenders by the Company, the Administrative Agent or any other Lender, (y) attend or participate in meetings attended by the Lenders and the Administrative Agent, or (z) access any electronic site established for the Lenders or confidential communications from counsel to or financial advisors of the Administrative Agent or the Lenders and (B) (x) for purposes of any consent to any amendment, waiver or modification of, or any action under, and for the purpose of any direction to the Administrative Agent or any Lender to undertake any action (or refrain from taking any action) under this Agreement or any other Loan Document, each Disqualified Institution will be deemed to have consented in the same proportion as the Lenders that are not Disqualified Institutions consented to such matter and (y) for purposes of voting on any plan of reorganization or plan of liquidation pursuant to any Debtor Relief Laws ("Plan of Reorganization"), each Disqualified Institution party hereto hereby agrees (1) not to vote on such Plan of Reorganization, (2) if such Disqualified Institution does vote on such Plan of Reorganization notwithstanding the restriction in the foregoing clause (1), such vote will be deemed not to be in good faith and shall be "designated" pursuant to Section 1126(e) of the Bankruptcy Code (or any similar provision in any other Debtor Relief Laws), and such vote shall not be counted in determining whether the applicable class has accepted or rejected such Plan of Reorganization in accordance with Section 1126(c) of the Bankruptcy Code (or any similar provision in any other Debtor Relief Laws) and (3) not to contest any request by any party for a determination by the Bankruptcy Court (or other applicable court of competent jurisdiction) effectuating the foregoing clause (2).

(iv) The Administrative Agent shall, and the Borrowers hereby expressly authorize the Administrative Agent, to (A) post the list of Disqualified Institutions provided by the Company and any updates thereto from time to time (collectively, the "DQ List") on the Platform, including that portion of the Platform that is designated for "public side" Lenders or (B) provide the DQ List to each Lender requesting the same.

11.07 Treatment of Certain Information; Confidentiality**.**

(a) Treatment of Certain Information. Each of the Administrative Agent, the Lenders and the L/C Issuers agrees to maintain the confidentiality of the Information (as defined below), except that Information may be disclosed (i) to its Affiliates, auditors and its Related Parties (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Information and instructed to keep such Information confidential), (ii) to the extent required or requested by any regulatory authority purporting to have jurisdiction over such Person or its Related Parties (including any self-regulatory authority, such as the National Association of Insurance Commissioners) (in which case, such Person agrees to inform the Company promptly thereof prior to such disclosure unless (x) such Person is prohibited from doing so under applicable Law or (y) such disclosure is pursuant to a regulatory audit or exam conducted by bank accountants or any governmental bank regulatory authority exercising examination or regulatory authority), (iii) to the extent required by applicable Laws or regulations or by any subpoena or similar legal process (in which case, such Person agrees to inform the Company promptly thereof prior to such disclosure unless such Person is prohibited from doing so under applicable Law), (iv) to any other party hereto, (v) in connection with the exercise of any remedies hereunder or under any other Loan Document or any action or proceeding relating to this Agreement or any other Loan Document or the enforcement of rights hereunder or thereunder, (vi) subject to an agreement containing provisions substantially the same as those of this Section 11.07, to (A) any assignee of or Participant in, or any prospective assignee of or Participant in, any of its rights and obligations under this Agreement or any Eligible Assignee invited to be a Lender pursuant to Section 2.18 or Section 11.01 or (B) any actual or prospective party (or its Related Parties) to any swap, derivative or other transaction under which payments are to be made by reference to the Borrowers and their obligations, this Agreement or payments hereunder (it being understood that the DQ List may be disclosed to any assignee, or prospective assignee, in reliance on this clause (vi)), (vii) on a confidential basis to (A) the provider of any Platform or other electronic delivery service used by the Administrative Agent, any L/C Issuer and/or the Swingline Lender to deliver Borrower Materials or notices to the Lenders or (B) the CUSIP Service Bureau or any similar agency in connection with the issuance and monitoring of CUSIP numbers or other market identifiers with respect to the credit facilities provided hereunder, or (viii) with the consent of the Company or to the extent such Information (1) becomes publicly available other than as a result of a breach of this Section 11.07 or (2) becomes available to the Administrative Agent, any Lender, any L/C Issuer or any of their respective Affiliates on a nonconfidential basis from a source other than the Borrowers, their Subsidiaries or their attorneys or accountants. For purposes of this Section 11.07, "Information" means all information received from the Company or any Subsidiary relating to the Company or any Subsidiary or any of their respective businesses, other than any such information that is available to the Administrative Agent, any Lender or any L/C Issuer on a nonconfidential basis prior to disclosure by the Company or any Subsidiary, provided that, in the case of information received from the Company or any Subsidiary after the date hereof, such information is clearly identified at the time of delivery as confidential. Any Person required to maintain the confidentiality of Information as provided in this Section 11.07 shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential

