UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2016

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: 001-33137
EMERGENT BIOSOLUTIONS INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**14-1902018**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
400 Professional Drive, Suite 400 Gaithersburg, Maryland	**20879**
(Address of Principal Executive Offices)	*(Zip Code)*

(240) 631-3200
(Registrant's Telephone Number, Including Area Code)

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 and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☒ Yes ☐ No

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

☐ Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company
(Do not check if a smaller reporting company)

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

As of July 29, 2016, the registrant had 40,458,718 shares of common stock outstanding.

Emergent BioSolutions Inc.
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Part I. Financial Information

Part II. Other Information

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This quarterly report on Form 10-Q includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, including statements regarding the future earnings and performance of Emergent or any of its businesses, our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. We generally identify forward-looking statements by using words like "believes," "expects," "anticipates," "intends," "plans," "forecasts," "estimates" and similar expressions in conjunction with, among other things, discussions of financial performance or financial condition, growth strategy, product sales, manufacturing capabilities, product development, regulatory approvals or expenditures. These forward-looking statements are based on our current intentions, beliefs and expectations regarding future events. We cannot guarantee that any forward-looking statement will be accurate. You should realize that if underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results could differ materially from our expectations. You are, therefore, cautioned not to place undue reliance on any forward-looking statement. Any forward-looking statement speaks only as of the date on which such statement is made, and, except as required by law, we do not undertake to update any forward-looking statement to reflect new information, events or circumstances.

There are a number of important factors that could cause our actual results to differ materially from those indicated by such forward-looking statements, including, among others:

- appropriations for the procurement of BioThrax® (Anthrax Vaccine Adsorbed) and our other countermeasure products;
- our ability to perform under our contracts with the U.S. government related to BioThrax, including the timing of deliveries;
- our ability to obtain new BioThrax sales contracts or modifications to existing contracts;
- the availability of funding for our U.S. government grants and contracts;
- our ability to successfully execute our growth strategy and achieve our financial and operational goals;
- our ability to successfully integrate and develop the products or product candidates, programs, operations and personnel of any entities or businesses that we acquire;
- our ability to perform under our contract with the U.S. government to develop and obtain regulatory approval for the manufacturing of BioThrax in Building 55, our large-scale vaccine manufacturing facility in Lansing, Michigan;
- whether the operational, marketing and strategic benefits of the spin-off of our biosciences business can be achieved and the timing of any such benefits;
- our ability to identify and acquire companies or in-license products or late-stage product candidates that satisfy our selection criteria;
- our ability to realize synergies and benefits from acquisitions or in-licenses within expected time periods or at all;
- our ability to successfully identify and respond to new development contracts with the U.S. government, as well as successfully maintain, through achievement of development milestones, current development contracts with the U.S. government;
- our ability to obtain and maintain intellectual property protection for our products and product candidates;
- our ability and plans to expand our manufacturing facilities and capabilities;
- our ability and the ability of our contractors and suppliers to maintain compliance with cGMP and other regulatory obligations;
- the results of regulatory inspections;
- the operating and financial restrictions placed on us and our subsidiaries under our senior secured credit facility;
- the outcome of the purported class action lawsuit recently filed against us and possible other future material legal proceedings;
- the rate and degree of market acceptance and clinical utility of our products;
- the success of our ongoing and planned development programs, non-clinical activities and clinical trials of our product candidates;
- our ability to obtain and maintain regulatory approvals for our product candidates and the timing of any such approvals;
- the success of our commercialization, marketing and manufacturing capabilities and strategy; and
- the accuracy of our estimates regarding future revenues, expenses, capital requirements and needs for additional financing.

The foregoing sets forth many, but not all, of the factors that could cause actual results to differ from our expectations in any forward-looking statement. New factors emerge from time to time and it is not possible for management to predict all such factors, nor can it assess the impact of any such factor on the business or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. You should consider this cautionary statement, the risk factors identified in the section entitled "Risk Factors" in this quarterly report on Form 10-Q and the risk factors identified in our other periodic reports filed with the Securities and Exchange Commission when evaluating our forward-looking statements.

PART I. FINANCIAL INFORMATION

ITEM 1. ***FINANCIAL STATEMENTS***

Emergent BioSolutions Inc. and Subsidiaries
Consolidated Balance Sheets
(in thousands, except share and per share data)

	June 30, 2016 (unaudited)	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$ 333,395	$ 312,795
Accounts receivable, net	66,749	120,767
Inventories	96,674	76,936
Income tax receivable, net	9,184	6,573
Prepaid expenses and other current assets	22,045	20,339
Total current assets	528,047	537,410
Property, plant and equipment, net	359,034	331,856
In-process research and development	41,800	42,501
Intangible assets, net	52,645	57,375
Goodwill	54,902	54,902
Deferred tax assets, net	18,192	11,286
Other assets	1,846	2,154
Total assets	$ 1,056,466	$ 1,037,484
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 58,974	$ 45,966
Accrued expenses and other current liabilities	2,482	6,229
Accrued compensation	29,778	34,683
Contingent consideration, current portion	2,983	2,553
Provisions for chargebacks	2,512	2,238
Deferred revenue, current portion	7,129	7,942
Total current liabilities	103,858	99,611
Contingent consideration, net of current portion	22,580	23,046
Long-term indebtedness	247,393	246,892
Deferred revenue, net of current portion	8,410	6,590
Other liabilities	1,553	1,328
Total liabilities	383,794	377,467
Stockholders' equity:		
Preferred stock, $0.001 par value; 15,000,000 shares authorized, 0 shares issued and outstanding at both June 30, 2016 and December 31, 2015	-	-
Common stock, $0.001 par value; 200,000,000 shares authorized, 40,852,511 shares issued and 40,429,681 shares outstanding at June 30, 2016; 100,000,000 shares authorized, 39,829,408 shares issued and 39,406,578 shares outstanding at December 31, 2015	41	40
Treasury stock, at cost, 422,830 common shares at both June 30, 2016 and December 31, 2015	(6,420)	(6,420)
Additional paid-in capital	337,947	317,971
Accumulated other comprehensive loss	(3,080)	(2,713)
Retained earnings	344,184	351,139
Total stockholders' equity	672,672	660,017
Total liabilities and stockholders' equity	$ 1,056,466	$ 1,037,484

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

Emergent BioSolutions Inc. and Subsidiaries
Consolidated Statements of Operations
(in thousands, except share and per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(Unaudited)		(Unaudited)	
Revenues:				
Product sales	$ 58,546	$ 82,023	$ 130,252	$ 100,314
Contract manufacturing	10,156	8,859	17,743	21,102
Contracts, grants and collaborations	32,785	35,230	64,494	68,329
Total revenues	101,487	126,112	212,489	189,745
Operating expense:				
Cost of product sales and contract manufacturing	35,612	27,266	64,115	46,014
Research and development	35,347	40,941	69,501	79,643
Selling, general and administrative	44,148	36,453	83,932	70,946
Income (loss) from operations	(13,620)	21,452	(5,059)	(6,858)
Other income (expense):				
Interest income	220	273	406	355
Interest expense	(1,509)	(1,628)	(3,033)	(3,288)
Other income, net	17	(497)	133	(397)
Total other expense, net	(1,272)	(1,852)	(2,494)	(3,330)
Income (loss) before provision for (benefit from) income taxes	(14,892)	19,600	(7,553)	(10,188)
Provision for (benefit from) income taxes	(3,945)	5,500	(597)	(2,769)
Net income (loss)	$ (10,947)	$ 14,100	$ (6,956)	$ (7,419)
Net income (loss) per share - basic	$ (0.27)	$ 0.37	$ (0.17)	$ (0.19)
Net income (loss) per share - diluted (1)	$ (0.27)	$ 0.32	$ (0.17)	$ (0.19)
Weighted-average number of shares - basic	40,202,821	38,480,754	39,872,738	38,216,524
Weighted-average number of shares - diluted	40,202,821	47,410,413	39,872,738	38,216,524

(1) See Note 8 "Earnings per share" for details on calculation.

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

Emergent BioSolutions Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(Unaudited)		(Unaudited)	
Net income (loss)	$ (10,947)	$ 14,100	$ (6,956)	$ (7,419)
Foreign currency translations, net of tax	1,072	(415)	(367)	(649)
Comprehensive income (loss)	$ (9,875)	$ 13,685	$ (7,323)	$ (8,068)

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

Emergent BioSolutions Inc. and Subsidiaries
Consolidated Statements of Cash Flows
(in thousands)

	Six Months Ended June 30,	
	2016	2015
Cash flows from operating activities:	(Unaudited)	
Net loss	$ (6,956)	$ (7,419)
Adjustments to reconcile to net cash provided by (used in) operating activities:		
Stock-based compensation expense	9,945	7,790
Depreciation and amortization	17,770	17,298
Income taxes	547	630
Change in fair value of contingent obligations	935	751
Impairment of long-lived assets	1,114	-
Excess tax benefits from stock-based compensation	(10,442)	(7,241)
Other	775	153
Changes in operating assets and liabilities:		
Accounts receivable	53,933	(40,884)
Inventories	(19,738)	(19,034)
Income taxes	(14,556)	(16,740)
Prepaid expenses and other assets	(1,713)	2,465
Accounts payable	11,287	2,062
Accrued expenses and other liabilities	(3,533)	157
Accrued compensation	(4,966)	(5,473)
Provision for chargebacks	274	(253)
Deferred revenue	1,007	2,368
Net cash provided by (used in) operating activities	35,683	(63,370)
Cash flows from investing activities:		
Purchases of property, plant and equipment	(39,246)	(19,681)
Net cash used in investing activities	(39,246)	(19,681)
Cash flows from financing activities:		
Proceeds from long-term debt obligations	-	2,000
Issuance of common stock upon exercise of stock options	14,524	13,162
Excess tax benefits from stock-based compensation	10,442	7,241
Contingent obligation payments	(971)	(5,002)
Net cash provided by financing activities	23,995	17,401
Effect of exchange rate changes on cash and cash equivalents	168	(8)
Net increase (decrease) in cash and cash equivalents	20,600	(65,658)
Cash and cash equivalents at beginning of period	312,795	280,499
Cash and cash equivalents at end of period	$ 333,395	$ 214,841

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

EMERGENT BIOSOLUTIONS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. Summary of significant accounting policies

Basis of presentation and consolidation

On August 6, 2015, Emergent BioSolutions Inc. (the "Company" or "Emergent"), announced its plan to separate into two independent publicly-traded companies, one a biotechnology company focused on novel oncology and hematology therapeutics to meaningfully improve patients' lives and the other a global specialty life sciences company focused on providing specialty products for civilian and military populations that address intentional and naturally emerging public health threats. In accordance with the separation plan, Emergent transferred certain assets and liabilities of its biosciences business into Aptevo Therapeutics Inc. ("Aptevo"), a wholly-owned subsidiary of Emergent before the completion of the spin-off, which was incorporated in February 2016.

In anticipation of the spin-off, the Company realigned certain components of its biosciences business to the new Aptevo segment to be consistent with how the Company's chief operating decision maker ("CODM") allocates resources and makes decisions about the operations of the Company. Effective January 1, 2016, the Company changed its segment presentation to reflect this new structure, and recast all prior periods presented to conform to the new presentation.

On August 1, 2016, the Company completed the spin-off of Aptevo. Aptevo is now an independent public company trading under the symbol "APVO" on the NASDAQ Global Select Market ("NASDAQ"). The accompanying unaudited financial statements for the three months and six months ended June 30, 2016 and 2015 include the results of Aptevo. The spin-off of Aptevo has therefore not yet been reflected in the Company's historical results and will be presented as a discontinued operation beginning in the third quarter of 2016. Discontinued operations will reflect the revenues and expenses directly associated with the results of operations of Aptevo for all periods presented.

The accompanying unaudited consolidated financial statements include the accounts of Emergent and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The unaudited consolidated financial statements included herein have been prepared in accordance with U.S. generally accepted accounting principles for interim financial information and in accordance with the instructions to Form 10-Q and Article 10 of Regulation S-X issued by the Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. These consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2015, as filed with the SEC.

During the six months ended June 30, 2016, there have been no significant changes to the Company's summary of significant accounting policies contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2015, as filed with the SEC. In the opinion of the Company's management, any adjustments contained in the accompanying unaudited consolidated financial statements are of a normal recurring nature, and are necessary to present fairly the financial position of the Company as of June 30, 2016; the results of operations and comprehensive income (loss) for the three and six months ended June 30, 2016 and 2015; and cash flows for the six months ended June 30, 2016 and 2015. Interim results are not necessarily indicative of results that may be expected for any other interim period or for an entire year.

2. Fair value measurements

The following table represents the Company's fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis:

	June 30, 2016			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Investment in money market funds (1)	$ 92	$ -	$ -	$ 92
Total assets	$ 92	$ -	$ -	$ 92
Liabilities:				
Contingent consideration	$ -	$ -	$ 25,563	$ 25,563
Total liabilities	$ -	$ -	$ 25,563	$ 25,563

	December 31, 2015			
(in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Investment in money market funds (1)	$ 3,323	$ -	$ -	$ 3,323
Total assets	$ 3,323	$ -	$ -	$ 3,323
Liabilities:				
Contingent consideration	$ -	$ -	$ 25,599	$ 25,599
Total liabilities	$ -	$ -	$ 25,599	$ 25,599

(1) Included in cash and cash equivalents in the accompanying consolidated balance sheets.

During the six months ended June 30, 2016, the Company did not have any transfers between Level 1 and Level 2 assets or liabilities.

The fair value of contingent consideration obligations are based on management's assessment of certain development and regulatory milestones, along with updates in the assumed achievement of potential future net sales for the EV-035 series of molecules and the broad spectrum antiviral platform program, which are inputs that have no observable market (Level 3). For both the three and six months ended June 30, 2016, the contingent consideration obligation decreased by $0.4 million. For the three months ended June 30, 2015, the contingent consideration obligation decreased by $0.4 million. For the six months ended June 30, 2015, the contingent consideration obligation increased by $0.4 million. These changes are primarily due to the estimated timing and probability of success for certain development and regulatory milestones and the estimated timing and volume of potential future sales of EV-035 series of molecules and the broad spectrum antiviral platform, along with the novation of the DTRA contract for the EV-035 series of molecules. These decreases and increases in the contingent consideration were classified in the Company's statement of operations as both selling, general and administrative and research

and development expense. During the six months ended June 30, 2015, the Company received novation of the DTRA contract and paid the $4.0 million milestone to Evolva in the second quarter of 2015.

The fair value of the RSDL and HepaGam contingent consideration obligations changed as a result of management's assessment of the assumed and actual achievement of future net sales, which are inputs that have no observable market (Level 3). For the three and six months ended June 30, 2016, the contingent purchase consideration obligations increased by $0.5 million and $1.3 million, respectively. For the three months ended June 30, 2015, the contingent consideration obligation decreased by $0.4 million. For the six months ended June 30, 2015, the contingent consideration obligation increased by $0.4 million. The increases and decreases are primarily due to an adjustment to the actual and expected timing and volume of RSDL and HepaGam B sales. These changes are classified in the Company's statement of operations as cost of product sales and contract manufacturing.

The following table is a reconciliation of the beginning and ending balance of the liabilities, consisting only of contingent consideration, measured at fair value using significant unobservable inputs (Level 3) during the six months ended June 30, 2016.

(in thousands)	
Balance at December 31, 2015	$ 25,599
Expense included in earnings	935
Settlements	(971)
Purchases, sales and issuances	-
Transfers in/(out) of Level 3	-
Balance at June 30, 2016	$ 25,563

Separate disclosure is required for assets and liabilities measured at fair value on a recurring basis from those measured at fair value on a non-recurring basis. As of June 30, 2016, the in-process research and development asset for EV-035 series of molecules was measured at fair value on a non-recurring basis.

3. Inventories

Inventories consisted of the following:

(in thousands)	**June 30, 2016**	**December 31, 2015**
Raw materials and supplies	$ 27,875	$ 23,099
Work-in-process	41,281	37,209
Finished goods	27,518	16,628
Total inventories	$ 96,674	$ 76,936

4. Property, plant and equipment

Property, plant and equipment consisted of the following:

(in thousands)	**June 30, 2016**	**December 31, 2015**
Land and improvements	$ 17,208	$ 16,520
Buildings, building improvements and leasehold improvements	142,687	111,060
Furniture and equipment	201,455	136,528
Software	56,716	39,784
Construction-in-progress	51,097	127,489
Property, plant and equipment, gross	469,163	431,381
Less: Accumulated depreciation and amortization	(110,129)	(99,525)
Total property, plant and equipment, net	$ 359,034	$ 331,856

5. Intangible assets and in-process research and development

As of June 30, 2016, $41.8 million of IPR&D assets related to the Company's otlertuzumab product candidate is included in the Aptevo segment.

Intangible assets consisted of the following:

(in thousands)	**Biodefense Segment**	**Aptevo Segment**	**Total**
Cost basis			
Balance at December 31, 2015	$ 55,790	$ 20,809	$ 76,599
Additions	-	-	-
Balance at June 30, 2016	$ 55,790	$ 20,809	$ 76,599
Accumulated amortization			
Balance at December 31, 2015	$ (15,857)	$ (3,368)	$ (19,225)
Amortization	(3,557)	(1,172)	(4,729)
Balance at June 30, 2016	$ (19,414)	$ (4,540)	$ (23,954)
Net balance at June 30, 2016	$ 36,376	$ 16,269	$ 52,645

Amortization expense consisted of the following:

(in thousands)	**Three Months Ended June 30, 2016**	**2015**	**Six Months Ended June 30, 2016**	**2015**
Biodefense segment	$ 1,778	$ 2,014	$ 3,557	$ 3,777
Aptevo segment	587	378	1,172	757

Total amortization expense	$ 2,365	$ 2,392	$ 4,729	$ 4,534

As of June 30, 2016, the weighted average amortization period remaining for intangible assets in the Biodefense and Aptevo segments was 81 and 91 months, respectively.

In July 2016, the Company determined the pending spin-off of Aptevo was a potential indicator of impairment for the definite-lived intangible assets, in-process research and development indefinite-lived intangible assets and the goodwill within the Aptevo reporting unit. The Company completed an undiscounted cash flow recoverability test for the definite-lived intangibles and qualitative assessments for the indefinite-lived intangible assets, as well as the reporting unit and concluded that there was no impairment.