information. In addition, the Administrative Agent and the Lenders may disclose the existence of this Agreement and information about this Agreement to market data collectors, similar service providers to the lending industry and service providers to the Administrative Agent and the Lenders in connection with the administration of this Agreement, the other Loan Documents and the Revolving Commitments.

(b) Non-Public Information. Each of the Administrative Agent, the Lenders and the L/C Issuers acknowledges that (i) the Information may include material non-public information concerning a Loan Party or a Subsidiary, as the case may be, (ii) it has developed compliance procedures regarding the use of material non-public information and (iii) it will handle such material non-public information in accordance with applicable Law, including United States federal and state securities Laws.

11.08 Right of Setoff**.**

If an Event of Default shall have occurred and be continuing, each Lender, each L/C Issuer and each of their respective Affiliates is hereby authorized at any time and from time to time, to the fullest extent permitted by applicable Law, to set off and apply any and all deposits (general or special, time or demand, provisional or final, in whatever currency) at any time held and other obligations (in whatever currency) at any time owing by such Lender, such L/C Issuer or any such Affiliate to or for the credit or the account of the Company or any other Loan Party against any and all of the obligations of the Company or such Loan Party now or hereafter existing under this Agreement or any other Loan Document to such Lender or such L/C Issuer or their respective Affiliates, irrespective of whether or not such Lender, such L/C Issuer or Affiliate shall have made any demand under this Agreement or any other Loan Document and although such obligations of the Company or such Loan Party may be contingent or unmatured, secured or unsecured, or are owed to a branch, office or Affiliate of such Lender or such L/C Issuer different from the branch, office or Affiliate holding such deposit or obligated on such indebtedness; provided that in the event that any Defaulting Lender shall exercise any such right of setoff, (a) all amounts so set off shall be paid over immediately to the Administrative Agent for further application in accordance with the provisions of Section 2.15 and, pending such payment, shall be segregated by such Defaulting Lender from its other funds and deemed held in trust for the benefit of the Administrative Agent, the L/C Issuers and the Lenders, and (b) the Defaulting Lender shall provide promptly to the Administrative Agent a statement describing in reasonable detail the Guaranteed Obligations owing to such Defaulting Lender as to which it exercised such right of setoff. The rights of each Lender, each L/C Issuer and their respective Affiliates under this Section 11.08 are in addition to other rights and remedies (including other rights of setoff) that such Lender, such L/C Issuer or their respective Affiliates may have. Each Lender and each L/C Issuer agrees to notify the Company and the Administrative Agent promptly after any such setoff and application, provided that the failure to give such notice shall not affect the validity of such setoff and application. Notwithstanding the provisions of this Section 11.08, if at any time any Lender, any L/C Issuer or any of their respective Affiliates maintains one or more deposit accounts for the Company or any other Loan Party into which Medicare and/or Medicaid receivables are deposited, such Person shall waive the right of setoff set forth herein.

11.09 Interest Rate Limitation**.**

Notwithstanding anything to the contrary contained in any Loan Document, the interest paid or agreed to be paid under the Loan Documents shall not exceed the maximum rate of non-usurious interest permitted by applicable Law (the "Maximum Rate"). If the Administrative Agent or any Lender shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal of the Loans or, if it exceeds such unpaid principal, refunded to the Borrowers. In determining whether the interest contracted for, charged, or received by the Administrative Agent or a Lender exceeds the Maximum Rate, such Person may, to the extent permitted by applicable Law, (a) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (b) exclude voluntary prepayments and the effects thereof, and (c) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of the Obligations hereunder.