6. Long-term debt

In April 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2015-03, *Interest - Imputation of Interest* (Subtopic 835-30), which simplifies the presentation of debt issuance costs. ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. Prior to the issuance of ASU 2015-03, debt issuance costs were required to be presented as an asset on the balance sheet. ASU 2015-03 is effective for interim and annual periods beginning after December 15, 2015. As of December 31, 2015, the Company reclassified debt issuance costs of $1.2 million and $4.9 million from prepaid expenses and other current assets and other assets, respectively, as a reduction to long-term debt.

On January 29, 2014, the Company issued $250.0 million aggregate principal amount of 2.875% Convertible Senior Notes due 2021 (the "Notes"). The Notes mature on January 15, 2021, unless earlier purchased by the Company or converted. The conversion rate is equal to 30.8821 shares of common stock per $1,000 principal amount of notes (which is equivalent to a conversion price of approximately $32.38 per share of common stock). The conversion rate is subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. As of August 1, 2016, certain conversion features were triggered due to the completion of the Aptevo spin-off. The conversion rate under the Notes will be adjusted in accordance with the terms of the indenture, with the ten-trading day valuation period contemplated by the indenture commencing August 1, 2016. The new conversion rate will be determined and announced promptly following the end of the ten-trading day valuation period.

7. Equity

As of June 30, 2016, the Company had two active stock-based employee compensation plans, the Fourth Amended and Restated Emergent BioSolutions Inc. 2006 Stock Incentive Plan (the "2006 Plan") and the Emergent BioSolutions Employee Stock Option Plan (the "2004 Plan"). The Company refers to both plans together as the "Emergent Plans."

The following is a summary of stock option award activity under the Emergent Plans:

	2006 Plan		2004 Plan		
	Number of Shares	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value
Outstanding at December 31, 2015	2,964,237	$ 22.73	29,699	$ 10.28	$ 52,119,607
Granted	391,158	$ 33.83	-	$ -	
Exercised	(700,605)	$ 19.32	(29,699)	$ 10.28	
Forfeited	(24,467)	$ 26.76	-	$ -	
Outstanding at June 30, 2016	2,630,323	$ 25.25	-	$ -	$ 10,318,273
Exercisable at June 30, 2016	1,479,516	$ 21.55	-	$ -	$ 9,850,228

The following is a summary of restricted stock unit award activity under the 2006 Plan:

	Number of Shares	Weighted-Average Grant Price	Aggregate Intrinsic Value
Outstanding at December 31, 2015	889,004	$ 26.86	$ 35,569,048
Granted	470,911	$ 34.53	
Vested	(404,585)	$ 24.77	
Forfeited	(26,103)	$ 30.95	
Outstanding at June 30, 2016	929,227	$ 31.53	$ 26,129,863

On May 19, 2016, at the Company's annual meeting, the shareholders approved the issuance of 3.8 million shares under the Fourth Amended and Restated Emergent BioSolutions Inc. 2006 Stock Incentive Plan, none of which have been issued. In addition, the shareholders approved an increase in the number of authorized shares of common stock to 200 million shares.

On July 14, 2016, the Company's board of directors authorized management to repurchase, from time to time, up to an aggregate of $50 million of the Company's common stock under a board-approved share repurchase program. The timing, amount, and price of any repurchases will be made pursuant to one or more 10b5-1 plans. The term of the board authorization of the repurchase program is until December 31, 2017. The plan will permit shares to be repurchased when the Company might otherwise be precluded from doing so under insider trading laws. The repurchase program may be suspended or discontinued at any time. Any repurchased shares will be available for use in connection with Emergent's stock plans and for other corporate purposes.

In March 2016, the FASB issued ASU 2016-09, *Compensation - Stock Compensation (Topic 718)*. ASU 2016-09 simplifies several aspects of the accounting for share-based payment award transactions, including: (1) the income tax consequences, (2) classification of awards as either equity or liabilities, and (3) classification on the statement of cash flows. ASU 2016-09 is effective for the annual reporting period beginning after December 15, 2016, including interim periods within that reporting period, with early adoption permitted. The Company is currently evaluating the impact that the adoption of ASU 2016-09 will have on the consolidated financial statements and related disclosures.

8. Earnings per share

The following table presents the calculation of basic and diluted net income (loss) per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands, except share and per share data)	2016	2015	2016	2015
Numerator:				
Net income (loss)	$ (10,947)	$ 14,100	$ (6,956)	$ (7,419)
Interest expense, net of tax	-	809	-	-
Amortization of debt issuance costs, net of tax	-	219	-	-
Net income (loss), adjusted	$ (10,947)	$ 15,128	$ (6,956)	$ (7,419)

Denominator:				
Weighted-average number of shares—basic	40,202,821	38,480,754	39,872,738	38,216,524
Dilutive securities—equity awards	-	1,209,134	-	-
Dilutive securities—convertible debt	-	7,720,525	-	-
Weighted-average number of shares—diluted	40,202,821	47,410,413	39,872,738	38,216,524
Net income (loss) per share-basic	$ (0.27)	$ 0.37	$ (0.17)	$ (0.19)
Net income (loss) per share-diluted	$ (0.27)	$ 0.32	$ (0.17)	$ (0.19)

For the three and six months ended June 30, 2016 and 2015, basic earnings per share is computed by dividing net income (loss) by the weighted average number of shares of common stock outstanding during the period.

For the three months ended June 30, 2015, diluted earnings per share is computed using the "if-converted" method by dividing the net income adjusted for interest expense and amortization of debt issuance cost, both net of tax, associated with the Company's 2.875% convertible Senior notes due 2021 (the "Notes") by the weighted average number of shares of common stock outstanding during the period. The weighted average number of shares is adjusted for the potential dilutive effect of the exercise of stock options and the vesting of restricted stock units along with the assumption of the conversion of the Notes, at the beginning of the period.

For the three and six months ended June 30, 2016 and the six months ended June 30, 2015, basic and diluted earnings per share is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the period. No adjustment to the net loss was computed under the "if-converted" method as the effect would have been anti-dilutive.

For both the three and six months ended June 30, 2016, outstanding equity awards to purchase approximately 3.5 million, respectively, shares of common stock were excluded from the calculation of diluted earnings per share. For the six months ended June 30, 2015, outstanding equity awards to purchase approximately 4.7 million shares of common stock were excluded from the calculation of diluted earnings per share. In addition, for both the three and six months ended June 30, 2016 and the six months ended June 30, 2015, approximately 7.7 million shares of common stock related to the Company's Notes were excluded from the calculation of diluted earnings per share. All outstanding equity awards to purchase common stock and shares of common stock related to the Company's Notes were excluded from the calculation of diluted earnings per share in the periods in which the Company incurred a net loss.

9. Related party transactions

In November 2015, the Company entered into a consulting arrangement with a member of the Company's Board of Directors, amended in July 2016, to provide assistance in connection with the planned spin-off of Aptevo. The total compensation under the agreement was approximately $0.2 million. The consulting agreement terminated on August 1, 2016.

10. Segment information

On August 6, 2015, the Company announced its plan to separate into two independent publicly-traded companies, one a biotechnology company focused on novel oncology and hematology therapeutics to meaningfully improve patients' lives and the other a global specialty life sciences company focused on providing specialty products for civilian and military populations that address intentional and naturally emerging public health threats. In anticipation of the spin-off, the Company realigned certain components of its biosciences business to the new Aptevo segment. Effective January 1, 2016, the Company changed its segment presentation to reflect this new structure, and prior periods have been recast to conform to the new presentation.

For financial reporting purposes, the Company reports financial information for two business segments: Biodefense and Aptevo. The Company's two business segments, or divisions, engage in business activities for which discrete financial information is provided to and resources are allocated by the CODM. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies. The Company's reportable segments offer different products, product candidates, manufacturing processes and services, development processes, sales and marketing processes, and are managed separately.

The Biodefense division consists of three business units: vaccines and therapeutics, medical devices and contract manufacturing. Revenues in this segment are primarily from sales of the Company's FDA-licensed product, BioThrax® (Anthrax Vaccine Adsorbed), to the U.S. government. The Aptevo division consists of one business unit, which is focused on: the discovery, development, commercialization and sale of novel oncology and hematology therapeutics.

	Reportable Segments		
(in thousands)	**Biodefense**	**Aptevo**	**Total**
Three Months Ended June 30, 2016			
External revenue	$ 91,254	$ 10,233	$ 101,487
Intersegment revenue (expense)	1,844	(1,844)	-
Income (loss) from operations	(1,323)	(12,297)	(13,620)
Three Months Ended June 30, 2015			
External revenue	$ 119,022	$ 7,090	$ 126,112
Intersegment revenue (expense)	2,130	(2,130)	-
Income (loss) from operations	41,694	(20,242)	21,452
Six Months Ended June 30, 2016			
External revenue	$ 194,223	$ 18,266	$ 212,489
Intersegment revenue (expense)	2,418	(2,418)	-
Income (loss) from operations	21,693	(26,752)	(5,059)
Total assets	945,058	111,408	1,056,466
Six Months Ended June 30, 2015			
External revenue	$ 171,169	$ 18,576	$ 189,745
Intersegment revenue (expense)	2,234	(2,234)	-
Income (loss) from operations	23,198	(30,056)	(6,858)
Total assets	820,503	122,820	943,323

11. Subsequent events

Aptevo

On August 1, 2016, the Company completed the previously announced spin-off through the distribution of 100% of the outstanding common stock of Aptevo to the Company's shareholders (the "Distribution"). The Distribution was made to the Company's shareholders of record as of the close of business on July 22, 2016 ("Record Date"), who received one share of Aptevo common stock for every two shares of Emergent common stock held as of the Record Date. The Distribution was intended to take the form of a tax-free distribution for federal income tax purposes in the United States. As a result of the Distribution, Aptevo is now an independent public company trading under the symbol "APVO" on NASDAQ. In the aggregate, approximately 20,230,000 shares of Aptevo common stock were distributed to the Company's shareholders of record as of the Record Date in the Distribution. After giving effect to the Distribution, the Company no longer holds shares of Aptevo's common stock. In addition, on August 1, 2016, the Company entered into a non-negotiable, unsecured promissory note with Aptevo to provide up to an additional $20 million in funding within the next six to twelve months.

Litigation

On July 19, 2016, Plaintiff, William Sponn, or Sponn, filed a putative class action complaint in the United States District Court for the District of Maryland on behalf of purchasers of the Company's common stock between January 11, 2016 and June 21, 2016, inclusive, or the Class Period, seeking to pursue remedies under the Securities Exchange Act of 1934 against Emergent and certain of the Company's senior officers and directors, collectively, the Defendants. The complaint alleges, among other things, that the Company made materially false and misleading statements about the government's demand for BioThrax and expectations that the Company's five-year exclusive procurement contract with HHS would be renewed and omitted certain material facts. Sponn is seeking unspecified damages, including legal costs. The Defendants believe that the allegations in the complaint are without merit and intend to defend themselves vigorously against those claims. As of the date of this filing, the range of potential loss cannot be determined or estimated.

ITEM 2. ***MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS***

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes and other financial information included elsewhere in this quarterly report on Form 10-Q. Some of the information contained in this discussion and analysis or set forth elsewhere in this quarterly report on Form 10-Q, including information with respect to our plans and strategy for our business and financing, includes forward-looking statements that involve risks and uncertainties. You should carefully review the "Special Note Regarding Forward-Looking Statements" and "Risk Factors" sections of this quarterly report on Form 10-Q for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Product Portfolio

Emergent BioSolutions Inc., or Emergent, is a global specialty biopharmaceutical company seeking to protect and enhance life by offering specialized products to healthcare providers and governments to address medical needs and emerging public health threats. We develop, manufacture, and deliver a portfolio of medical countermeasures primarily for government agencies in the areas of biological and chemical threats and emerging infectious diseases. We also develop and commercialize therapeutics and other specialty products for hospitals and clinics in the areas of hematology/oncology, transplantation, infectious diseases and autoimmune disorders. As of June 30, 2016, we have two operating divisions: Biodefense and Aptevo Therapeutics Inc., or Aptevo. For financial reporting purposes, we operate in two business segments that correspond to these two divisions.

On August 6, 2015, we announced our plan to separate into two independent publicly-traded companies, one a biotechnology company focused on novel oncology and hematology therapeutics to meaningfully improve patients' lives and the other a global specialty life sciences company focused on providing specialty products for civilian and military populations that address intentional and naturally emerging public health threats.

On August 1, 2016, we completed the spin-off of Aptevo. Aptevo is now an independent public company trading under the symbol "APVO" on the NASDAQ Global Select Market ("NASDAQ"). The accompanying unaudited financial statements for the three months and six months ended June 30, 2016 and 2015 include the results of Aptevo. The spin-off of Aptevo has therefore not yet been reflected in Emergent's historical results and will be presented as a discontinued operation beginning in the third quarter of 2016. Discontinued operations will reflect the revenues and expenses directly associated with the results of operations of Aptevo for all periods presented.

Change in segments

In anticipation of the spin-off, we realigned certain components of our Biosciences business to the new Aptevo segment. Effective January 1, 2016, we changed our segment presentation to reflect this new structure, and recast all prior periods presented to conform to the new presentation.

Biodefense

Our Biodefense division is a specialty biopharmaceutical business focused on countermeasures that address public health threats, specifically Chemical, Biological, Radiological, Nuclear and Explosive, or CBRNE, threats as well as emerging infectious diseases, or EID. The U.S. government is the primary purchaser of our Biodefense products and often provides us with substantial funding for the development of our Biodefense product candidates. Operations that support this division include manufacturing, regulatory affairs, quality assurance, quality control, international sales and marketing, and domestic government affairs in support of our marketed products, as well as product development and manufacturing infrastructure in support of our investigational stage product candidates. Our Biodefense portfolio consists of the following marketed products and various investigational stage product candidates.

Our Biodefense division marketed products are:

- BioThrax® (Anthrax Vaccine Adsorbed), the only vaccine licensed by the U.S. Food and Drug Administration, or the FDA, for the general use prophylaxis and post-exposure prophylaxis of anthrax disease;
- Anthrasil™ (Anthrax Immune Globulin Intravenous (Human)), the only polyclonal antibody therapeutic licensed by the FDA for the treatment of inhalational anthrax;
- BAT™ (Botulism Antitoxin Heptavalent (A,B,C,D,E,F,G)-Equine), the only heptavalent therapeutic licensed by the FDA for the treatment of botulinum disease;
- VIGIV (Vaccinia Immune Globulin Intravenous (Human)), the only therapeutic licensed by the FDA to address adverse events from smallpox vaccination; and
- RSDL® (Reactive Skin Decontamination Lotion Kit), the only device cleared by the FDA for the removal or neutralization of chemical agents, T-2 toxin and many pesticide-related chemicals from the skin.

Our Biodefense division investigational stage product candidates are:

- NuThrax™ (anthrax vaccine adsorbed with CPG 7909 adjuvant), a next generation anthrax vaccine;
- UV-4B, a novel antiviral being developed for dengue and influenza infections;
- GC-072, the lead compound in the EV-035 series of broad spectrum antibiotics, being developed for *Burkholderia pseudomallei*;
- VAX161C, a recombinant pandemic influenza vaccine candidate being developed by VaxInnate, Inc. and for which we have an exclusive license agreement to manufacture and sell in the event of a surge order from the Biomedical Advanced Research and Development Authority, or

BARDA; and

- Other Biodefense product candidates focused on public health threats and emerging infectious diseases.

A unique attribute of our Biodefense division investigational stage product portfolio is that most of our candidates are under an active development contract with significant funding from the U.S. government. This allows our development pipeline, along with our marketed products, to be aligned with the strategic priorities of our U.S. and allied foreign government customers.

Our Biodefense division also has programs that leverage our proven manufacturing infrastructure and expertise. We have responded to specific Task Order Requests issued by BARDA for the development and manufacture of specific countermeasures as part of our Center for Innovation in Advanced Development and Manufacturing, or CIADM, program focused on imminent public health threats, including pandemic influenza and Ebola. On June 27, 2016, we received a task order from BARDA to develop and manufacture three cGMP lots of Zika vaccine for use in a Phase 1 clinical trial. Using a base vaccine candidate provided by BARDA, we will conduct technology transfer of process materials and information, process and analytical method development, execute small-scale production runs, and perform cGMP cell banking leading to cGMP manufacture of bulk drug substance and final drug product. The task order consists of a 30-month base valued at $17.9 million and includes options that, if executed, will bring the total value to up to $21.9 million.

Our Biodefense division also includes multiple platform technologies, including the MVAtor™ (modified vaccinia virus Ankara vector) platform technology and Emergard™, a military-grade auto-injector device designed for intramuscular self-injection of antidotes and other emergency response medical treatments that can address exposure to certain chemical agents and other similar emerging threats and our hyperimmune specialty plasma product manufacturing platform. In February 2016, we announced that Emergard was selected by the U.S. Department of Defense, or DoD, and Battelle Memorial Institute to be tested against and developed to U.S. military specifications as a platform for nerve agent antidote delivery. Initial development and testing of Emergard is expected to be completed in 2016 and, if successful, could lead to Emergard's future procurement for U.S. military and emergency responder use. The testing and development of Emergard will be performed under a subcontract with Battelle, which in turn has a prime contract with the DoD.

In addition, our Biodefense division provides contract manufacturing services to third-party customers. The majority of these services are performed at our facilities located in Baltimore, Maryland. At these facilities we perform pharmaceutical product development and filling services for injectable and other sterile products, as well as process design, technical transfer, manufacturing validation, laboratory support, aseptic filling, lyophilization, final packaging and accelerated and ongoing stability studies. We manufacture both vial and pre-filled syringe formats for a wide variety of drug products - small molecule and biological - in all stages of development and commercialization, including 20 licensed products, which are currently sold in more than 40 countries. This facility produces finished units of clinical and commercial drugs for a variety of customers ranging from small biopharmaceutical companies to major multinationals. The facility is an approved manufacturing facility under the regulatory regimes in the United States, Canada, Japan, Brazil, the Middle East and several countries in the European Union.

We have derived the majority of our historical product sales revenues from BioThrax sales to the U.S. government. We are focused on increasing the sales of our Biodefense products to U.S. government customers and expanding the market for our product portfolio to other customers domestically and internationally, although there can be no assurance that we will be able to do so. We are currently a party to a contract with the Centers for Disease Control and Prevention, or the CDC, an operating division of the U.S. Department of Health and Human Services, or HHS, to supply up to 44.75 million doses of BioThrax for the placement into the Strategic National Stockpile, or SNS, over a five-year period ending September 30, 2016.

On June 21, 2016, the U.S. Department of Health and Human Service, or HHS, issued two solicitation notices with respect to the development and procurement of anthrax vaccines for the SNS. HHS issued a Sole Source Notification indicating its intention by September 23, 2016 to award Emergent a follow-on contract for the purchase of 29.4 million doses of BioThrax with a period of performance of five years. The solicitation does not state the number of doses expected to be procured per year. The terms of the contract, including the price per dose and the timing of deliveries remain subject to contract negotiation, and there can be no assurance that an agreed follow-on contract will be in place by September 23, 2016, or at all. In addition, the procurement of doses of BioThrax by the CDC remains subject to the availability of funding. For example, by letter dated April 26, 2016, the CDC indicated that it anticipates that the quantity of BioThrax it plans to purchase for the remaining term of the existing contract will be less than the total remaining doses available to be purchased under the existing contract, and the CDC did not quantify the reduced number of doses it intends to purchase under the existing contract.

In conjunction with the Sole Source Notification with respect to BioThrax, on June 21, 2016, HHS issued a request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease. We have submitted a response to the HHS request for proposal with respect to its NuThrax vaccine candidate. The vaccine candidate, as outlined in the solicitation, must have the ability to confer protection in one or two doses, a favorable safety profile following completion of clinical studies through Phase 2, demonstrated efficacy in non-clinical studies and manufacturing consistency necessary to advance towards approval by Emergency Use Authorization, or EUA. The contract is for the development of the vaccine candidate to licensure as well as for the purchase and delivery of an initial two million doses of a next generation anthrax vaccine to the SNS, with potential additional procurement of 12 million doses up to 25 million dose regimens of final drug product, which is the equivalent of up to 50 million doses of NuThrax.

Our Biodefense segment has generated net income for each of the last five years.

Aptevo

As previously noted, on August 1, 2016, we completed the spin-off of Aptevo. The Aptevo division is a biotechnology business that focuses on novel oncology and hematology therapeutics to meaningfully improve patients' lives. The Aptevo division's portfolio consists of marketed products, various investigational stage product candidates and platform technologies. Operations that support this division include manufacturing, quality, regulatory affairs, medical affairs, and sales and marketing in support of our marketed products, as well as additional product development capabilities in support of our investigational stage product candidates.

The Aptevo division's investigational stage products MOR209/ES414, ES210 and otlertuzumab are built on the novel ADAPTIR™ (modular protein technology) platform, which is designed to expand on the utility and effectiveness of therapeutic antibodies. The technology platform can form the basis for a variety of product constructs, principally monospecific and multispecific immunotherapeutic proteins and bispecific therapeutic molecules, all which may have structural advantages over monoclonal antibodies. The technology platform utilizes two mechanisms of action: redirected T-cell cytotoxicity, or RTCC, and targeted cytokine delivery. The structural differences of ADAPTIR molecules over monoclonal antibodies allow for the development of other ADAPTIR immunotherapeutics that engage disease targets in a unique manner and produce a unique signaling response. Aptevo is skilled at product candidate generation, validation and subsequent clinical development using the ADAPTIR platform. Aptevo has the ability to progress ADAPTIR molecules from concept to marketed product by employing a variety of capabilities it brings to bear, including protein engineering, pre-clinical development and process development, current good manufacturing practices, or cGMP, and manufacturing oversight. Aptevo also brings to bear key downstream capabilities including the ability to launch, market and commercialize product candidates.

Aptevo's marketed products are:

- WinRho® SDF [Rh_o(D) Immune Globulin Intravenous (Human)], for treatment of autoimmune platelet disorder, also called immune thrombocytopenic purpura or ITP, and, separately, for the treatment of hemolytic disease of the newborn, or HDN;
- HepaGam B® [Hepatitis B Immune Globulin Intravenous (Human)], for post-exposure prophylactic treatment of hepatitis-B; and for prevention of hepatitis-B recurrence following liver transplantation in HBsAg-positive liver transplant patients, and for post-exposure prophylactic treatment of hepatitis-B;
- VARIZIG® [Varicella Zoster Immune Globulin (Human)], for post-exposure prophylactic treatment of varicella zoster virus, which causes chickenpox, in high risk individuals; and
- IXINITY® [coagulation factor IX (recombinant)], indicated in adults and children 12 years of age and older with hemophilia B for control and prevention of bleeding episodes, and for perioperative management.

Aptevo's investigational stage product candidates include the following:

- MOR209/ES414, a protein therapeutic being developed for metastatic castration-resistant prostate cancer under Aptevo's collaboration with MorphoSys AG;
- ES210, a protein therapeutic being developed for Ulcerative Colitis and other autoimmune and inflammatory diseases;
- otlertuzumab, a protein therapeutic being developed for Chronic Lymphocytic Leukemia;
- 5E3, a monoclonal antibody therapeutic being developed for Alzheimer's disease; and
- Other protein therapeutic product candidates primarily targeting immuno-oncology.

The Aptevo division has generated revenue for each of the last five years through product sales, development contracts and collaborative funding but has incurred a net loss for each of those years.

Litigation

On July 19, 2016, Plaintiff, William Sponn, or Sponn, filed a putative class action complaint in the United States District Court for the District of Maryland on behalf of purchasers of our common stock between January 11, 2016 and June 21, 2016, inclusive, or the Class Period, seeking to pursue remedies under the Securities Exchange Act of 1934 against us and certain of our senior officers and directors, collectively, the Defendants. The complaint alleges, among other things, that we made materially false and misleading statements about the government's demand for BioThrax and expectations that our five-year exclusive procurement contract with HHS would be renewed and omitted certain material facts. Sponn is seeking unspecified damages, including legal costs. The Defendants believe that the allegations in the complaint are without merit and intend to defend themselves vigorously against those claims. As of the date of this filing, the range of potential loss cannot be determined or estimated.

Financial Operations Overview

Revenues

Effective September 30, 2011, we entered into a contract with the CDC to supply up to 44.75 million doses of BioThrax to the CDC over a five-year period from September 30, 2011 through September 30, 2016. The maximum amount that could be paid to us under the contract is $1.25 billion, subject to availability of funding by the U.S. government. As of June 30, 2016, the U.S. government has committed approximately $1.1 billion for the procurement of BioThrax doses under this contract. Through June 30, 2016, we have delivered and, upon CDC acceptance, recognized revenue on approximately 40.5 million doses, representing approximately $1.1 billion in revenue under this contract.

By letter dated April 1, 2016, the CDC informed us of its intent to award a follow-on BioThrax procurement contract, to prevent a lapse in coverage from the current contract to the new contract. The CDC reaffirmed their intent in a follow-up letter, dated April 26, 2016, in which the CDC stated that their acquisition planning process is ongoing and that they project to issue an award for a follow-on BioThrax procurement contract on October 1, 2016. That letter further indicates that the CDC anticipates continuing to purchase doses of BioThrax in the second and third quarters of 2016 under the current procurement contract, although the quantity to be purchased will be less than the total remaining doses available to be purchased under the current contract.

On June 21, 2016, the U.S. Department of Health and Human Service, or HHS, issued two solicitation notices with respect to the development and procurement of anthrax vaccines for the SNS. HHS issued a Sole Source Notification indicating its intention by September 23, 2016 to award Emergent a follow-on contract for the purchase of 29.4 million doses of BioThrax with a period of performance of five years. The solicitation does not state the number of doses expected to be procured per year. The terms of the contract, including the price per dose and the timing of deliveries remain subject to contract negotiation, and there can be no assurance that an agreed follow-on contract will be in place by September 23, 2016, or at all. In addition, the procurement of doses of BioThrax by the CDC remains subject to the availability of funding. For example, by letter dated April 26, 2016, the CDC indicated that it anticipates that the quantity of BioThrax it plans to purchase for the remaining term of the existing contract will be less than the total remaining doses available to be purchased under the existing contract, and the CDC did not quantify the reduced number of doses it intends to purchase under the existing contract.

In conjunction with the Sole Source Notification with respect to BioThrax, on June 21, 2016, HHS issued a request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease. We have submitted a response to the HHS request for proposal with respect to its NuThrax vaccine candidate. The vaccine candidate, as outlined in the solicitation, must have the ability to confer protection in one or two doses, a favorable safety profile following completion of clinical studies through Phase 2, demonstrated efficacy in non-clinical studies and manufacturing consistency necessary to advance towards approval by Emergency Use Authorization, or EUA. The contract is for the development of the vaccine candidate to licensure as well as for the purchase and delivery of an initial two million doses of a next generation anthrax vaccine to the SNS, with potential additional procurement of 12 million doses up to 25 million dose regimens of final drug product, which is the equivalent of up to 50 million doses of NuThrax.

We have received contract and grant funding from BARDA, the CDC, Defense Threat Reduction Agency, or DTRA, and National Institute of Allergy and Infectious Diseases, or NIAID, for the following Biodefense-related development programs:

Development Programs	Funding Source	Award Date	Performance Period
Anthrasil	BARDA	Sep-05	9/2005 — 4/2021
BAT	BARDA	May-06	5/2006 — 5/2026
CIADM	BARDA	Jun-12	6/2012 — 6/2037
VIGIV	CDC	Aug-12	8/2012 — 8/2017
Anthrasil	BARDA	Sep-13	9/2013 — 9/2018
NuThrax	NIAID	Aug-14	8/2014 — 10/2019
GC-072	DTRA	Aug-14	8/2014 — 8/2017
NuThrax	BARDA	Mar-15	3/2015 — 8/2017
Zika	BARDA	Jun-16	6/2016 — 12/2018

Our revenue, operating results and profitability have varied, and we expect that they will continue to vary on a quarterly basis, primarily due to the timing of sales of our products and timing of work completed under existing and new grants, development contracts and collaborative relationships.

Cost of Product Sales and Contract Manufacturing

The primary expense that we incur to deliver to our customers our marketed vaccines and therapeutics and to perform for our customers our contract manufacturing operations is manufacturing costs consisting of fixed and variable costs. Variable manufacturing costs consist primarily of costs for materials and personnel-related expenses for direct and indirect manufacturing support staff, contract manufacturing and filling operations, and sales-based royalties. Fixed manufacturing costs include facilities, utilities and amortization of intangible assets. We determine the cost of product sales for products sold during a reporting period based on the average manufacturing cost per unit in the period those units were manufactured. In addition to the fixed and variable manufacturing costs described above, the cost of product sales depends on utilization of available manufacturing capacity.

The primary expense that we incur to deliver our medical devices to our customers is the cost per unit of production from our third-party contract manufacturers. Other associated expenses include sales-based royalties, amortization of intangible assets, shipping, logistics and the cost of support functions.

Research and Development Expenses

We expense research and development costs as incurred. Our research and development expenses consist primarily of:

- personnel-related expenses;
- fees to professional service providers for, among other things, analytical testing, independent monitoring or other administration of our clinical trials and obtaining and evaluating data from our clinical trials and non-clinical studies;
- costs of contract manufacturing services for clinical trial material; and
- costs of materials used in clinical trials and research and development.

We intend to focus our product development efforts on promising late-stage candidates that we believe satisfy well-defined criteria and seek to utilize collaborations or non-dilutive funding. We plan to seek funding for development activities from external sources and third parties, such as governments and non-governmental organizations, or through collaborative partnerships. We expect our research and development spending will be dependent upon such factors as the results from our clinical trials, the availability of reimbursement of research and development spending, the number of product candidates under development, the size, structure and duration of any clinical programs that we may initiate, the costs associated with manufacturing our product candidates on a large-scale basis for later stage clinical trials, and our ability to use or rely on data generated by government agencies, such as studies involving BioThrax conducted by the CDC.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of personnel-related costs and professional fees in support of our executive, sales and marketing, business development, government affairs, finance, accounting, information technology, legal and human resource functions. Other costs include facility costs not otherwise included in cost of product sales and contract manufacturing or research and development expense.

Critical Accounting Policies and Estimates

There have been no significant changes to our Critical Accounting Policies and Estimates during the six months ended June 30, 2016. Refer to the Critical Accounting Policies and Estimates section in our Annual Report on Form 10-K for the year ended December 31, 2015 filed with the Securities and Exchange Commission.

Results of Operations

Three Months Ended June 30, 2016 Compared to Three Months Ended June 30, 2015

Revenues

(in thousands)	Three Months Ended June 30, 2016	2015	Change	% Change
Product sales:				
BioThrax	$ 40,038	$ 72,236	$ (32,198)	(45%)
Other Biodefense	8,309	2,845	5,464	192%
Total Biodefense	48,347	75,081	(26,734)	(36%)
Aptevo products	10,199	6,942	3,257	47%
Total product sales	58,546	82,023	(23,477)	(29%)
Contract manufacturing	10,156	8,859	1,297	15%
Contracts, grants and collaborations	32,785	35,230	(2,445)	(7%)
Total revenues	$ 101,487	$ 126,112	$ (24,625)	(20%)

Product Sales:

The decrease in BioThrax sales was primarily due to the reduction in shipments to the CDC, resulting from the April 2016 letter from the CDC that indicated that it anticipated procuring less than the total remaining doses of BioThrax under the existing procurement contract. The increase in Other Biodefense revenues was primarily due to VIGIV sales to the SNS. The increase in Aptevo sales was mainly due to increased sales of IXINITY (received FDA licensure and launched in the second quarter of 2015).

Contract Manufacturing:

Contract manufacturing revenues increased by $1.3 million, or 15%, to $10.2 million for the three months ended June 30, 2016 from $8.9 million for the three months ended June 30, 2015. The increase is due primarily to services related to plasma collection and related testing activities.

Contracts, Grants and Collaborations:

Contracts, grants and collaborations revenues decreased by $2.4 million, or 7%, to $32.8 million for the three months ended June 30, 2016 from $35.2 million for the three months ended June 30, 2015. The decrease was primarily due to:

- decreased development funding of $16.1 million for Anthrasil related to plasma collection;
- decreased development funding of $5.0 million for PreviThrax due to reduced interest by the U.S. government for the product candidate;
- increased development funding of $10.9 million related to our CIADM program, including $4.7 million from new CIADM task orders, and
- increased development funding of $6.9 million for VIGIV related to plasma collection.

Cost of Product Sales and Contract Manufacturing

Cost of product sales and contract manufacturing increased by $8.3 million, or 30%, to $35.6 million for the three months ended June 30, 2016 from $27.3 million for the three months ended June 30, 2015. The increase was attributable to an increase in rejected BioThrax work-in-process material, as well as increased Aptevo and other Biodefense product sales, partially offset by a decrease in BioThrax sales to the CDC.

Research and Development Expenses

Research and development expenses decreased by $5.6 million, or 14%, to $35.3 million for the three months ended June 30, 2016 from $40.9 million for the three months ended June 30, 2015. This decrease primarily reflects lower contract service costs. Net of contracts, grants and collaborations revenues, we incurred net research and development expenses of $2.6 million and $5.7 million during the three months ended June 30, 2016 and 2015, respectively.

Our principal research and development expenses for the three months ended June 30, 2016 and 2015 are shown in the following table:

(in thousands)	Three Months Ended June 30, 2016	2015	Change	% Change

Biodefense:				
Large-scale manufacturing for BioThrax	$ 998	$ 2,201	$ (1,203)	(55%)
BioThrax related programs	898	592	306	52%
PreviThrax	176	2,036	(1,860)	(91%)
NuThrax	5,280	2,505	2,775	111%
Pandemic influenza	146	109	37	34%
Anthrasil	166	10,993	(10,827)	(98%)
Botulinum antitoxin	1,095	2,260	(1,165)	(52%)
EV-035 series of molecules	839	955	(116)	(12%)
CIADM task orders	4,877	-	4,877	N/A
VIGIV	3,368	421	2,947	700%
Emergard	2,498	791	1,707	216%
Other Biodefense	6,074	6,673	(599)	(9%)
Total Biodefense	26,415	29,536	(3,121)	(11%)
Aptevo:				
MOR209/ES414	1,677	1,893	(216)	(11%)
IXINITY	881	5,242	(4,361)	(83%)
otlertuzumab	928	799	129	16%
5E3 (formerly Alzheimer's)	120	585	(465)	(79%)
Other ADAPTIR related programs	3,886	1,934	1,952	101%
Other Aptevo	1,440	952	488	51%
Total Aptevo	8,932	11,405	(2,473)	(22%)
Total	$ 35,347	$ 40,941	$ (5,594)	(14%)

The decrease in expense for large-scale manufacturing for BioThrax was primarily due to the timing of manufacturing development activities. The increase in expense for BioThrax related programs was primarily related to the timing of clinical studies to support applications for label expansion for BioThrax. The decrease in expense for PreviThrax was primarily due to the timing of non-clinical studies. In light of reduced funding by the U.S. government for this product candidate, we expect the spending for PreviThrax will be minimal in the future. The increase in expense for NuThrax was primarily due to the timing of non-clinical animal studies and manufacturing activities. The spending for Pandemic influenza was primarily for manufacturing development activities. The decrease in expense for our Anthrasil program was primarily due to the timing of plasma collection services. The decrease in expense for our Botulinum antitoxin program was primarily due to the timing of stability testing and plasma collection. The expense for the EV-035 series of molecules was primarily related to the timing of preclinical formulation development activities. The expense for CIADM task orders awarded in 2015 was primarily for manufacturing development for Ebola monoclonal antibodies. The increase in expense for VIGIV was primarily due to plasma collection. The increase in expense for Emergard was primarily for formulation development. The spending for our Other Biodefense activities was primarily for our funded pre-clinical product candidates and manufacturing development activities.

The decrease in expense for the MOR209/ES414 product candidate was primarily due to the timing of manufacturing activities, along with reimbursement for clinical material from MorphoSys. The decrease in expense for our IXINITY product was primarily due to the timing of manufacturing process development activities and the timing of clinical trial activities. The spending for the otlertuzumab product candidate was primarily related to clinical trial activities. The decrease in expense for 5E3 was primarily due to early stage non-clinical activities. The increase in expense for Other ADAPTIR related programs was primarily due to an increase in characterization and non-clinical activities. The increase in expense for Other Aptevo was associated the timing of centralized research and development activities attributable to product candidates.

Selling, General and Administrative Expenses

	Three Months Ended June 30,			
(in thousands)	**2016**	**2015**	**Change**	**% Change**
Biodefense	$ 35,626	$ 25,969	$ 9,657	37%
Aptevo	8,522	10,484	(1,962)	(19%)
Total selling, general and administrative expenses	$ 44,148	$ 36,453	$ 7,695	21%

The increase includes costs associated with the Aptevo spin-off along with increased professional services to support our strategic growth initiatives, higher IXINITY selling costs, and increased information technology investments.