11.10 Counterparts; Integration; Effectiveness**.**

This Agreement and each of the other Loan Documents may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Agreement, the other Loan Documents, and any separate letter agreements with respect to fees payable to the Administrative Agent or any L/C Issuer, constitute the entire contract among the parties relating to the subject matter hereof and supersede any and all previous agreements and understandings, oral or written, relating to the subject matter hereof. Except as provided in Section 4.01, this Agreement shall become effective when it shall have been executed by the Administrative Agent and when the Administrative Agent shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto. Delivery of an executed counterpart of a signature page of this Agreement or any other Loan Document, or any certificate delivered thereunder, by fax transmission or e-mail transmission (*e.g.*, "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Agreement or such other Loan Document or certificate. Without limiting the foregoing, to the extent a manually executed counterpart is not specifically required to be delivered under the terms of any Loan Document, upon the request of any party, such fax transmission or e-mail transmission shall be promptly followed by such manually executed counterpart.

11.11 Survival of Representations and Warranties**.**

All representations and warranties made hereunder and in any other Loan Document or other document delivered pursuant hereto or thereto or in connection herewith or therewith shall survive the execution and delivery hereof and thereof. Such representations and warranties have been or will be relied upon by the Administrative Agent and each Lender, regardless of any investigation made by the Administrative Agent or any Lender or on their behalf and notwithstanding that the Administrative Agent or any Lender may have had notice or knowledge of any Default at the time of any Credit Extension, and shall continue in full force and effect as long as any Loan or any other Obligation hereunder shall remain unpaid or unsatisfied or any Letter of Credit shall remain outstanding.

11.12 Severability**.**

If any provision of this Agreement or the other Loan Documents is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Agreement and the other Loan Documents shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the illegal, invalid or unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. Without limiting the foregoing provisions of this Section 11.12, if and to the extent that the enforceability of any provisions in this Agreement relating to Defaulting Lenders shall be limited by Debtor Relief Laws, as determined in good faith by the Administrative Agent, the L/C Issuers or the Swingline Lender, as applicable, then such provisions shall be deemed to be in effect only to the extent not so limited.

11.13 Replacement of Lenders**.**

(a) If the Company is entitled to replace a Lender pursuant to the provisions of Section 3.06, or if any Lender is a Defaulting Lender or a Non-Consenting Lender or if any other circumstance exists hereunder that gives the Company the right to replace a Lender as a party hereto, then the Company may, at its sole expense and effort, upon notice to such Lender and the Administrative Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, Section 11.06), all of its interests, rights (other than its existing rights to payments pursuant to Sections 3.01 and 3.04) and obligations under this Agreement and the related Loan Documents to an Eligible Assignee that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment), provided that:

(i) the Company shall have paid (or caused a Designated Foreign Borrower to pay) to the Administrative Agent the assignment fee (if any) specified in Section 11.06(b);

(ii) such Lender shall have received payment of an amount equal to 100% of the outstanding principal of its Loans and L/C Advances, accrued interest thereon, accrued fees and all other amounts payable to it hereunder and under the other Loan Documents (including any amounts under Section 3.05) from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Company or applicable Designated Foreign Borrower (in the case of all other amounts);

(iii) in the case of any such assignment resulting from a claim for compensation under Section 3.04 or payments required to be made pursuant to Section 3.01, such assignment will result in a reduction in such compensation or payments thereafter;

(iv) such assignment does not conflict with applicable Laws; and

(v) in the case of an assignment resulting from a Lender becoming a Non-Consenting Lender, the applicable assignee shall have consented to the applicable amendment, waiver or consent.

(b) A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Company to require such assignment and delegation cease to apply. Each Lender agrees that, if the Company elects to replace such Lender in accordance with this Section 11.13, it shall (subject to the Company's compliance with the provisions of this Section 11.13) promptly execute and deliver to the Administrative Agent an Assignment and Assumption to evidence the assignment and shall deliver to the Administrative Agent any Revolving Note (if Revolving Notes have been issued in respect of such Lender's Loans and/or Revolving Commitments) subject to such Assignment and Assumption; provided that the failure of any such Lender to execute an Assignment and Assumption shall not render such assignment invalid and such assignment shall be recorded in the Register.

11.14 Governing Law; Jurisdiction; Etc**.**

(a) GOVERNING LAW. THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT (EXCEPT, AS TO ANY OTHER LOAN DOCUMENT, AS EXPRESSLY SET FORTH THEREIN) AND THE TRANSACTIONS CONTEMPLATED HEREBY AND THEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

(b) SUBMISSION TO JURISDICTION. THE COMPANY AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY AGREES THAT IT WILL NOT COMMENCE ANY ACTION, LITIGATION OR PROCEEDING OF ANY KIND OR DESCRIPTION, WHETHER IN LAW OR EQUITY, WHETHER IN CONTRACT OR IN TORT OR OTHERWISE, AGAINST THE ADMINISTRATIVE AGENT, ANY LENDER, ANY L/C ISSUER, OR ANY RELATED PARTY OF THE FOREGOING IN ANY WAY RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS RELATING HERETO OR THERETO, IN ANY FORUM OTHER THAN THE COURTS OF THE STATE OF NEW YORK SITTING IN NEW YORK COUNTY AND OF THE UNITED STATES DISTRICT COURT OF THE SOUTHERN DISTRICT OF NEW YORK, AND ANY APPELLATE COURT FROM ANY THEREOF, AND EACH OF THE PARTIES HERETO IRREVOCABLY AND UNCONDITIONALLY SUBMITS TO THE JURISDICTION OF SUCH COURTS AND AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION, LITIGATION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. EACH OF THE PARTIES HERETO AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION, LITIGATION OR PROCEEDING SHALL

BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING IN THIS AGREEMENT OR IN ANY OTHER LOAN DOCUMENT SHALL AFFECT ANY RIGHT THAT THE ADMINISTRATIVE AGENT, ANY LENDER OR ANY L/C ISSUER MAY OTHERWISE HAVE TO BRING ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT AGAINST THE COMPANY OR ANY OTHER LOAN PARTY OR ITS PROPERTIES IN THE COURTS OF ANY JURISDICTION.

(c) WAIVER OF VENUE. THE COMPANY AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT IN ANY COURT REFERRED TO IN PARAGRAPH (B) OF THIS SECTION. THE COMPANY AND EACH OTHER LOAN PARTY IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(d) SERVICE OF PROCESS; PROCESS AGENT. EACH PARTY HERETO IRREVOCABLY CONSENTS TO SERVICE OF PROCESS IN THE MANNER PROVIDED FOR NOTICES IN SECTION 11.02. NOTHING IN THIS AGREEMENT WILL AFFECT THE RIGHT OF ANY PARTY HERETO TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE LAW. WITHOUT LIMITING THE FOREGOING, EACH LOAN PARTY THAT IS A FOREIGN SUBSIDIARY IRREVOCABLY DESIGNATES AND APPOINTS THE COMPANY AS SUCH LOAN PARTY'S AUTHORIZED AGENT, TO ACCEPT AND ACKNOWLEDGE ON ITS BEHALF, SERVICE OF ANY AND ALL PROCESS WHICH MAY BE SERVED IN ANY ACTION, LITIGATION OR PROCEEDING, AND AGREES THAT THE FAILURE OF THE COMPANY TO GIVE ANY NOTICE OF ANY SUCH SERVICE SHALL NOT IMPAIR OR AFFECT THE VALIDITY OF SUCH SERVICE OR OF ANY JUDGMENT RENDERED IN ANY ACTION, LITIGATION OR PROCEEDING BASED THEREON. THE COMPANY HEREBY CONFIRMS THAT IT HAS AGREED TO ACCEPT SUCH APPOINTMENT (AND ANY SIMILAR APPOINTMENT BY A LOAN PARTY THAT IS A FOREIGN SUBSIDIARY). SAID DESIGNATION AND APPOINTMENT SHALL BE IRREVOCABLE BY THE COMPANY AND EACH LOAN PARTY THAT IS A FOREIGN SUBSIDIARY. TO THE EXTENT THAT ANY LOAN PARTY THAT IS A FOREIGN SUBSIDIARY HAS OR HEREAFTER MAY ACQUIRE ANY IMMUNITY FROM JURISDICTION OF ANY COURT OR FROM ANY LEGAL PROCESS (WHETHER THROUGH SERVICE OR NOTICE, ATTACHMENT PRIOR TO JUDGMENT, ATTACHMENT IN AID OF EXECUTION, EXECUTION OR OTHERWISE) WITH RESPECT TO ITSELF OR ITS PROPERTY, SUCH LOAN PARTY HEREBY