Total Other Expense

Total net other expense decreased by $0.6 million, or 32%, to $1.3 million for the three months ended June 30, 2016 from $1.9 million for the three months ended June 30, 2015.

Provision for (Benefit from) Income Taxes

Provision for (benefit from) income taxes decreased by $9.4 million to a benefit from income taxes of $3.9 million for the three months ended June 30, 2016 from a provision for income taxes of $5.5 million for the three months ended June 30, 2015. The decrease in the provision for (benefit from) income taxes was primarily due to the $34.5 million decrease in our pre-tax income.

Six Months Ended June 30, 2016 Compared to Six Months Ended June 30, 2015

Revenues

	Six Months Ended June 30,			
(in thousands)	**2016**	**2015**	**Change**	**% Change**
Product sales:				
BioThrax	$ 99,139	$ 72,241	$ 26,898	37%
Other Biodefense	12,966	14,810	(1,844)	(12%)
Total Biodefense	112,105	87,051	25,054	29%
Aptevo products	18,147	13,263	4,884	37%
Total product sales	130,252	100,314	29,938	30%

Contract manufacturing	17,743	21,102	(3,359)	(16%)
Contracts, grants and collaborations	64,494	68,329	(3,835)	(6%)
Total revenues	$ 212,489	$ 189,745	$ 22,744	12%

Product Sales:

The increase in BioThrax sales was primarily due to the suspension of shipments to the CDC during the first quarter of 2015 following the discovery of foreign particles in a limited number of vials in two manufactured lots of BioThrax, resulting in reduced sales volume in the first half of 2015. The decrease in Other Biodefense revenues was primarily due to the timing of RSDL shipments. The increase in Aptevo sales was mainly due to increased sales of IXINITY.

Contract Manufacturing:

The decrease is primarily due to a decrease of $3.8 million from services related to the production of an MVA Ebola vaccine in 2015.

Contracts, Grants and Collaborations:

The decrease in contracts, grants and collaborations was primarily due to:

- § decreased development funding of $31.2 million for Anthrasil related to the timing of plasma collection during 2015;
- § decreased development funding of $5.6 million for PreviThrax due to reduced interest by the U.S. government for the product candidate;
- § increased development funding of $18.6 million related to our CIADM program, including $8.0 million from new CIADM task orders; and
- § increased development funding of $15.5 million for VIGIV related to plasma collection.

Cost of Product Sales and Contract Manufacturing

Cost of product sales and contract manufacturing increased by $18.1 million, or 39%, to $64.1 million for the six months ended June 30, 2016 from $46.0 million for the six months ended June 30, 2015. The increase was attributable to the increase in sales of BioThrax to the CDC, along with an increase in rejected BioThrax work-in-process material during the second quarter of 2016.

Research and Development Expenses

Research and development expenses decreased by $10.1 million, or 13%, to $69.5 million for the six months ended June 30, 2016 from $79.6 million for the six months ended June 30, 2015. This decrease primarily reflects lower contract service costs. Net of contracts, grants and collaborations revenues, we incurred net research and development expenses of $5.0 million and $11.3 million during the six months ended June 30, 2016 and 2015, respectively.

Our principal research and development expenses for the six months ended June 30, 2016 and 2015 are shown in the following table:

	Six Months Ended June 30,			
(in thousands)	**2016**	**2015**	**Change**	**% Change**
Biodefense:				
Large-scale manufacturing for BioThrax	$ 3,379	$ 4,949	$ (1,570)	(32%)
BioThrax related programs	1,690	1,283	407	32%
PreviThrax	1,076	3,801	(2,725)	(72%)
NuThrax	9,666	5,334	4,332	81%
Pandemic influenza	887	1,226	(339)	(28%)
Anthrasil	448	21,607	(21,159)	(98%)
Botulinum antitoxin	2,151	3,699	(1,548)	(42%)
EV-035 series of molecules	1,641	1,719	(78)	(5%)
CIADM task orders	7,700	-	7,700	N/A
VIGIV	5,955	722	5,233	725%
Emergard	5,170	1,199	3,971	331%
Other Biodefense	12,385	12,622	(237)	(2%)
Total Biodefense	52,148	58,161	(6,013)	(10%)
Aptevo:				
MOR209/ES414	3,474	2,552	922	36%
IXINITY	3,106	10,603	(7,497)	(71%)
otlertuzumab	1,450	1,994	(544)	(27%)
5E3 (formerly Alzheimer's)	480	1,145	(665)	(58%)
Other ADAPTIR related programs	6,957	3,733	3,224	86%
Other Aptevo	1,886	1,455	431	30%
Total Aptevo	17,353	21,482	(4,129)	(19%)
Total	$ 69,501	$ 79,643	$ (10,142)	(13%)

The decrease in expense for large-scale manufacturing for BioThrax was primarily due to the timing of manufacturing development activities. The increase in expense for BioThrax related programs was primarily related to the timing of clinical studies to support applications for label expansion for BioThrax. The decrease in expense for PreviThrax was primarily due to the timing of non-clinical studies. In light of reduced funding by the U.S. government for this product candidate, we expect the spending for PreviThrax will be minimal in the future. The increase in expense for NuThrax was primarily due to the timing of non-clinical animal studies and manufacturing activities. The decrease in expense for Pandemic influenza was primarily due to the timing of manufacturing development activities. The decrease in expense for our Anthrasil program was primarily due to the timing of plasma collection services. The decrease in expense for our Botulinum antitoxin program was primarily due to the timing of stability testing and plasma collection. The spending for the EV-035 series of molecules was primarily related to the timing of preclinical formulation development activities. The expense for CIADM task orders awarded in 2015 was primarily for manufacturing development for Ebola monoclonal antibodies. The increase in expense for VIGIV was primarily due to plasma collection. The increase in expense for Emergard was primarily for formulation development. The increase in expense for our Other Biodefense activities was primarily due to increased expense related to our funded pre-clinical product candidates and manufacturing development activities.

The increase in expense for the MOR209/ES414 product candidate was primarily due to the timing of manufacturing activities, along with reimbursement for clinical material from MorphoSys. The decrease in expense for our IXINITY product was primarily due to the timing of manufacturing process development activities and the timing of clinical trial activities. The decrease in expense for the otlertuzumab product candidate was primarily related to the timing of clinical trial activities. The decrease in expense for 5E3 was primarily due to early stage non-clinical activities. The increase in expense for

Other ADAPTIR related programs was primarily due to an increase in characterization and non-clinical activities. The increase in expense for Other Aptevo was associated the timing of centralized research and development activities attributable to product candidates.

Selling, General and Administrative Expenses

(in thousands)	Six Months Ended June 30, 2016	2015	Change	% Change
Biodefense	$ 65,712	$ 51,579	$ 14,133	27%
Aptevo	18,220	19,367	(1,147)	(6%)
Total selling, general and administrative expenses	$ 83,932	$ 70,946	$ 12,986	18%

The increase includes costs associated with the Aptevo spin-off along with increased professional services to support our strategic growth initiatives, higher IXINITY selling costs, and increased information technology investments.

Total Other Expense

Total net other expense decreased by $0.8 million, or 24%, to $2.5 million for the six months ended June 30, 2016 from $3.3 million for the six months ended June 30, 2015.

Benefit from Income Taxes

Benefit from income taxes decreased by $2.2 million to a benefit from income taxes of $0.6 million for the six months ended June 30, 2016 from a benefit from income taxes of $2.8 million for the six months ended June 30, 2015. The decrease in the benefit from income taxes was primarily due to the $2.6 million decrease in our pre-tax loss. For the six months ended June 30, 2016 and 2015, our estimated effective annual tax rate was 29% and 27%, respectively. For the six months ended June 30, 2016, the benefit from income taxes included a one-time non-cash charge of $1.6 million associated with tax planning and restructuring activities.

Liquidity and Capital Resources

Sources of Liquidity

From inception through June 30, 2016, we have funded our cash requirements principally with a combination of revenues from sales of BioThrax, debt financing, development funding from government entities, non-government and philanthropic organizations, and collaborative partners, the net proceeds from our initial public offering and the sale of our common stock upon exercise of stock options. We have operated profitably for each of the five years ended December 31, 2015. As of June 30, 2016, we had cash and cash equivalents of $333.4 million.

At the closing of the spin-off of Aptevo from Emergent, Emergent provided to Aptevo cash of $45 million from its cash reserves, along with a commitment in the form of a promissory note to provide another $20 million within six to 12 months after the separation.

Cash Flows

The following table provides information regarding our cash flows for the six months ended June 30, 2016 and 2015:

(in thousands)	Six Months Ended June 30, 2016	2015
Net cash provided by (used in):		
Operating activities(i)	$ 35,851	$ (63,378)
Investing activities	(39,246)	(19,681)
Financing activities	23,995	17,401
Net increase (decrease) in cash and cash equivalents	$ 20,600	$ (65,658)

(i) Includes the effect of exchange rates on cash and cash equivalents.

Net cash provided by operating activities of $35.9 million for the six months ended June 30, 2016 was primarily due to our net loss of $7.0 million, an increase in inventories of $19.7 million primarily due to the timing of deliveries of BioThrax to the CDC and a decrease of $14.0 million in income taxes related to quarterly estimated tax payments to federal and state tax jurisdictions, partially offset by a $53.9 million decrease in accounts receivable related to the timing of collection of amounts billed primarily to the CDC along with non-cash charges of $17.8 million for depreciation and amortization.

Net cash used in operating activities of $63.4 million for the six months ended June 30, 2015 was primarily due to our net loss of $7.4 million, a decrease in income taxes of $16.1 million related to timing differences, a decrease in accounts receivable of $40.9 million related to timing of collection of amounts billed primarily to the CDC, and an increase in inventories of $19.0 million primarily due to the timing of deliveries of BioThrax to the CDC, partially offset by a non-cash charge of $17.3 million for depreciation and amortization.

Net cash used in investing activities of $39.2 million for the six months ended June 30, 2016 was due to infrastructure and equipment investments, including the construction of a third manufacturing suite at our Baltimore CIADM manufacturing facility.

Net cash used in investing activities of $19.7 million for the six months ended June 30, 2015 was due to infrastructure and equipment investments.

Net cash provided by financing activities of $24.0 million for the six months ended June 30, 2016 was primarily due to $14.5 million in proceeds from the issuance of common stock pursuant to employee equity plans and $10.4 million in excess tax benefits from exercise of stock options.

Net cash provided by financing activities of $17.4 million for the six months ended June 30, 2015 was primarily due to $13.2 million in proceeds from the issuance of common stock pursuant to employee equity plans and $7.2 million in excess tax benefits from the exercise of stock options, partially offset by $5.0 million in contingent obligation payments.

Funding Requirements

We expect to continue to fund our anticipated operating expenses, capital expenditures, debt service requirements and any future repurchase of our common stock from existing cash and cash equivalents, revenues from product sales; development contract, grant and collaboration funding; contract manufacturing services and our revolving credit facility and any other lines of credit we may establish from time to time. There are numerous risks and uncertainties associated with product sales and with the development and commercialization of our product candidates. We may seek additional external financing to provide additional financial flexibility. Our future capital requirements will depend on many factors, including:

- the level, timing and cost of product sales;
- the extent to which we acquire or invest in and integrate companies, businesses, products or technologies;
- the acquisition of new facilities and capital improvements to new or existing facilities;
- the payment obligations under our indebtedness;
- the scope, progress, results and costs of our development activities;
- our ability to obtain funding from collaborative partners, government entities and non-governmental organizations for our development programs;
- to the extent to which we repurchase our common stock under our share repurchase program; and
- the costs of commercialization activities, including product marketing, sales and distribution.

If our capital resources are insufficient to meet our future capital requirements, we will need to finance our cash needs through public or private equity or debt offerings, bank loans or collaboration and licensing arrangements. In May 2015, we filed an automatic shelf registration statement, which immediately became effective under SEC rules. For so long as we continue to satisfy the requirements to be deemed a "well-known seasoned issuer" under SEC rules, this shelf registration statement, effective until May 2018, allows us to issue an unrestricted amount of equity, debt and certain other types of securities through one or more future primary or secondary offerings. If we raise funds by issuing equity securities, our stockholders may experience dilution. Public or bank debt financing, if available, may involve agreements that include covenants, like those contained in our senior secured revolving credit facility, which could limit or restrict our ability to take specific actions, such as incurring additional debt, making capital expenditures, pursuing acquisition opportunities, buying back shares or declaring dividends. If we raise funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies or product candidates or grant licenses on terms that may not be favorable to us.

We are not restricted under the terms of the indenture governing our senior convertible notes from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions that are not limited by the terms of the indenture governing our notes that could have the effect of diminishing our ability to make payments on our indebtedness. However, our credit facility restricts our ability to incur additional indebtedness, including secured indebtedness.

Current economic conditions may make it difficult to obtain financing on attractive terms, or at all. If financing is unavailable or lost, our business, results of operations and financial condition would be adversely affected and we could be forced to delay, reduce the scope of or eliminate many of our planned activities.

Share Repurchase Program

On July 14, 2016, our board of directors authorized our management to repurchase, from time to time, up to an aggregate of $50 million of our common stock under a board-approved share repurchase program. The timing, amount, and price of any repurchases will be made pursuant to one or more 10b5-1 plans. The term of the board authorization of the repurchase program is until December 31, 2017. The plan will permit shares to be repurchased when we might otherwise be precluded from doing so under insider trading laws. The repurchase program may be suspended or discontinued at any time. Any repurchased shares will be available for use in connection with Emergent's stock plans and for other corporate purposes.

ITEM 3. ***QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK***

Our exposure to market risk is currently confined to our cash and cash equivalents. We currently do not hedge interest rate exposure or foreign currency exchange exposure, and the movement of foreign currency exchange rates could have an adverse or positive impact on our results of operations. We have not used derivative financial instruments for speculation or trading purposes. Because of the short-term maturities of our cash and cash equivalents, we believe that an increase in market rates would likely not have a significant impact on the realized value of our investments, but any increase in market rates would likely increase the interest expense associated with our debt.

ITEM 4. ***CONTROLS AND PROCEDURES***

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2016. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2016, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

As of June 30, 2016, we completed the implementation of the enterprise resource planning ("ERP") system for our Biodefense business segment along with Aptevo. In connection with the implementation, we updated the processes that constitute our internal control over financial reporting, as necessary, to accommodate related changes to our business processes and accounting procedures.

Although the processes that constitute our internal control over financial reporting have been materially affected by the implementation of this system and will require testing for effectiveness as the implementation progresses, we do not believe that the implementation has had or will have a material adverse effect on our internal control over financial reporting.

Except as otherwise described above, there have been no other changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the six months ended June 30, 2016, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. ***LEGAL PROCEEDINGS***

From time to time, we may be involved in various legal proceedings and claims that arise in or outside the ordinary course of our business. We believe that the outcome of these pending legal proceedings in the aggregate is unlikely to have a material adverse effect on our business, financial condition or results of operations.

Purported Shareholder Class Action Lawsuit filed July 19, 2016

On July 19, 2016, Plaintiff William Sponn, or Sponn, filed a putative class action complaint in the United States District Court for the District of Maryland on behalf of purchasers of the Company's common stock between January 11, 2016 and June 21, 2016, inclusive, or the Class Period, seeking to pursue remedies under the Securities Exchange Act of 1934 against the Company and certain of its senior officers and directors, collectively, the Defendants.

The complaint alleges, among other things, that the Company made materially false and misleading statements about the government's demand for BioThrax and expectations that the Company's five-year exclusive procurement contract with HHS would be renewed and omitted certain material facts. Sponn is seeking unspecified damages, including legal costs.

The Defendants believe that the allegations in the complaint are without merit and intend to defend themselves vigorously against those claims.

ITEM 1A. RISK FACTORS

You should carefully consider, among other matters, the following risk factors in addition to the other information in this Quarterly Report on Form 10-Q when evaluating our business because these risk factors may have a significant impact on our business, financial condition, operating results or cash flow. If any of the risks described below or in subsequent reports we file with the SEC actually occur, they may materially harm our business, financial condition, operating results or cash flow. Additional risks and uncertainties that we have not yet identified or that we presently consider to be immaterial may also materially harm our business, financial condition, operating results or cash flow.

THE SPIN-OFF OF OUR BIOSCIENCES BUSINESS

We may not realize some or all of the anticipated benefits of the spin-off of Aptevo due to a number of factors.

On August 1, 2016, the company completed the spin-off of Aptevo Therapeutics Inc. Aptevo is now an independent public company trading under the symbol "APVO" on the NASDAQ Global Select Market. We may not realize some or all of the anticipated strategic, financial or other benefits from the spin-off. The two independent companies are smaller, less diversified with a narrower business focus and may be more vulnerable to changing market conditions, which could materially and adversely affect Emergent's business, financial condition and results of operations. Further, the combined value of the common stock of the two publicly-traded companies may not be equal to or greater than what the value of our common stock would have been had the spin-off not occurred.

If our distribution on August 1, 2016 of all of the outstanding shares of Aptevo common stock to our stockholders, together with certain related transactions, does not qualify as a tax-free transaction for U.S. federal income tax purposes, we and our stockholders could be subject to significant tax liabilities.

It is intended that our distribution on August 1, 2016 of all of the outstanding shares of Aptevo common stock to our stockholders, or the Distribution, together with certain related transactions, qualify as a tax-free transaction described under Sections 355 and 368(a)(1)(D) of the Internal Revenue Code of 1986, as amended, or the Code. In anticipation of the Distribution, we received a favorable private letter ruling from the Internal Revenue Service, or the IRS, regarding certain U.S. federal income tax matters relating to the Distribution and certain related transaction and an opinion of counsel substantially to the effect that, for U.S. federal income tax purposes, the Distribution, together with certain related transactions, will qualify as a transaction described under Sections 355 and 368(a)(1)(D) of the Code. However, the IRS private letter ruling is based on certain facts and representations submitted by us to the IRS and the opinion of counsel was based upon and relied on, among other things, the IRS private letter ruling and certain facts and assumptions, as well as certain representations and covenants of Emergent and Aptevo contained in a tax matters agreement and certain representations contained in representation letters provided by Emergent, Aptevo and certain stockholders to such counsel, including representations and covenants relating to the past and future conduct of Emergent, Aptevo and such stockholders. If any of these facts, assumptions, representations, or covenants are, or become, inaccurate or incomplete, the IRS private letter ruling and/or the opinion of counsel may be invalid and the conclusions reached therein could be jeopardized and, as a result, the Distribution, together with certain related transactions, could fail to qualify as a tax-free transaction described under Sections 355 and 368(a)(1)(D) of the Code for U.S. federal income tax purposes.

In addition, the IRS private letter ruling only addresses certain limited matters relevant to determining whether the Distribution, together with certain related transactions, qualifies as a transaction described under Sections 355 and 368(a)(1)(D) of the Code, and the opinion of counsel only represents the judgment of such counsel, which is not binding on the IRS or any court. Accordingly, notwithstanding the IRS private letter ruling and the opinion of counsel, there can be no assurance that the IRS will not assert that the Distribution, together with certain related transactions, should be treated as a taxable transaction for U.S. federal income tax purposes or that a court would not sustain such a challenge.

If the Distribution, together with certain related transactions, fails to qualify as a tax-free transaction described under Sections 355 and 368(a)(1)(D) of the Code, for U.S. federal income tax purposes, in general, (i) we would recognize taxable gain on the Distribution equal to the amount by which the fair market value of the Aptevo shares distributed to our shareholders exceeded our tax basis in the Aptevo shares and (ii) each of our shareholders who received Aptevo shares in the Distribution would be treated as receiving a taxable distribution equal to the fair market value of the Aptevo shares received by such shareholder.

Under the tax matters agreement that we entered into with Aptevo in connection with the spin-off, Aptevo may be required to indemnify us against any tax liabilities and related expenses resulting from the failure of the Distribution, together with certain related transactions, to qualify as a transaction described under Sections 355 and 368(a)(1)(D) of the Code to the extent that the failure to so qualify is attributable to actions, events or transactions relating to Aptevo's stock, assets or business, or a breach of the relevant representations or covenants made by Aptevo in the tax matters agreement or the IRS private letter ruling or in the representation letters provided to our counsel for purposes of their opinion. Any such indemnity obligations could be material, and there can be no assurance that Aptevo will be able to pay any such indemnification.

To preserve the tax-free treatment of the Distribution, together with certain related transactions, and in addition to Aptevo's indemnity obligation, the tax matters agreement restricts Aptevo from taking any action that prevents such transactions from being tax-free for U.S. federal income tax purposes. In particular, for the two-year period following the Distribution, Aptevo is restricted from taking certain actions (including restrictions on share issuances, business combinations, sales of assets, amendments to organizational documents and similar transactions) that could cause the Distribution, together with certain related transactions, to fail to qualify as a tax-free transaction for U.S. federal income tax purposes. There can be no assurance that Aptevo will comply with these restrictions. Failure of Aptevo to satisfy its obligations could have a substantial impact on our tax obligations, consolidated financial condition and cash flows.

GOVERNMENT CONTRACTING RISKS

We derive the majority of our revenue from sales of BioThrax to our principal customer, the U.S. government. If the U.S. government's demand for and funding for procurement of BioThrax is reduced or our next generation anthrax vaccine candidate NuThrax is not selected for advanced development and procurement under the recent U.S. government solicitation seeking a next generation vaccine for post-exposure prophylaxis of anthrax disease, our business, financial condition, operating results and cash flow could be materially harmed.

We have derived and expect for the foreseeable future to derive the majority of our revenue from sales of BioThrax, our anthrax vaccine licensed by the U.S. Food and Drug Administration, or the FDA, to the U.S. government. We are currently party to a contract with the Centers for Disease Control and Prevention, or the CDC, for the supply of up to 44.75 million doses of BioThrax for placement into the Strategic National Stockpile, or the SNS, over a five-year period, which is scheduled to expire on September 30, 2016.

On June 21, 2016, the U.S. Department of Health and Human Service, or HHS, issued two solicitation notices with respect to the development and procurement of anthrax vaccines for the SNS. HHS issued a Sole Source Notification indicating its intention by September 23, 2016 to award Emergent a

follow-on contract for the purchase of 29.4 million doses of BioThrax with a period of performance of five years. The solicitation does not state the number of doses expected to be procured per year. The terms of the contract, including the price per dose and the timing of deliveries, remain subject to contract negotiation, and there can be no assurance that an agreed follow-on contract will be in place by September 23, 2016, or at all. In addition, the procurement of doses of BioThrax by the CDC remains subject to the availability of funding. For example, by letter dated April 26, 2016, the CDC indicated that it anticipates that the quantity of BioThrax it plans to purchase for the remaining term of the existing contract will be less than the total remaining doses available to be purchased under the existing contract, and the CDC did not quantify the reduced number of doses it intends to purchase under the existing contract.

In conjunction with the Sole Source Notification with respect to BioThrax, on June 21, 2016, HHS issued a request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease. The company has submitted its response to the HHS request for proposal with respect to its NuThrax vaccine candidate. The vaccine candidate, as outlined in the solicitation, must have the ability to confer protection in one or two doses, a favorable safety profile following completion of clinical studies through Phase 2, demonstrated efficacy in non-clinical studies and manufacturing consistency necessary to advance towards approval by Emergency Use Authorization, or EUA. The contract is for the development of the vaccine candidate to licensure as well as for the purchase and delivery of an initial two million doses of a next generation anthrax vaccine to the SNS, with potential additional procurement of 12 million doses up to 25 million dose regimens of final drug product, which is the equivalent of up to 50 million doses of NuThrax.

There can be no assurance that HHS will select our next generation anthrax vaccine candidate NuThrax for advanced development and procurement. There is also no assurance that HHS will proceed with selecting any vaccine candidate or that if we are selected, HHS's decision will not be the subject of a protest, which, if successful, could lead to delays or denials of any awarded contract. Our existing contract with the CDC for BioThrax does not, and any follow-on procurement contract for BioThrax or for the advanced development and procurement of NuThrax (if selected) will not, guarantee that funding for the procurement of doses will be made available. In addition, if the SNS priorities change, funding to procure doses of BioThrax, or NuThrax (if selected), may be limited or not available, and our business, financial condition and operating results could be materially harmed. The success of our business and our operating results for the foreseeable future are significantly dependent on the level of funding for the procurement of BioThrax or NuThrax (if selected) and the terms of our BioThrax or NuThrax sales to the U.S. government, including the price per dose, the number of doses and the timing of deliveries. If the U.S. government's demand for and level of funding for procurement of BioThrax is reduced, or if our next generation vaccine candidate NuThrax is not selected for advanced development and procurement, our business, financial condition, operating results and cash flow could be materially harmed.

Our U.S. government procurement and development contracts require ongoing funding decisions by the U.S. government. Non-selection of our products or product candidates, or reduced or discontinued funding of these contracts could cause our business, financial condition, operating results and cash flow to suffer materially.

Our principal customer for BioThrax, BAT, Anthrasil, VIGIV and RSDL is the U.S. government. We anticipate that the U.S. government will also be a principal customer for other Biodefense products that we successfully acquire or develop. Additionally, a significant portion of our revenue comes from U.S. government development contracts and grants. Over its lifetime, a U.S. government procurement or development program may be implemented through the award of many different individual contracts and subcontracts. The funding for such government programs is subject to Congressional appropriations, generally made on a fiscal year basis, even for programs designed to continue for several years. For example, sales of BioThrax supplied under our current multi-year procurement contract with the CDC as well as sales of BioThrax to be supplied under our expected follow-on procurement contract with the CDC are subject to the availability of funding, mostly from annual appropriations. These appropriations can be subject to political considerations and stringent budgetary constraints. For example, in April 2016, we were notified by BARDA that, after prioritization of its development funding, BARDA would not be exercising the clinical trial option for our PreviThrax rPA vaccine development program. As a consequence of this decision, we determined to cease further development work on our PreviThrax vaccine product candidate. Additionally, our government-funded development contracts typically give the U.S. government the right, exercisable in its sole discretion, to extend these contracts for successive option periods following a base period of performance. The value of the services to be performed during these option periods may constitute the majority of the total value of the underlying contract. For example, the development contract we were awarded in September 2014 for the development of a dry formulation of NuThrax consists of a two-year base period of performance valued at approximately $7.3 million and thirteen options over a five-year period for a total contract value of approximately $29 million**.** In addition, in response to the June 21, 2016 HHS request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease, we have responded to this HHS request for proposal with respect to our NuThrax vaccine candidate. If our next generation vaccine candidate NuThrax is not selected for advanced development and procurement or if levels of government expenditures and authorizations for biodefense decrease or shift to programs in areas where we do not offer products or are not developing product candidates, or if the U.S. government otherwise declines to exercise its options under our contracts, our business, revenues and operating results would suffer.

The government contracting process is typically a competitive bidding process and involves unique risks and requirements.

Our business involves government contracts and grants, which may be awarded through competitive bidding. Competitive bidding for government contracts presents a number of risks and requirements, including:

- the commitment of substantial time and attention of management and key employees to the preparation of bids and proposals for contracts that may not be awarded to us;
- the need to accurately estimate the resources and cost structure that will be required to perform any contract that we might be awarded;
- the possibility that we may be ineligible to respond to a request for proposal issued by the government;
- the submission by third parties of protests to our responses to requests for proposal that could result in delays or withdrawals of those requests for proposal; and
- in the event our competitors protest or challenge contract or grant awards made to us pursuant to competitive bidding, the potential that we may incur expenses or delays, and that any such protest or challenge would result in the resubmission of bids based on modified specifications, or in the termination, reduction or modification of the awarded contract.

The U.S. government may choose not to award us future contracts for the development of our Biodefense product candidates or for the procurement of our Biodefense products, and may instead award such contracts to our competitors. If we are unable to secure particular contracts, we may not be able to operate in the market for products that are provided under those contracts. Additionally, if we are unable to consistently win new contract awards over an extended period, or if we fail to anticipate all of the costs or resources that we will be required to secure and, if applicable, perform under such contract awards, our growth strategy and our business, financial condition and operating results could be materially and adversely affected.

Laws and regulations affecting government contracts make it more costly and difficult for us to successfully conduct our business. Failure to comply with these laws could result in significant civil and criminal penalties and materially damage our relationship with the U.S. government.

We must comply with numerous laws and regulations relating to the procurement, formation, administration and performance of government contracts. Among the most significant government contracting regulations that affect the business of our Biodefense division are:

- the Federal Acquisition Regulation, or FAR, and agency-specific regulations supplemental to FAR, which comprehensively regulate the award, formation, administration and performance of government contracts;
- the Defense Federal Acquisition Regulations, or DFARs, and agency-specific regulations supplemental to DFARs, which comprehensively regulate the award, formation, administration and performance of U.S. Department of Defense, or DoD, government contracts;
- business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the Anti-Kickback Act, the Procurement Integrity Act, the False Claims Act and the Foreign Corrupt Practices Act;
- export and import control laws and regulations, including but not limited to ITAR (International Traffic in Arms Regulations); and
- laws, regulations and executive orders restricting the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

U.S. government agencies routinely audit and investigate government contractors for compliance with applicable laws and standards. If we are audited and such audit were to uncover improper or illegal activities, we could be subject to civil and criminal penalties, administrative sanctions, including suspension or debarment from government contracting and significant reputational harm.

The amount we are paid under our fixed price government procurement contracts is based on estimates we have made of the time, resources and expenses required for us to perform under those contracts. If our actual costs exceed our estimates, we may not be able to earn an adequate return or may incur a loss under these contracts, which could harm our operating results and materially reduce our net income.

Some of our current contracts with the U.S. Department of Health and Human Services, or HHS, and the DoD for the procurement of our Biodefense products are fixed price contracts. We expect that our potential future contracts with the U.S. government for our Biodefense products also may be fixed price contracts. Under a fixed price contract, we are required to deliver our products at a fixed price regardless of the actual costs we incur. Estimating costs that are related to performance in accordance with contract specifications is difficult, particularly where the period of performance is over several years. Our failure to anticipate technical problems, estimate costs accurately or control costs during performance of a fixed price contract could reduce the profitability of such a contract or cause a loss, which could harm our operating results and materially reduce our net income.

Unfavorable provisions in government contracts, some of which may be customary, may subject our business to material limitations, restrictions and uncertainties and may have a material adverse impact on our financial condition and operating results.

Government contracts customarily contain provisions that give the U.S. government substantial rights and remedies, many of which are not typically found in commercial contracts, including provisions that allow the U.S. government to:

- terminate existing contracts, in whole or in part, for any reason or no reason;
- unilaterally reduce or modify contracts or subcontracts, including by imposing equitable price adjustments;
- cancel multi-year contracts and related orders, if funds for contract performance for any subsequent year become unavailable;
- decline, in whole or in part, to exercise an option to purchase product under a procurement contract or to fund additional development under a development contract;
- decline to renew a procurement contract;
- § claim rights to facilities or to products, including intellectual property, developed under the contract;
- require repayment of contract funds spent on construction of facilities in the event of contract default;
- take actions that result in a longer development timeline than expected;
- direct the course of a development program in a manner not chosen by the government contractor;
- suspend or debar the contractor from doing business with the government or a specific government agency;
- pursue civil or criminal remedies under acts such as the False Claims Act and False Statements Act; and
- control or prohibit the export of products.

Generally, government contracts, including our contract for procurement of BioThrax, contain provisions permitting unilateral termination or modification, in whole or in part, at the U.S. government's convenience. Under general principles of government contracting law, if the U.S. government terminates a contract for convenience, the government contractor may recover only its incurred or committed costs, settlement expenses and profit on work completed prior to the termination. If the U.S. government terminates a contract for default, the government contractor is entitled to recover costs incurred and associated profits on accepted items only and may be liable for excess costs incurred by the government in procuring undelivered items from another source. Our CDC contract for the procurement of BioThrax is, our expected follow-on contract for the procurement of BioThrax and our future U.S. government procurement and development contracts are likely to be, terminable at the U.S. government's convenience with these potential consequences.

Our U.S. government contracts grant the U.S. government the right to use technologies developed by us under the government contract or the right to share data related to our technologies, for or on behalf of the U.S. government. Under our U.S. government contracts, we might not be able to prohibit third parties, including our competitors, from accessing such technology or data, including intellectual property, in providing products and services to the U.S. government.

COMMERCIALIZATION RISKS

We face substantial competition, which may result in others developing or commercializing products before or more successfully than we do.

The development and commercialization of new biopharmaceutical products is highly competitive and subject to rapid technological advances. We may face future competition with respect to our products, any products that we acquire, our current product candidates and any products we may seek to develop or commercialize in the future from other companies and governments, universities and other non-profit research organizations. Our competitors may develop products that are safer, more effective, more convenient or less costly than any products that we may develop or market. Our competitors may devote greater resources to market or sell their products, adapt more quickly to new technologies, scientific advances or patient preferences and needs, initiate or withstand substantial price competition more successfully than we can, or more effectively negotiate third-party licensing and collaborative arrangements.

There are a number of companies with biodefense products or product candidates competing with us for both U.S. government procurement and development resources. For example, in terms of additional procurement of anthrax countermeasures, HHS awarded an SNS procurement contract to GlaxoSmithKline plc for ABThrax™ (raxibacumab), an FDA-approved anthrax monoclonal antibody therapeutic, and recently awarded an SNS procurement contract to Elusys Therapeutics, Inc. for Anthim (obiltoxaximab), an FDA-approved anthrax monoclonal antibody therapeutic. On June 21, 2016, HHS issued a request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease. There can be no assurance that HHS will select our next generation anthrax vaccine candidate NuThrax for advanced development and procurement under this solicitation.

Any reduction in demand for our products as a result of a competing product could lead to reduced revenues, reduced margins, reduced levels of profitability and loss of market share for our products. These competitive pressures could adversely affect our business and operating results.

Our Biologic Products may face risks of competition from biosimilar manufacturers.

Competition for BioThrax, BAT, Anthrasil, and VIGIV or our "Biologic Products," may be affected by follow-on biologics, or "biosimilars," in the United States and other jurisdictions. Regulatory and legislative activity in the United States and other countries may make it easier for generic drug manufacturers to manufacture and sell biological drugs similar or identical to our Biologic Products, which might affect the profitability or commercial viability of our Biologic Products. Under the Biologics Price Competition and Innovation Act of 2010, the FDA cannot approve a biosimilar application until the 12-year exclusivity period for the innovator biologic has expired. Regulators in the European Union and in other foreign jurisdictions have already approved biosimilars, although the European Medicines Agency has expressly excluded blood or plasma-derived products and their recombinant alternatives from the biosimilar pathway for a period of time. Vaccine and allergen products are considered on a case-by-case basis. The specific regulatory framework for this new approval pathway, whether the FDA will permit biosimilars for blood products and vaccines, and the extent to which an approved biosimilar would be substituted for the innovator biologic are not yet clear and will depend on many factors that are currently unknown. If a biosimilar version of one of our Biologic Products were approved, it could have a material adverse effect on the sales and gross profits of the affected Biologic Product and could adversely affect our business and operating results.

Political or social factors may delay or impair our ability to market our products and may require us to spend significant management time and financial resources to address these issues.

Products developed to treat diseases caused by or to combat Chemical, Biological, Radiological, Nuclear and Explosives, or CBRNE, threats are subject to changing political and social environments. The political responses and social awareness of the risks of biowarfare and bioterrorism attacks on military personnel or civilians may vary over time. If the threat of terrorism were to decline, then the public perception of the risk of bioterrorism may be reduced. This perception, as well as political or social pressures, could delay or cause resistance to bringing our products to market or limit pricing or purchases of our products, any of which could negatively affect our revenues.

In addition, substantial delays or cancellations of purchases could result from protests or challenges from third parties. Lawsuits brought against us by third parties or activists, even if not successful, could require us to spend significant management time and financial resources defending the related litigation and could potentially damage the public's perception of us and our products. Any publicity campaigns or other negative publicity may adversely affect the degree of market acceptance of our Biodefense products and thereby limit the demand for our Biodefense products, which would adversely affect our revenues.

REGULATORY AND COMPLIANCE RISKS

Our long term success depends, in part, upon our ability to develop, receive regulatory approval for and commercialize product candidates and, if we are not successful, our business and operating results may suffer.

Our product candidates and the activities associated with their development, including testing, manufacture, recordkeeping, storage and approval, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Except under limited circumstances related to certain government sales, failure to obtain regulatory approval for a product candidate will prevent us from commercializing the product candidate. We have limited experience in preparing, filing and prosecuting the applications necessary to gain regulatory approvals and expect to rely on third-party contract research organizations and consultants to assist us in this process.