IRREVOCABLY WAIVES SUCH IMMUNITY IN RESPECT OF ITS OBLIGATIONS UNDER THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS.

11.15 Waiver of Jury Trial**.**

EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER LOAN DOCUMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (a) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (b) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 11.15.

11.16 Subordination**.**

Each Loan Party (a "Subordinating Loan Party") hereby subordinates the payment of all obligations and indebtedness of any other Loan Party owing to it, whether now existing or hereafter arising, including but not limited to any obligation of any such other Loan Party to the Subordinating Loan Party as subrogee of the Credit Parties or resulting from such Subordinating Loan Party's performance under Article X, to the occurrence of the Facility Termination Date and the indefeasible payment in full in cash (or other arrangement satisfactory to the applicable Cash Management Bank or Hedge Bank) of all Additional Obligations to the extent then due and payable. If the Credit Parties so request, any such obligation or indebtedness of any such other Loan Party to the Subordinating Loan Party shall be enforced and performance received by the Subordinating Loan Party as trustee for the Credit Parties and the proceeds thereof shall be paid over to the Credit Parties on account of the Guaranteed Obligations, but without reducing or affecting in any manner the liability of the Subordinating Loan Party under this Agreement. Without limitation of the foregoing, so long as no Event of Default has occurred and is continuing, the Loan Parties may make and receive payments with respect to Intercompany Debt; provided, that in the event that any Loan Party receives any payment of any Intercompany Debt at a time when such payment is prohibited by this Section 11.16, such payment shall be held by such Loan Party, in trust for the benefit of, and shall be paid forthwith over and delivered, upon written request, to the Administrative Agent.

11.17 No Advisory or Fiduciary Responsibility**.**

In connection with all aspects of each transaction contemplated hereby (including in connection with any amendment, waiver or other modification hereof or of any other Loan Document), the Company and each other Loan Party acknowledges and agrees, and acknowledges its Affiliates' understanding, that: (a) (i) the arranging and other services regarding this Agreement provided by the Administrative Agent and any Affiliate thereof, the Arrangers and the Lenders are

arm's-length commercial transactions between the Company, each other Loan Party and their respective Affiliates, on the one hand, and the Administrative Agent and, as applicable, its Affiliates (including any Affiliate that is an Arranger) and the Lenders and their Affiliates (including any Affiliate that is an Arranger) (collectively, solely for purposes of this Section, the "Lenders"), on the other hand, (ii) each of the Company and the other Loan Parties has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate, and (iii) the Company and each other Loan Party is capable of evaluating, and understands and accepts, the terms, risks and conditions of the transactions contemplated hereby and by the other Loan Documents; (b) (i) the Administrative Agent and its Affiliates (including any Affiliate that is an Arranger) and each Lender each is and has been acting solely as a principal and, except as expressly agreed in writing by the relevant parties, has not been, is not, and will not be acting as an advisor, agent or fiduciary, for the Company, any other Loan Party or any of their respective Affiliates, or any other Person and (ii) neither the Administrative Agent, any of its Affiliates (including any Affiliate that is an Arranger) nor any Lender has any obligation to the Company, any other Loan Party or any of their respective Affiliates with respect to the transactions contemplated hereby except those obligations expressly set forth herein and in the other Loan Documents; and (c) the Administrative Agent and its Affiliates (including any Affiliate that is an Arranger) and the Lenders may be engaged in a broad range of transactions that involve interests that differ from those of the Company, the other Loan Parties and their respective Affiliates, and neither the Administrative Agent, any of its Affiliates (including any Affiliate that is an Arranger) nor any Lender has any obligation to disclose any of such interests to the Company, any other Loan Party or any of their respective Affiliates. To the fullest extent permitted by law, each of the Company and each other Loan Party hereby waives and releases any claims that it may have against the Administrative Agent, any of its Affiliates (including any Affiliate that is an Arranger) or any Lender with respect to any breach or alleged breach of agency or fiduciary duty in connection with any aspect of any transactions contemplated hereby.