In the United States, to obtain approval from the FDA to market any of our future biologic products, we will be required to submit a biologics license application, or BLA, to the FDA. Ordinarily, the FDA requires a sponsor to support a BLA with substantial evidence of the product's safety and efficacy in treating the targeted indication based on data derived from adequate and well-controlled clinical trials, including Phase III safety and efficacy trials conducted in patients with the disease or condition being targeted.

However, NuThrax or any of our biodefense product candidates, for example, is subject to a different regulatory approval pathway. Specifically, because humans are rarely exposed to anthrax toxins under natural conditions, and cannot be intentionally exposed, statistically significant efficacy for these product candidates cannot be demonstrated in humans. Instead, efficacy must be demonstrated, in part, by utilizing animal models instead of testing in humans. This is known as the FDA's "Animal Rule." We cannot guarantee that the FDA will permit us to proceed with licensure of NuThrax or any Biodefense product candidates under the Animal Rule. Even if we are able to proceed pursuant to the Animal Rule, the FDA may decide that our data are insufficient to support approval and require additional preclinical, clinical or other studies, refuse to approve our products, or place restrictions on our ability to commercialize those products. Furthermore, products approved under the Animal Rule are subject to certain additional post-marketing requirements. For example, to the extent feasible and ethical, manufacturers of products approved pursuant to the Animal Rule must conduct post-marketing studies, such as field studies, to verify and describe the product candidate's clinical benefit and to assess its safety when used as indicated. We cannot guarantee that we will be able to meet this regulatory requirement even if one or more of our product candidates are approved under the Animal Rule.

The process of obtaining these regulatory approvals is expensive, often takes many years if approval is obtained at all, and can vary substantially based upon the type, complexity and novelty of the product candidate involved. Changes in the regulatory approval process during the development period, changes in or the enactment of additional statutes or regulations, or changes in the regulatory review process may cause delays in the approval or rejection of an application.

The FDA has substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient to support approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent regulatory approval of a product candidate.

Even after regulatory approval is received, if we fail to comply with regulatory requirements, or if we experience unanticipated problems with our approved products, they could be subject to restrictions, penalties or withdrawal from the market.

Any vaccine, therapeutic product or medical device for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and other regulatory bodies. Our approved products are subject to these requirements and ongoing review. These requirements include submissions of safety and other post-marketing information and reports, registration requirements, current good manufacturing practices, or cGMP, requirements relating to quality control, quality assurance, restrictions on advertising and promotion, import and export restrictions and recordkeeping requirements. In addition, various state laws require that companies that manufacture and/or distribute drug products within the state obtain and maintain a manufacturer or distributor license, as appropriate. Because of the breadth of these laws, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

The FDA enforces its cGMP and other requirements through periodic unannounced inspections of manufacturing facilities. The FDA is authorized to inspect domestic manufacturing facilities without prior notice at reasonable times and in a reasonable manner. The FDA conducts periodic inspections of our facilities. For example, our Lansing facility was inspected most recently in April 2016, our Winnipeg manufacturing facility was inspected most recently in January 2015, and our Baltimore (Camden) facility was most recently inspected in August 2015. Following each of these inspections, the FDA has issued inspectional observations, some of which were significant, but all of which are being, or have been, addressed through corrective actions. If, in connection with any future inspection, the FDA finds that we are not in substantial compliance with cGMP requirements, or if the FDA is not satisfied with the corrective actions we take, the FDA may undertake enforcement action against us, which may include:

- warning letters and other communications;
- product seizure or withdrawal of the product from the market;
- restrictions on the marketing or manufacturing of a product;
- suspension or withdrawal of regulatory approvals or refusal to approve pending applications or supplements to approved applications;
- fines or disgorgement of profits or revenue; and
- injunctions or the imposition of civil or criminal penalties.

Similar action may be taken against us should we fail to comply with regulatory requirements, or later discover previously unknown problems with our products or manufacturing processes. Even if regulatory approval of a product is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. If we experience any of these post-approval events, our business, financial condition and operating results could be materially and adversely affected.

Failure to obtain or maintain regulatory approval in international jurisdictions could prevent us from marketing our products abroad and could limit the growth of our business.

We currently sell and intend to sell our products outside the United States. To market our products in the European Union and many other foreign jurisdictions, we may need to obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. Approval by the FDA does not ensure approval by foreign regulatory authorities. The approval procedures in foreign jurisdictions can vary widely and can involve additional clinical trials and data review. We and our collaborators may not be able to obtain foreign regulatory approvals on a timely basis, if at all, and therefore we may be unable to commercialize our products internationally.

Our international operations increase our risk of exposure to potential claims of bribery and corruption.

As we expand our commercialization activities outside of the United States, we are subject to an increased risk of inadvertently conducting activities in a manner that violates the U.S. Foreign Corrupt Practices Act, or FCPA, the U.K. Bribery Act, Canada's Corruption of Foreign Public Officials Act, or other similar foreign laws, which prohibit corporations and individuals from paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, government staff member, political party, or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity. In the course of establishing and expanding our commercial operations and seeking regulatory approvals outside of the United States, we will need to establish and expand business relationships with various third parties and will interact more frequently with

foreign officials, including regulatory authorities and physicians employed by state-run healthcare institutions who may be deemed to be foreign officials under the FCPA or similar foreign laws. If our business practices outside the United States are found to be in violation of the FCPA or similar foreign laws, we and our senior management may be subject to significant civil and criminal penalties, potential debarment from public procurement and reputational damage, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

MANUFACTURING RISKS

We are in the process of expanding our manufacturing facilities. Delays in completing our facilities, or delays or failures in obtaining regulatory approvals for our new manufacturing facilities, could impact our future revenues.

We have constructed Building 55, a large-scale manufacturing facility on our Lansing, Michigan campus for which we were awarded a development contract from BARDA in July 2010 to fund the scale-up, qualification, validation and licensure of manufacturing BioThrax at an expanded scale. Additionally, in 2009, we acquired a facility in Baltimore, Maryland, which we intend to utilize for certain product development or manufacturing projects, including projects performed under a separate development contract from BARDA to establish a Center for Innovation in Advanced Development and Manufacturing. The process for qualifying and validating these facilities may result in unanticipated delays and may cost more than expected due to a number of factors, including regulatory requirements. The costs and time required to comply with cGMP regulations or similar foreign regulatory requirements for sales of our products may be significant. In addition, if we experience delays, we may be in breach of the obligations under our government-funded development contracts. We have experienced such delays in the past and may experience further delays in the future. With respect to our Building 55 facility, should the facility licensure activities be delayed, we may not be able to utilize Building 55 to increase our production of BioThrax or manufacture product candidates in our Baltimore facility, which could significantly impact our future revenues, financial condition, operating results and cash flow.

Currently, only Building 12, our small-scale manufacturing facility in Lansing, Michigan, has regulatory approval to manufacture BioThrax. A significant interruption of the ability of this facility to manufacture BioThrax would reduce our revenues and materially harm our business, financial condition, operating results and cash flow.

For the production of BioThrax, we currently rely on our manufacturing facility, Building 12, on our Lansing, Michigan campus. Any interruption in manufacturing operations at this facility would result in our inability to produce BioThrax for delivery to customers, which would reduce our revenues and materially harm our business, financial condition, operating results and cash flow. A number of factors could cause interruptions, including:

- § equipment malfunctions or failures;
- § technology malfunctions;
- § cyber-attacks;
- § work stoppages or slow-downs;
- § protests, including by animal rights activists;
- § injunctions or the imposition of civil or criminal penalties.
- § damage to or destruction of the facility; or
- § product contamination or tampering.

Providers of bioterrorism countermeasures could be subject to an increased risk of terrorist activities. The U.S. government has designated both our Lansing, Michigan and our Biodefense Baltimore facility as facilities requiring additional security. Although we continually evaluate and update security measures, there can be no assurance that any additional security measures would protect our facilities from terrorist efforts determined to disrupt our manufacturing activities.

The factors listed above could also cause disruptions at our other facilities, including our manufacturing facility in Winnipeg, Manitoba, Canada. Any such disruption, damage, or destruction of these facilities could impede our ability to manufacture our Biologic Products, our product candidates and our ability to produce products for external customers, result in losses and delays, including delay in the performance of our contractual obligations or delay in our clinical trials, any of which could be costly to us and materially harm our business, financial condition and operating results.

Even if we receive FDA licensure of Building 55, we may not be able to utilize its full manufacturing capacity.

Building 55, our large-scale manufacturing facility on our Lansing, Michigan campus, is expected to significantly increase our BioThrax manufacturing capacity compared to the capacity of our currently licensed facility Building 12. The FDA has set a Prescription Drug User Fee Act date, or PDUFA date, of August 15, 2016, for review of licensure of Building 55. Even if Building 55 achieves FDA licensure, we may not secure procurement contracts for BioThrax or other products or product candidates sufficient to utilize its full manufacturing capacity. For example, on June 21, 2016, the HHS issued a Sole Source Notification indicating its intention to award Emergent a contract for the purchase of 29.4 million doses of BioThrax by September 23, 2016 with a period of performance of five years. Although the notification does not state the number of doses expected to be procured per year, the 29.4 million doses represents a smaller annual procurement on average over the five-year period of the anticipated contract than under our current contract. An inability to utilize the full manufacturing capacity of Building 55 could impact our future revenues and materially harm our business, financial condition, operating results and cash flows.

Our biologic products and product candidates are complex to manufacture and ship, which could cause us to experience delays in product manufacturing or development and resulting delays in revenues.

BioThrax, BAT, Anthrasil, VIGIV, and many of our current product candidates, including NuThrax, are biologics. Manufacturing biologic products, especially in large quantities, is complex. The products must be made consistently and in compliance with a clearly defined manufacturing process. Problems may arise during manufacturing for a variety of reasons, including problems with raw materials, equipment malfunction and failure to follow specific protocols and procedures. In addition, slight deviations anywhere in the manufacturing process, including obtaining materials, maintaining master seed or cell banks and preventing genetic drift, seed or cell growth, fermentation, contamination including from, among other things, particulates, filtration, filling, labeling, packaging, storage and shipping, and quality control testing, may result in lot failures or manufacturing shut-down, delays in the release of lots, product recalls, spoilage or regulatory action. Such deviations may require us to revise manufacturing processes or change manufacturers. Additionally, as our equipment ages, it will need to be replaced. Replacement of equipment has the potential to introduce variations in the manufacturing process that may result in lot failures or manufacturing shut-down, delay in the release of lots, product recalls, spoilage or regulatory action. Success rates can also vary dramatically at different stages of the manufacturing process, which can reduce yields and increase costs. From time to time, we may experience deviations in the manufacturing process that may take significant time and resources to resolve and, if unresolved, may affect manufacturing output and could cause us to fail to satisfy customer orders or contractual commitments, lead to a termination of one or more of our contracts, lead to delays in our clinical trials, result in litigation or regulatory action against us, including warning letters and other restrictions on the marketing or manufacturing of a product, or cause the FDA to cease releasing product until the deviations are explained and corrected, any of which could be costly to us, damage our reputation and negatively impact our business.

For example, FDA approval is required for the release of each lot of BioThrax. A "lot" is approximately 186,000 doses. We are not able to sell any lots that fail to satisfy the release testing specifications. For example, we must provide the FDA with the results of certain tests, including potency tests, before lots are released for sale. Potency testing of each lot of BioThrax is performed against a qualified control lot that we maintain. We have one mechanism for conducting this potency testing that is reliant on a unique animal strain for which we currently have no alternative. We continually monitor the status of our control lot and periodically produce and qualify a new control lot to replace the existing control lot. If we are not able to produce and qualify a new

control lot or otherwise satisfy the FDA's requirements for release of BioThrax, our ability to sell BioThrax would be impaired until such time as we become able to meet the FDA's requirements, which would significantly impact our revenues, require us to utilize our cash balances to help fund our ongoing operations and otherwise harm our business.

We are contractually required to ship our biologic products at a prescribed temperature range and variations from that temperature range could result in loss of product and could significantly impact our revenues. Delays, lot failures, shipping deviations, spoilage or other loss during shipping could cause us to fail to satisfy customer orders or contractual commitments, lead to a termination of one or more of our contracts, lead to delays in potential clinical trials or result in litigation or regulatory action against us, any of which could be costly to us and otherwise harm our business.

If we are unable to obtain supplies for the manufacture of BioThrax or our other products and product candidates in sufficient quantities and at an acceptable cost, our ability to manufacture BioThrax or to develop and commercialize our other products and product candidates could be impaired, which could harm our revenues, lead to a termination of one or more of our contracts, lead to delays in clinical trials or otherwise harm our business.

We depend on certain single-source suppliers for key materials and services necessary for the manufacture of BioThrax and our other products and product candidates. For example, we rely on a single-source supplier to provide us with Alhydrogel in sufficient quantities to meet our needs to manufacture BioThrax and NuThrax. We also rely on single-source suppliers for the sponge applicator device and the active ingredient used to make RSDL and the specialty plasma in our hyperimmune specialty plasma products. A disruption in the availability of such materials or services from these suppliers could require us to qualify and validate alternative suppliers. If we are unable to locate or establish alternative suppliers, our ability to manufacture our products and product candidates could be adversely affected and could harm our revenues, cause us to fail to satisfy contractual commitments, lead to a termination of one or more of our contracts or lead to delays in our clinical trials, any of which could be costly to us and otherwise harm our business, financial condition and operating results.

Our operations, including our use of hazardous materials, chemicals, bacteria and viruses, require us to comply with regulatory requirements and expose us to significant potential liabilities.

Our operations involve the use of hazardous materials, including chemicals, bacteria and viruses, and may produce dangerous waste products. Accordingly, we, along with the third parties that conduct clinical trials and manufacture our products and product candidates on our behalf, are subject to federal, state, local and foreign laws and regulations that govern the use, manufacture, distribution, storage, handling, exposure, disposal and recordkeeping with respect to these materials. Under the Federal Select Agent Program, pursuant to the Public Health Security and Bioterrorism Preparedness and Response Act, we are required to register with and be inspected by the CDC and the Animal and Plant Health Inspection Service if we have in our possession, or if we use or transfer, select biological agents or toxins that could pose a threat to public health and safety, to animal or plant health or to animal or plant products. This legislation requires stringent safeguards and security measures for these select agents and toxins, including controlled access and the screening of entities and personnel and establishes a comprehensive national database of registered entities. We are also subject to a variety of environmental and occupational health and safety laws. Compliance with current or future laws and regulations can require significant costs and we could be subject to substantial fines and penalties in the event of noncompliance. In addition, the risk of contamination or injury from these materials cannot be completely eliminated. In such event, we could be held liable for substantial civil damages or costs associated with the cleanup of hazardous materials. From time to time, we have been involved in remediation activities and may be so involved in the future. Any related cost or liability might not be fully covered by insurance, could exceed our resources and could have a material adverse effect on our business. In addition to complying with environmental and occupational health and safety laws, we must comply with special regulations relating to biosafety administered by the CDC, HHS, U.S. Department of Agriculture and the DoD, as well as regulatory authorities in Canada.

PRODUCT DEVELOPMENT RISKS

Our business depends on our success in developing and commercializing our product candidates. If we are unable to commercialize these product candidates, or experience significant delays or unanticipated costs in doing so, our business would be materially and adversely affected.

We have invested significant efforts and financial resources in the development of our vaccines, therapeutics and medical device product candidates and the acquisition of additional product candidates. In addition to our product sales, our ability to generate revenue is dependent on a number of factors, including the success of our development programs, the U.S. government's interest in providing development funding for or procuring certain of our Biodefense product candidates, and the commercial viability of our acquired or developed product candidates. The commercial success of our product candidates will depend on many factors, including accomplishing the following in an economical manner:

- successful development, formulation and cGMP scale-up of manufacturing that meets FDA requirements;
- successful program partnering;
- successful completion of clinical or non-clinical development, including toxicology studies and studies in approved animal models;
- receipt of marketing approvals from the FDA and equivalent foreign regulatory authorities;
- establishment of commercial manufacturing processes and product supply arrangements;
- training of a commercial sales force for the product, whether alone or in collaboration with others;
- successful registration and maintenance of relevant patent and/or other proprietary protection; and
- acceptance of the product by potential government customers.

Clinical trials of product candidates are expensive and time-consuming, and their outcome is uncertain. We must invest substantial amounts of time and financial resources in these trials, which may not yield viable products.

Before obtaining regulatory approval for the sale of our product candidates, we and our collaborative partners where applicable must conduct extensive preclinical studies and clinical trials to establish proof of concept and demonstrate the safety and efficacy of our product candidates. Preclinical and clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. Success in preclinical testing and early clinical trials does not ensure that later clinical trials or animal efficacy studies will be successful, and interim results of a clinical trial or animal efficacy study do not necessarily predict final results. An unexpected result in one or more of our clinical trials can occur at any stage of testing.

For certain of our Biodefense product candidates, we expect to rely on the Animal Rule to obtain regulatory approval. The Animal Rule permits, in certain limited circumstances, the use of animal efficacy studies, together with human clinical safety and immunogenicity trials, to support an application for marketing approval. For a product approved under the Animal Rule, certain additional post-marketing requirements apply. For example, to the extent feasible and ethical, applicants must conduct post-marketing studies, such as field studies, to verify and describe the drug's clinical benefit and to assess its safety when used as indicated. We have limited experience in the application of these rules to the product candidates that we are developing. It is possible that results from these animal efficacy studies may not be predictive of the actual efficacy of our product candidates in humans. Under the Project BioShield Act of 2004, or Project BioShield, the Secretary of HHS can contract to purchase countermeasures for the SNS prior to FDA approval of the countermeasure in specified circumstances. Project BioShield also allows the FDA commissioner to authorize the emergency use of medical products that have not yet been approved by the FDA under an Emergency Use Authorization. If our Biodefense product candidates are not selected under this Project BioShield authority, they generally will have to be approved by the FDA through traditional regulatory mechanisms.

We may experience unforeseen events or issues during, or as a result of, preclinical testing, clinical trials or animal efficacy studies. These issues and events, which could delay or prevent our ability to receive regulatory approval for a product candidate, include, among others:

- our inability to manufacture sufficient quantities of materials for use in trials;
- the unavailability or variability in the number and types of subjects for each study;
- safety issues or inconclusive or incomplete testing, trial or study results;
- drug immunogenicity;

- lack of efficacy of product candidates during the trials;
- government or regulatory restrictions or delays; and
- greater than anticipated costs of trials.

We depend on third parties to conduct our clinical and non-clinical trials. If these third parties do not perform as contractually required or as we expect, we may not be able to obtain regulatory approval for or commercialize our product candidates and, as a result, our business may suffer.

We do not have the ability to independently conduct the clinical and non-clinical trials required to obtain regulatory approval for our product candidates. We depend on third parties, such as independent clinical investigators, contract research organizations and other third-party service providers to conduct the clinical and non-clinical trials of our product candidates and expect to continue to do so. We rely heavily on these third parties for successful execution of our clinical and non-clinical trials, but do not exercise day-to-day control over their activities. Our reliance on these service providers does not relieve us of our regulatory responsibilities, including ensuring that our trials are conducted in accordance with good clinical practice regulations and the plan and protocols contained in the relevant regulatory application. In addition, these organizations may not complete these activities on our anticipated or desired timeframe. We also may experience unexpected cost increases that are beyond our control. Problems with the timeliness or quality of the work of a contract research organization may lead us to seek to terminate the relationship and use an alternative service provider, which may prove difficult, costly and result in a delay of our trials. Any delay in or inability to complete our trials could delay or prevent the development, approval and commercialization of our product candidates.

In certain cases, government entities and non-government organizations conduct studies of our product candidates, and we may seek to rely on these studies in applying for marketing approval for certain of our product candidates. These government entities and non-government organizations have no obligation or commitment to us to conduct or complete any of these studies or clinical trials and may choose to discontinue these development efforts at any time. Furthermore, government entities depend on annual Congressional appropriations to fund their development efforts.

If we are unable to obtain any necessary third-party services on acceptable terms or if these service providers do not successfully carry out their contractual duties or meet expected deadlines, our efforts to obtain regulatory approvals for our product candidates may be delayed or prevented.

We may fail to select or capitalize on the most scientifically, clinically or commercially promising or profitable product candidates.

We continue to evaluate our business strategy and, as a result, may modify our strategy in the future. In this regard, we may, from time to time, focus our product development efforts on different product candidates or may delay or halt the development of various product candidates. For example, in April 2016, we were notified by BARDA that, after prioritization of its development funding, BARDA would not be exercising the clinical trial option for our PreviThrax rPA vaccine program. As a consequence of this decision, we determined to cease further development work on our PreviThrax vaccine product candidate. On June 21, 2016, HHS issued a request for proposal seeking a next generation anthrax vaccine for post-exposure prophylaxis of anthrax disease. There can be no assurance that HHS will select our next generation anthrax vaccine candidate NuThrax for advanced development and procurement under this solicitation. As a result of changes in our strategy or in government development funding decisions, we may change or refocus our existing product development, commercialization and manufacturing activities. This could require changes in our facilities and our personnel. Any product development changes that we implement may not be successful. In particular, we may fail to select or capitalize on the most scientifically, clinically or commercially promising or profitable product candidates. Our decisions to allocate our research and development, management and financial resources toward particular product candidates or therapeutic areas may not lead to the development of viable commercial products and may divert resources from better opportunities. Similarly, our decisions to delay or terminate product development programs may also prove to be incorrect and could cause us to miss valuable opportunities.

INTELLECTUAL PROPERTY RISKS

If we are unable to protect our proprietary rights, our business could be harmed.

Our success, particularly with respect to our small molecule product candidates, will depend, in large part, on our ability to obtain and maintain protection in the United States and other countries for the intellectual property covering or incorporated into our technology, products and product candidates. Obtaining and maintaining this protection is very costly. The patentability of technology in the biopharmaceutical field generally is highly uncertain and involves complex legal and scientific questions.

We may not be able to obtain additional issued patents relating to our technology or products. Even if issued, patents may inadvertently lapse or be challenged, narrowed, invalidated or circumvented, which could limit our ability to stop competitors from marketing similar products or limit the duration of patent protection we may have for our products. In the past, we have abandoned the prosecution and/or maintenance of patent applications related to patent families in the ordinary course of business. In the future we may choose to abandon such prosecution and/or maintenance in a similar fashion. If these patent rights are later determined to be valuable or necessary to our business, our competitive position may be adversely affected. Changes in patent laws or administrative patent office rules or changes in interpretations of patent laws in the United States and in other countries may diminish the value of our intellectual property or narrow the scope of our patent protection, or result in costly defensive measures.

The cost of litigation to uphold the validity of patents to prevent infringement or to otherwise protect or enforce our proprietary rights could be substantial and, from time to time, our patents are subject to opposition proceedings. Some of our competitors may be better able to sustain the costs of complex patent litigation because they may have substantially greater financial resources. Intellectual property lawsuits are expensive and unpredictable and would consume management's time and attention and other resources, even if the outcome were successful. In addition, there is a risk that a court would decide that our patents are not valid and that we do not have the right to stop the other party from using the inventions covered by or incorporating them. There is also a risk that, even if the validity of a patent were upheld, a court would refuse to stop the other party from using the invention(s), including on the grounds that its activities do not infringe the patent. If any of these events were to occur, our business, financial condition and operating results could be materially and adversely affected.

Our collaborators and licensors may not adequately protect our intellectual property rights. These third parties may have the first right to maintain or defend intellectual property rights in which we have an interest and, although we may have the right to assume the maintenance and defense of such intellectual property rights if these third parties do not do so, our ability to maintain and defend such intellectual property rights may be compromised by the acts or omissions of these third parties. For example, we license from Pfizer, Inc. an oligonucleotide adjuvant, CPG 7909, for use in our anthrax vaccine product candidate NuThrax.

We also will rely on current and future trademarks to establish and maintain recognized brands. If we fail to acquire and protect such trademarks, our ability to market and sell our products, and therefore our business, financial condition and operating results, could be materially and adversely affected.

Third parties may choose to file patent infringement claims against us; defending ourselves from such allegations would be costly, time-consuming, distracting to management and could materially affect our business.

Our development and commercialization activities, as well as any product candidates or products resulting from these activities, may infringe or be claimed to infringe patents and other intellectual property rights of third parties under which we do not hold sufficient licenses or other rights. Additionally, third parties may be successful in obtaining patent protection for technologies that cover development and commercialization activities in which we are already engaged. Third parties may own or control these patents and intellectual property rights in the United States and abroad. These third parties may have substantially greater financial resources than us and could bring claims against us that could cause us to incur substantial expenses to defend against these claims and, if successful against us, could cause us to pay substantial damages. Further, if a patent infringement or other similar suit were brought against us, we could be forced to stop or delay development, manufacturing or sales of the product or product candidate that is the subject of the suit. Intellectual property litigation in the biopharmaceutical industry is common, and we expect this trend to continue.

As a result of patent infringement or other similar claims, or to avoid potential claims, we may choose or be required to seek a license from the third party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we were able to obtain a license, the rights may be non-exclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent

infringement claims, we are unable to enter into licenses on acceptable terms, if at all, or if an injunction is granted against us, which could harm our business significantly.

If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are a party to a number of license agreements and expect to enter into additional license agreements in the future. Our existing licenses impose, and we expect future licenses will impose, various diligence, milestone payment, royalty, insurance and other obligations on us. If we fail to comply with these obligations, the licensor may have the right to terminate the license and/or sue us for breach, which could cause us to not be able to market any product that is covered by the licensed patents and may be subject to damages.

If we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology and products could be adversely affected.

In addition to patented technology, we rely upon unpatented proprietary technology, processes and know-how, particularly as to our proprietary manufacturing processes. Because we do not have patent protection for any of our current products, our only intellectual property protection for these products, other than trademarks, is confidentiality regarding our manufacturing capability and specialty know-how, such as techniques, processes and unique starting materials. However, these types of trade secrets can be difficult to protect. We seek to protect this confidential information, in part, through agreements with our employees, consultants and third parties as well as confidentiality policies and audits, although these may not be successful in protecting our trade secrets and confidential information.

These agreements may be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known, including through a potential cyber security breach, or may be independently developed by competitors. If we are unable to protect the confidentiality of our proprietary information and know-how, competitors may be able to use this information to develop products that compete with our products, which could adversely impact our business.

RISKS RELATED TO STRATEGIC ACQUISITIONS AND COLLABORATIONS

Our strategy of generating growth through acquisitions may not be successful.

Our business strategy includes growing our business through acquisition and in-licensing transactions. We may not be successful in identifying, effectively evaluating, structuring, acquiring or in-licensing, and developing and commercializing additional products on favorable terms, or at all. Competition for attractive product opportunities is intense and may require us to devote substantial resources, both managerial and financial, to an acquisition opportunity. A number of more established companies are also pursuing strategies to acquire or in-license products in the biopharmaceutical field. These companies may have a competitive advantage over us due to their size, cash resources, cost of capital, effective tax rate and greater clinical development and commercialization capabilities.

Acquisition efforts can consume significant management attention and require substantial expenditures, which could detract from our other programs. In addition, we may devote significant resources to potential acquisitions that are never completed. Even if we are successful in acquiring a company or product, it may not result in a successfully developed or commercialized product or, even if an acquired product is commercialized, competing products or technologies could render a product noncompetitive, uneconomical or obsolete. Moreover, the cost of acquiring other companies or in-licensing products could be substantial, and in order to acquire companies or new products, we may need to incur substantial debt or issue dilutive securities. For example, in part to fund our acquisition of Cangene Corporation, we issued $250 million of senior convertible notes in January 2014. If we are unsuccessful in our efforts to acquire other companies or in-license and develop additional products, or if we acquire or in-license unproductive assets, it could have a material adverse effect on the growth of our business, and we could be compelled to record significant impairment charges to write-down the carrying value of our acquired intangible assets, which could materially harm our financial results.

Our failure to successfully integrate acquired assets into our operations could adversely affect our ability to realize the benefits of such acquisitions and, therefore, to grow our business.

We may not be able to integrate any acquired business successfully or operate any acquired business profitably. In addition, cost synergies, if achieved at all, may be less than we expect, or may take greater time to achieve than we anticipate.

Issues that could delay or prevent successful integration or cost synergies of an acquired business include, among others:

- retaining existing customers and attracting new customers;
- retaining key employees;
- diversion of management attention and resources;
- conforming internal controls, policies and procedures, business cultures and compensation programs;
- consolidating corporate and administrative infrastructures;
- consolidating sales and marketing operations;
- identifying and eliminating redundant and underperforming operations and assets;
- assumption of known and unknown liabilities;
- coordinating geographically dispersed organizations; and
- managing tax costs or inefficiencies associated with integrating operations.

If we are unable to successfully integrate future acquisitions with our existing businesses, or operate any acquired business profitably, we may not obtain the advantages that the acquisitions were intended to create, which may materially adversely affect the growth of our business.

FINANCIAL RISKS

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our operations to pay our substantial debt.

As of June 30, 2016, our total consolidated indebtedness was $253 million, including $250 million of obligations under our senior convertible notes. Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness, including the senior convertible notes, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Our current indebtedness and any additional debt financing may restrict the operation of our business and limit the cash available for investment in our business operations.

In addition to our current debt, we also have a senior secured revolving credit facility with available capacity of up to $100 million, effective until December 11, 2018 (or such earlier date to the extent required by the terms of this facility). We may seek additional debt financing to support our ongoing activities or to provide additional financial flexibility. Debt financing could have significant adverse consequences for our business, including:

- requiring us to dedicate a substantial portion of any cash flow from operations to payment on our debt, which would reduce the amounts available to fund other corporate initiatives;
- increasing the amount of interest that we have to pay on debt with variable interest rates, if market rates of interest increase;

- subjecting us, as under our senior secured revolving credit facility, to restrictive covenants that may reduce our ability to take certain corporate actions, acquire companies, products or technology, or obtain further debt financing;
- requiring us to pledge our assets as collateral, which could limit our ability to obtain additional debt financing;
- limiting our flexibility in planning for, or reacting to, general adverse economic and industry conditions; and
- placing us at a competitive disadvantage compared to our competitors that have less debt, better debt servicing options or stronger debt servicing capacity.

We may not have sufficient funds or be able to obtain additional financing to pay the amounts due under our indebtedness. In addition, failure to comply with the covenants under our debt instruments could result in an event of default under those instruments. An event of default could result in the acceleration of amounts due under a particular debt instrument and a cross default and acceleration under other debt instruments, and we may not have sufficient funds or be able to obtain additional financing to make any accelerated payments. Under these circumstances, our lenders could seek to enforce security interests, if any, in our assets securing our indebtedness.

We may require significant additional funding and may be unable to raise capital when needed or on acceptable terms, which would harm our ability to grow our business, results of operations and financial condition.

We may require significant additional funding to grow our business, including to acquire other companies or products, in-license and develop additional products, enhance our manufacturing capacity, support commercial marketing activities or otherwise provide additional financial flexibility. We may also require additional funding to support our ongoing operations in the event that our ability to sell BioThrax to the U.S. government is interrupted for an extended period of time, reducing our BioThrax revenues and decreasing our cash balances.

As of June 30, 2016, we had approximately $333.4 million of cash and cash equivalents. Our future capital requirements will depend on many factors, including, among others:

- the level, timing and cost of product sales;
- the extent to which we acquire or invest in and integrate companies, businesses, products or technologies;
- the acquisition of new facilities and capital improvements to new or existing facilities;
- the payment obligations under our indebtedness;
- the scope, progress, results and costs of our development activities;
- our ability to obtain funding from government entities for our development programs; and
- the costs of commercialization activities, including product marketing, sales and distribution.

If our capital resources are insufficient to meet our future capital requirements, we will need to finance our cash needs through public or private equity or debt offerings, bank loans or collaboration and licensing arrangements. In May 2015, we filed an automatic shelf registration statement, which immediately became effective under SEC rules. For so long as we continue to satisfy the requirements to be deemed a "well-known seasoned issuer" under SEC rules, this shelf registration statement, effective until May 2018, allows us to issue an unrestricted amount of equity, debt and certain other types of securities through one or more future primary or secondary offerings. If we raise funds by issuing equity securities, our stockholders may experience dilution. Public or bank debt financing, if available, may involve agreements that include covenants, like those contained in our senior secured revolving credit facility, limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, pursuing acquisition opportunities or declaring dividends. If we raise funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies or product candidates or grant licenses on terms that may not be favorable to us. We are not restricted under the terms of the indenture governing our senior convertible notes from incurring additional debt, securing existing or future debt, recapitalizing our debt or taking a number of other actions that could have the effect of diminishing our ability to make payments on our indebtedness. However, our credit facility restricts our ability to incur additional indebtedness, including secured indebtedness.

Current economic conditions may make it difficult to obtain financing on attractive terms, or at all. If financing is unavailable or lost, our business, results of operations and financial condition would be adversely affected and we could be forced to delay, reduce the scope of or eliminate many of our planned activities.

We may not maintain profitability in future periods or on a consistent basis.

Although we have been profitable for each of the last five fiscal years, we have not been profitable for every quarter during that time. For example, we incurred a net loss in the first quarters of 2015, 2014, 2013 and 2012. Our profitability has been substantially dependent on BioThrax product sales, which historically have fluctuated significantly from quarter to quarter, and we expect that they will continue to fluctuate significantly based primarily on the timing of our fulfillment of orders from the U.S. government. We may not be able to achieve consistent profitability on a quarterly basis or sustain or increase profitability on an annual basis.

OTHER BUSINESS RISKS

Pending litigation and legal proceedings and the impact of any finding of liability or damages could adversely impact the company and its financial condition and results of operations.

From time to time, we may be named as a defendant in various legal actions or other proceedings. Certain of these actions include and future actual or threatened legal actions may include claims for substantial and indeterminate amounts of damages, or may result in other results adverse to us.

For example, as more fully described under Part II, "ITEM 1 – LEGAL PROCEEDINGS," on July 19, 2016, a purported class action lawsuit was filed against us and several of our senior officers and directors in the United States District Court for the District of Maryland seeking unspecified damages on behalf of a putative class of persons who purchased or otherwise acquired our common stock between January 11, 2016 and June 21, 2016. The complaint alleges, among other things, that we made false and misleading statements about the government's demand for BioThrax and expectations that our five-year exclusive procurement contract with HHS would be renewed.

The results of this lawsuit and possible other future legal proceedings cannot be predicted with certainty. Accordingly, we cannot determine whether our insurance coverage would be sufficient to cover the costs or potential losses, if any. Regardless of merit, litigation may be both time-consuming and disruptive to our operations and cause significant expense and diversion of management attention. If we do not prevail in the purported class action lawsuit or in other future legal proceedings, we may be faced with significant monetary damages or injunctive relief against us that may adversely affect our business, financial condition and results of operations, possibly materially.

We face product liability exposure, which could cause us to incur substantial liabilities and negatively affect our business, financial condition and results of operations.

We face an inherent risk of product liability exposure related to the sale of our products, any other products that we successfully acquire or develop and the testing of our product candidates in clinical trials.

One measure of protection against such lawsuits is coverage under the Public Readiness and Emergency Preparedness Act, or PREP Act, which was signed into law in December 2005. The PREP Act creates immunity for manufacturers of biodefense countermeasures when the Secretary of HHS issues a declaration for their manufacture, administration or use. A PREP Act declaration is meant to provide immunity from all claims under federal or state law for loss arising out of the administration or use of a covered countermeasure. The Secretary of HHS has issued PREP Act declarations identifying BioThrax, BAT, Anthrasil and VIGIV as covered countermeasures. These declarations expire in 2022. Manufacturers are not entitled to protection under the PREP Act in cases of willful misconduct. We cannot predict whether the Secretary of HHS will renew the declarations when they expire, whether Congress will fund the relevant PREP Act compensation programs, or whether the necessary prerequisites for immunity would be triggered with respect to our products or product candidates.

Additionally, BioThrax and RSDL are certified anti-terrorism products covered under the protections of the Support Anti-Terrorism by Fostering Effective Technology Act of 2002, or SAFETY Act. The SAFETY Act creates product liability limitations for qualifying anti-terrorism technologies for claims arising from or related to an act of terrorism. Although we are entitled to the benefits of the SAFETY Act for BioThrax and RSDL, the SAFETY Act may not provide adequate protection from claims made against us.