11.18 Electronic Execution; Electronic Records**.**

(a) The words "delivery," "execute," "execution," "signed," "signature," and words of like import in any Loan Document or any other document executed in connection herewith (including without limitation Assignment and Assumptions, amendments or other Loan Notices, Swingline Loan Notices, waivers and consents) shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act; ***provided that notwithstanding anything contained herein to the contrary, the Administrative Agent is under no obligation to agree to accept electronic signatures in any form or in any format unless expressly agreed to by the Administrative Agent pursuant to procedures approved by it***; ***provided further***,

without limiting the foregoing, upon the request of the Administrative Agent, any electronic signature shall be promptly followed by such manually executed counterpart.

(b) The Borrowers hereby acknowledge the receipt of a copy of this Agreement and all other Loan Documents. The Administrative Agent and each Lender may, on behalf of the Borrowers, create a microfilm or optical disk or other electronic image of this Agreement and any or all of the other Loan Documents. The Administrative Agent and each Lender may store the electronic image of this Agreement and the other Loan Documents in its electronic form and then destroy the paper original as part of the Administrative Agent's and each Lender's normal business practices, with the electronic image deemed to be an original and of the same legal effect, validity and enforceability as the paper originals.

11.19 USA PATRIOT Act Notice**.**

Each Lender that is subject to the Patriot Act and the Administrative Agent (for itself and not on behalf of any Lender) hereby notifies the Company and the other Loan Parties that pursuant to the requirements of the USA PATRIOT Act (Title III of Pub. L. 107–56 (signed into law October 26, 2001)) (the "Patriot Act"), it is required to obtain, verify and record information that identifies the Company and each other Loan Party, which information includes the name and address of the Company and each other Loan Party and other information that will allow such Lender or the Administrative Agent, as applicable, to identify the Company and each other Loan Party in accordance with the Patriot Act. The Company and each other Loan Party shall, promptly following a request by the Administrative Agent or any Lender, provide all such other documentation and information that the Administrative Agent or such Lender requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

11.20 Acknowledgement and Consent to Bail-In of EEA Financial Institutions**.**

Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Lender or any L/C Issuer that is an EEA Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the write-down and conversion powers of an EEA Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by an EEA Resolution Authority to any such liabilities arising hereunder which may be payable to it by any Lender or L/C Issuer that is an EEA Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such EEA Financial Institution, its parent undertaking,

or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the write-down and conversion powers of any EEA Resolution Authority.

11.21 Acknowledgement Regarding Any Supported QFCs**.**

To the extent that the Loan Documents provide support, through a guarantee or otherwise, for any Swap Contract or any other agreement or instrument that is a QFC (such support, "QFC Credit Support", and each such QFC, a "Supported QFC"), the parties acknowledge and agree as follows with respect to the resolution power of the Federal Deposit Insurance Corporation under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together with the regulations promulgated thereunder, the "U.S. Special Resolution Regimes") in respect of such Supported QFC and QFC Credit Support (with the provisions below applicable notwithstanding that the Loan Documents and any Supported QFC may in fact be stated to be governed by the laws of the State of New York and/or of the United States or any other state of the United States): In the event a Covered Entity that is party to a Supported QFC (each, a "Covered Party") becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer of such Supported QFC and the benefit of such QFC Credit Support (and any interest and obligation in or under such Supported QFC and such QFC Credit Support, and any rights in property securing such Supported QFC or such QFC Credit Support) from such Covered Party will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if the Supported QFC and such QFC Credit Support (and any such interest, obligation and rights in property) were governed by the laws of the United States or a state of the United States. In the event a Covered Party or a BHC Act Affiliate of a Covered Party becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under the Loan Documents that might otherwise apply to such Supported QFC or any QFC Credit Support that may be exercised against such Covered Party are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if the Supported QFC and the Loan Documents were governed by the laws of the United States or a state of the United States. Without limitation of the foregoing, it is understood and agreed that rights and remedies of the parties with respect to a Defaulting Lender shall in no event affect the rights of any Covered Party with respect to a Supported QFC or any QFC Credit Support.

11.22 [Reserved]

11.23 Judgment Currency**.**

If, for the purposes of obtaining judgment in any court, it is necessary to convert a sum due hereunder or any other Loan Document in one currency into another currency, the rate of exchange used shall be that at which in accordance with normal banking procedures the Administrative Agent could purchase the first currency with such other currency on the Business Day preceding that on which final judgment is given. The obligation of each Loan Party in respect of any such sum due

from it to the Administrative Agent or any Lender hereunder or under the other Loan Documents shall, notwithstanding any judgment in a currency (the "Judgment Currency") other than that in which such sum is denominated in accordance with the applicable provisions of this Agreement (the "Agreement Currency"), be discharged only to the extent that on the Business Day following receipt by the Administrative Agent or such Lender, as the case may be, of any sum adjudged to be so due in the Judgment Currency, the Administrative Agent or such Lender, as the case may be, may in accordance with normal banking procedures purchase the Agreement Currency with the Judgment Currency. If the amount of the Agreement Currency so purchased is less than the sum originally due to the Administrative Agent or any Lender from any Loan Party in the Agreement Currency, such Loan Party agrees, as a separate obligation and notwithstanding any such judgment, to indemnify the Administrative Agent or such Lender, as the case may be, against such loss. If the amount of the Agreement Currency so purchased is greater than the sum originally due to the Administrative Agent or any Lender in such currency, the Administrative Agent or such Lender, as the case may be, agrees to return the amount of any excess to such Loan Party (or to any other Person who may be entitled thereto under applicable Law).

11.24 ENTIRE AGREEMENT**.**

THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS REPRESENT THE FINAL AGREEMENT AMONG THE PARTIES AND MAY NOT BE CONTRADICTED BY EVIDENCE OF PRIOR, CONTEMPORANEOUS, OR SUBSEQUENT ORAL AGREEMENTS OF THE PARTIES. THERE ARE NO UNWRITTEN ORAL AGREEMENTS AMONG THE PARTIES.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

COMPANY:

VERTEX PHARMACEUTICALS INCORPORATED, as a Borrower and a Guarantor

By: /s/ Charles F. Wagner, Jr.
Name: Charles F. Wagner, Jr.
Title: Executive Vice President and Chief Financial Officer

DESIGNATED FOREIGN BORROWERS:

VERTEX PHARMACEUTICALS (EUROPE) LIMITED, as a Borrower

By: /s/ Klas Holmlund
Name: Klas Holmlund
Title: Director

VERTEX PHARMACEUTICALS (IRELAND) LIMITED, as a Borrower

By: /s/ Michael Grogan
Name: Michael Grogan
Title: Director

SUBSIDIARY GUARANTORS: **VERTEX PHARMACEUTICALS (SAN DIEGO) LLC**, as a Subsidiary Guarantor

By: /s/ Charles F. Wagner, Jr.
Name: Charles F. Wagner, Jr.
Title: Treasurer

VERTEX HOLDINGS, INC., as a Subsidiary Guarantor

By: /s/ Charles F. Wagner, Jr.
Name: Charles F. Wagner, Jr.
Title: Treasurer

VERTEX PHARMACEUTICALS (DISTRIBUTION) INCORPORATED, as a Subsidiary Guarantor

By: /s/ Michael J. Parini
Name: Michael J. Parini
Title: President

VERTEX PHARMACEUTICALS (PUERTO RICO) LLC, as a Subsidiary Guarantor

By: /s/ Charles F. Wagner, Jr.
Name: Charles F. Wagner, Jr.
Title: Treasurer

EXONICS THERAPEUTICS, INC., as a Subsidiary Guarantor

By: /s/ Charles F. Wagner, Jr.
Name: Charles F. Wagner, Jr.
Title: Treasurer

GUARANTORS:

VERTEX PHARMACEUTICALS (EUROPE) LIMITED, as a Guarantor

By: /s/ Klas Holmlund
Name: Klas Holmlund
Title: Director

VERTEX PHARMACEUTICALS (IRELAND) LIMITED, as a Guarantor

By: /s/ Michael Grogan
Name: Michael Grogan
Title: Director

ADMINISTRATIVE AGENT: **BANK OF AMERICA, N.A.**, as Administrative Agent

By: /s/ Elizabeth Uribe
Name: Elizabeth Uribe
Title: Assistant Vice President

[Signature Page to Credit Agreement]

LENDERS: **BANK OF AMERICA, N.A.**, as a Lender, an L/C Issuer and Swingline Lender

By: /s/ Linda E. Alto
Name: Linda E. Alto
Title: Senior Vice President

[Signature Page to Credit Agreement]

CITIBANK, N.A., as a Lender

By: /s/ Eugene Yermash
Name: Eugene Yermash
Title: Vice President

JPMORGAN CHASE BANK, N.A., as a Lender

By: /s/ Anthony Galea
Name: Anthony Galea
Title: Executive Director

SUNTRUST BANK, as a Lender

By: /s/ Katharine Bass
Name: Katharine Bass
Title: Director

WELLS FARGO BANK, NATIONAL ASSOCIATION, as a Lender

By: /s/ Andrea Chen
Name: Andrea Chen
Title: Managing Director

BARCLAYS BANK PLC, as a Lender

By: /s/ Ronnie Glenn
Name: Ronnie Glenn
Title: Director

CITIZENS BANK, N.A., as a Lender

By: /s/ Laura Fogarty
Name: Laura Fogarty
Title: Managing Director

HSBC BANK USA, NATIONAL ASSOCIATION, as a Lender

By: /s/ Andrew Everett
Name: Andrew Everett
Title: Vice President

KEYBANK NATIONAL ASSOCIATION, as a Lender

By: /s/ Suzannah Valdivia
Name: Suzannah Valdivia
Title: Senior Vice President

MUFG BANK, LTD, as a Lender

By: /s/ Jack Lonker
Name: Jack Lonker
Title: Director

PNC BANK, NATIONAL ASSOCIATION, as a Lender

By: /s/ Steven A. Eberhardt
Name: Steven A. Eberhardt
Title: Vice President

SANTANDER BANK, N.A., as a Lender

By: /s/ Daniel Wilansky
Name: Daniel Wilansky
Title: Vice President

SUMITOMO MITSUI BANKING CORP., as a Lender

By: /s/ Katsuyuki Kubo
Name: Katsuyuki Kubo
Title: General Manager

U.S. BANK NATIONAL ASSOCIATION, as a Lender

By: /s/ Maria Massimino
Name: Maria Massimino
Title: Vice President

Exhibit 31.1

CERTIFICATION

I, Jeffrey M. Leiden, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Vertex Pharmaceuticals Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: October 31, 2019

/s/ Jeffrey M. Leiden

Jeffrey M. Leiden
Chief Executive Officer and President

Exhibit 31.2

CERTIFICATION

I, Charles F. Wagner, Jr., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Vertex Pharmaceuticals Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: October 31, 2019

/s/ Charles F. Wagner, Jr.

Charles F. Wagner, Jr.
Executive Vice President and Chief Financial Officer

Exhibit 32.1

SECTION 906 CEO/CFO CERTIFICATION

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) each of the undersigned officers of Vertex Pharmaceuticals Incorporated, a Massachusetts corporation (the "Company"), does hereby certify, to such officer's knowledge, that the Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: October 31, 2019

/s/ Jeffrey M. Leiden

Jeffrey M. Leiden
Chief Executive Officer and President

Date: October 31, 2019

/s/ Charles F. Wagner, Jr.

Charles F. Wagner, Jr.
Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.