If we cannot successfully defend ourselves against future claims that our products or product candidates caused injuries and if we are not entitled to indemnity by the U.S. government, or the U.S. government does not honor its obligations to us under the PREP Act or SAFETY Act, or if the indemnification under the PREP Act and SAFETY Act is not adequate to cover all claims, we may incur substantial liabilities. Regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand or withdrawal of a product;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- an inability to commercialize products that we may develop.

The amount of insurance that we currently hold may not be adequate to cover all liabilities that may occur. Further product liability insurance may be difficult and expensive to obtain. We may not be able to maintain insurance coverage at a reasonable cost and we may not be able to obtain insurance coverage that will be adequate to satisfy all potential liabilities. For example, we may not have sufficient insurance against potential liabilities associated with a possible large scale deployment of BioThrax as a countermeasure to a bioterrorism threat. We rely on PREP Act protection for BioThrax, BAT, Anthrasil and VIGIV and SAFETY Act protection for BioThrax and RSDL in addition to our insurance coverage to help mitigate our product liability exposure for these products. Claims or losses in excess of our product liability insurance coverage could have a material adverse effect on our business, financial condition and results of operations.

We rely significantly on information technology systems and any failure, inadequacy, interruption or security lapse of that technology, including any cyber security incidents, could harm our ability to operate our business effectively or result in data leakage of proprietary and confidential business and employee information.

Our business is increasingly dependent on critical, complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our computer systems make them potentially vulnerable to interruption, invasion, computer viruses, destruction, malicious intrusion and additional related disruptions, which may result in the impairment of production and key business processes.

In addition, our systems are potentially vulnerable to data security breaches—whether by employee error, malfeasance or other disruption—which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information, including sensitive personal information, of our employees, clinical trial patients, customers and others.

A significant business disruption or a breach in security resulting in misappropriation, theft or sabotage with respect to our proprietary and confidential business and employee information could result in financial, legal, business or reputational harm to us, any of which could adversely affect our business, financial condition and operating results.

Our success is dependent on our continued ability to attract, motivate and retain key personnel, and any failure to attract or retain key personnel may negatively affect our business.

Because of the specialized scientific nature of our business, our ability to develop products and to compete with our current and future competitors largely depends upon our ability to attract, retain and motivate highly qualified managerial and key scientific and technical personnel. If we are unable to retain the services of one or more of the principal members of senior management or other key employees, our ability to implement our business strategy could be materially harmed. We face intense competition for qualified employees from biopharmaceutical companies, research organizations and academic institutions. Attracting, retaining or replacing these personnel on acceptable terms may be difficult and time-consuming given the high demand in our industry for similar personnel. We believe part of being able to attract, motivate and retain personnel is our ability to offer a competitive compensation package, including equity incentive awards. If we cannot offer a competitive compensation package to attract and retain the qualified personnel necessary for the continued development of our business, we may not be able to maintain our operations or grow our business.

RISKS RELATED TO OWNERSHIP OF OUR COMMON STOCK

Fuad El-Hibri, executive chairman of our Board of Directors, has significant influence over us through his substantial beneficial ownership of our common stock, including an ability to influence the election of the members of our Board of Directors, or delay or prevent a change of control of us.

Mr. El-Hibri has the ability to significantly influence the election of the members of our Board of Directors due to his substantial beneficial ownership of our common stock. As of July 29, 2016, Mr. El-Hibri was the beneficial owner of approximately 14% of our outstanding common stock. As a result, Mr. El-Hibri could delay or prevent a change of control of us that may be favored by other directors or stockholders and otherwise exercise substantial influence over all corporate actions requiring board or stockholder approval, including any amendment of our certificate of incorporation or by-laws. The control by Mr. El-Hibri may prevent other stockholders from influencing significant corporate decisions. In addition, Mr. El-Hibri's significant beneficial ownership of our shares could present the potential for a conflict of interest.

Provisions in our certificate of incorporation and by-laws and under Delaware law may discourage acquisition proposals, delay a change in control or prevent transactions that stockholders may consider favorable.

Provisions in our certificate of incorporation and by-laws may discourage, delay or prevent a merger, acquisition or other changes in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management.

These provisions include:

- the classification of our directors;
- limitations on changing the number of directors then in office;
- limitations on the removal of directors;
- limitations on filling vacancies on the board;
- limitations on the removal and appointment of the chairman of our Board of Directors;
- advance notice requirements for stockholder nominations of candidates for election to the Board of Directors and other proposals;
- the inability of stockholders to act by written consent;
- the inability of stockholders to call special meetings; and
- the ability of our Board of Directors to designate the terms of and issue a new series of preferred stock without stockholder approval.

The affirmative vote of holders of our capital stock representing at least 75% of the voting power of all outstanding stock entitled to vote is required to amend or repeal the above provisions of our certificate of incorporation. The affirmative vote of either a majority of the directors present at a meeting of

our Board of Directors or holders of our capital stock representing at least 75% of the voting power of all outstanding stock entitled to vote is required to amend or repeal our by-laws.

In addition, Section 203 of the General Corporation Law of Delaware prohibits a corporation from engaging in a business combination with an interested stockholder, generally a person which, together with its affiliates, owns or within the last three years has owned 15% or more of the corporation's voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. Accordingly, Section 203 may discourage, delay or prevent a change in control of us.

Our stockholder rights plan could prevent a change in control of us in instances in which some stockholders may believe a change in control is in their best interests.

Under our stockholder rights plan, we issue to each of our stockholders one preferred stock purchase right for each outstanding share of our common stock. Each right, when exercisable, will entitle its holder to purchase from us a unit consisting of one one-thousandth of a share of series A junior participating preferred stock at a purchase price of $150 in cash, subject to adjustments.

Our stockholder rights plan is intended to protect stockholders in the event of an unfair or coercive offer to acquire us and to provide our Board of Directors with adequate time to evaluate unsolicited offers. The rights plan may have anti-takeover effects. The rights plan will cause substantial dilution to a person or group that attempts to acquire us on terms that our Board of Directors does not believe are in our best interests or those of our stockholders and may discourage, delay or prevent a merger or acquisition that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares.

Our stock price is volatile and purchasers of our common stock could incur substantial losses.

Our stock price has been, and is likely to continue to be, volatile. The market price of our common stock could fluctuate significantly for many reasons, including in response to the risks described in this "Risk Factors" section, or for reasons unrelated to our operations, such as reports by industry analysts, investor perceptions or negative announcements by our customers, competitors or suppliers regarding their own performance, as well as industry conditions and general financial, economic and political instability. From November 15, 2006, when our common stock first began trading on the New York Stock Exchange, through July 29, 2016, our common stock has traded as high as $44.38 per share and as low as $4.40 per share. The stock market in general as well as the market for biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price of our common stock may be influenced by many factors, including, among others:

- contracts, decisions and procurement policies by the U.S. government affecting BioThrax and our other biodefense products and product candidates;
- the success of competitive products or technologies;
- results of clinical and non-clinical trials of our product candidates;
- announcements of acquisitions, financings or other transactions by us;
- announcements relating to litigation or legal proceedings;
- public concern as to the safety of our products;
- termination or delay of a development program;
- the recruitment or departure of key personnel;
- variations in our product revenue and profitability; and
- the other factors described in this "Risk Factors" section.

Because we currently do not pay dividends, investors will benefit from an investment in our common stock only if it appreciates in value.

We currently do not pay dividends on our common stock. Our senior secured credit facility and any future debt agreements that we enter into may limit our ability to pay dividends. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for our stockholders for the foreseeable future.

A significant portion of our shares may be sold into the market at any time. This could cause the market price of our common stock to drop significantly.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales or the perception in the market that the holders of a large number of shares intend to sell shares could reduce the market price of our common stock. Moreover, holders of an aggregate of approximately 6 million shares of our common stock outstanding as of July 29, 2016, have the right to require us to register these shares of common stock under specified circumstances. In May 2015, we filed an automatic shelf registration statement, which immediately became effective under SEC rules. For so long as we continue to satisfy the requirements to be deemed a "well-known seasoned issuer" under SEC rules, this shelf registration statement, effective until May 2018, would provide for a secondary offering of these shares from time to time.

ITEM 2. ***UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS***

Recent Sales of Unregistered Securities

Not applicable.

Use of Proceeds

Not applicable.

Purchases of Equity Securities

Not applicable.

ITEM 3. ***DEFAULTS UPON SENIOR SECURITIES***

Not applicable.

ITEM 4. ***MINE SAFETY DISCLOSURES***

Not applicable.

ITEM 5. ***OTHER INFORMATION***

Not applicable.

ITEM 6. ***EXHIBITS***

The exhibits required to be filed by Item 601 of Regulation S-K are listed in the Exhibit Index immediately preceding the exhibits hereto.

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.

EMERGENT BIOSOLUTIONS INC.

By: /s/DANIEL J. ABDUN-NABI
Daniel J. Abdun-Nabi
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 5, 2016

By: /s/ROBERT G. KRAMER
Robert G. Kramer
Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)

Date: August 5, 2016

EXHIBIT INDEX

Exhibit Number	Description
2.1	Contribution Agreement, dated July 29, 2016, by and among Emergent BioSolutions Inc., Aptevo Therapeutics Inc., Aptevo Research and Development LLC and Aptevo BioTherapeutics LLC (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K, filed on August 4, 2016).
2.2	Separation and Distribution Agreement, dated July 29, 2016, by and between Emergent BioSolutions Inc. and Aptevo Therapeutics Inc. (incorporated by reference to Exhibit 2.2 to the Company's Current Report on Form 8-K, filed on August 4, 2016).
3#	Third Restated Certificate of Incorporation of the Company.
10.2#	Fourth Amended and Restated Emergent BioSolutions Inc. 2006 Stock Incentive Plan.
10.3#	Consulting Agreement, dated as of May 18, 2016, by and between the Company and John E. Niederhuber, M.D.
12#	Ratio of Earnings to Fixed Charges.
31.1#	Certification of the Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a).
31.2#	Certification of the Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a).
32.1#	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2#	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101. INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Calculation Linksbase Document.
101.DEF	XBRL Taxonomy Definition Linksbase Document.
101.LAB	XBRL Taxonomy Label Linksbase Document.
101.PRE	XBRL Taxonomy Presentation Linksbase Document.

Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language):

(i) Condensed Consolidated Statements of Operations for the three and six months ended June 30, 2016 and 2015;
(ii) Condensed Consolidated Statements of Comprehensive Income (Loss) for the three and six months ended June 30, 2016 and 2015;
(iii) Condensed Consolidated Balance Sheets at June 30, 2016 and December 31, 2015;
(iv) Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2016 and 2015; and
(v) Notes to Consolidated Financial Statements.

#Filed herewith.

EXHIBIT 12

Ratio of Earnings to Fixed Charges

(in thousands)	Year to Date June 30, 2016	Year Ended December 31, 2015	2014	2013	2012	2011
Pretax income (loss) from continuing operations (1)	$ (7,553)	$ 89,769	$ 53,062	$ 44,243	$ 37,446	$ 38,849
Fixed charges						
Interest expense	3,860	7,834	7,480	1,973	2,177	1,719
Debt issuance cost	763	1,564	3,290	319	67	135
Total fixed charges (2)	4,623	9,398	10,770	2,292	2,244	1,854
Noncontrolling interest in pretax income (3)	-	-	-	876	5,381	6,906
Capitalized interest (4)	1,590	2,875	2,530	1,973	2,177	1,713
Earnings ((1) + (2) -(3) -(4))	(4,520)	96,292	61,302	43,686	32,132	32,084
Fixed charges	4,623	9,398	10,770	2,292	2,244	1,854
Ratio of earnings to fixed charges	-	10.2	5.7	19.1	14.3	17.3
Coverage deficiency	(7,553)	-	-	-	-	-

EXHIBIT 31.1

CERTIFICATION

I, Daniel J. Abdun-Nabi, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Emergent BioSolutions Inc.;

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: August 5, 2016

/s/DANIEL J. ABDUN-NABI
Daniel J. Abdun-Nabi
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, Robert G. Kramer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Emergent BioSolutions Inc.;

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: August 5, 2016

/s/ROBERT G. KRAMER
Robert G. Kramer
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Emergent BioSolutions Inc. (the "Company") for the period ended June 30, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Daniel Abdun-Nabi, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 5, 2016

/s/DANIEL J. ABDUN-NABI
Daniel J. Abdun-Nabi
Chief Executive Officer

EXHIBIT 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Emergent BioSolutions Inc. (the "Company") for the period ended June 30, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Robert Kramer, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 5, 2016

/s/ROBERT G. KRAMER
Robert G. Kramer
Chief Financial Officer

EXHIBIT 3

THIRD RESTATED CERTIFICATE OF INCORPORATION
OF
EMERGENT BIOSOLUTIONS INC.

Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware

(originally incorporated on December 19, 2003)

Emergent BioSolutions Inc. (the "Corporation"), a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"), hereby certifies as follows:

1. The current name of the Corporation and the name under which the Corporation was originally incorporated is Emergent BioSolutions Inc. The original Certificate of Incorporation was filed on December 19, 2003. An Amended and Restated Certificate of Incorporation was filed on February 2, 2004. A Certificate of Amendment was filed on October 27, 2006. A Certificate of Designations of Series A Junior Participating Preferred Stock was filed on November 14, 2006 (the "Series A Certificate of Designations"). A Restated Certificate of Incorporation was filed on November 20, 2006 (the "Restated Certificate").

2. This Third Restated Certificate of Incorporation (this "Third Restated Certificate"), which amends and restates in its entirety the Restated Certificate, was duly adopted in accordance with Sections 242 and 245 of the General Corporation Law, at a meeting duly called and held upon notice in accordance with Section 222 of the General Corporation Law at which meeting the necessary number of shares as required by the General Corporation Law and the Restated Certificate were voted in favor of this Third Restated Certificate.

3. In accordance with authority granted by the Restated Certificate, the Board of Directors, at a meeting duly called and held on September 20, 2006, adopted a resolution designating the "Series A Junior Participating Preferred Stock". The Series A Certificate of Designations, stating the designation and number of shares, and fixing the relative rights, preferences and limitations, of the Series A Junior Participating Preferred Stock, is attached hereto as Exhibit A and deemed part of this Third Restated Certificate as if set forth in full herein.

4. Subject to the preceding paragraph, the text of the Restated Certificate is hereby amended and restated in its entirety to read as follows:

FIRST: The name of the Corporation is Emergent BioSolutions Inc. (hereinafter referred to as the "Corporation").

SECOND: The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is 215,000,000 shares, consisting of (i) 200,000,000 shares of Common Stock, $0.001 par value per share ("Common Stock"), and (ii) 15,000,000 shares of Preferred Stock, $0.001 par value per share ("Preferred Stock").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A COMMON STOCK.

1. Voting. The holders of the Common Stock shall have voting rights at all meetings of stockholders, each such holder being entitled to one vote for each share thereof held by such holder; provided, however, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation (which, as used herein, shall mean the third restated certificate of incorporation of the Corporation, as amended from time to time, including the terms of any certificate of designations of any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation. There shall be no cumulative voting.

The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of capital stock representing a majority of the votes entitled to be cast irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of Delaware.

2. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor as and when determined by the Board of Directors and subject to any preferential dividend or other rights of any then outstanding Preferred Stock.

3. Liquidation. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive ratably all assets of the Corporation available for distribution to its stockholders, subject to any preferential or other rights of any then outstanding Preferred Stock.

B PREFERRED STOCK.

Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the issue of such series adopted by the Board of Directors as hereinafter provided. Any shares of Preferred Stock which may be redeemed, purchased or acquired by the Corporation may be reissued except as otherwise provided by law.

Authority is hereby expressly granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by resolution or resolutions providing for the issuance of the shares thereof, to determine and fix the number of shares of such series and such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including without limitation thereof, dividend rights, conversion rights, redemption privileges and liquidation preferences, as shall be stated and expressed in such resolutions, all to the full extent now or hereafter permitted by the General Corporation Law of Delaware. Without limiting the generality of the foregoing, the resolutions providing for issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to the Preferred Stock of any other series to the extent permitted by law.

The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares then outstanding) by the affirmative vote of the holders of capital stock representing a majority of the votes entitled to be cast irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of Delaware.

FIFTH: Except as otherwise provided herein, 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 this Certificate of Incorporation, and all rights conferred upon stockholders herein are granted subject to this reservation.

SIXTH: In furtherance and not in limitation of the powers conferred upon it by the laws of the State of Delaware, and subject to the terms of any series of Preferred Stock, the Board of Directors shall have the power to adopt, amend, alter or repeal the Corporation's By-laws. Until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of at least 75% of the directors then in office shall be required to adopt, amend, alter or repeal the Corporation's By-laws. Until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the Corporation's By-laws also may be adopted, amended, altered or repealed by the affirmative vote of the holders of capital stock representing at least a majority of the voting power of all outstanding stock entitled to vote thereon, in addition to any other vote required by this Certificate of Incorporation. Following the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of a majority of the directors present at any regular or special meeting of the Board of Directors at which a quorum is present shall be required to adopt, amend, alter or repeal the Corporation's By-laws. Following the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the Corporation's By-laws also may be adopted, amended, altered or repealed by the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the voting power of all outstanding stock entitled to vote thereon, in addition to any other vote required by this Certificate of Incorporation. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, (i) until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least a majority of the voting power of all outstanding stock entitled to vote thereon, and (ii) following the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the voting power of all outstanding stock entitled to vote thereon, shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article SIXTH.

SEVENTH: Except to the extent that the General Corporation Law of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability. No amendment to or repeal of this provision shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal.

EIGHTH: The Corporation shall provide indemnification and advancement of expenses as follows:

1. Actions, Suits and Proceedings Other than by or in the Right of the Corporation. The Corporation shall indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

2. Actions or Suits by or in the Right of the Corporation. The Corporation shall indemnify any Indemnitee who was or is a party to or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that Indemnitee is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, except that no indemnification shall be made under this Section 2 in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Corporation, unless, and only to the extent, that the Court of Chancery of Delaware, or the court in which such action or suit was brought, shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expenses (including attorneys' fees) which the Court of Chancery of Delaware, or the court in which such action or suit was brought, shall deem proper.

3. Indemnification for Expenses of Successful Party. Notwithstanding any other provisions of this Article, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding referred to in Sections 1 and 2 of this Article EIGHTH, or in

defense of any claim, issue or matter therein, or on appeal from any such action, suit or proceeding, Indemnitee shall be indemnified against all expenses (including attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection therewith. Without limiting the foregoing, if any action, suit or proceeding is disposed of, on the merits or otherwise (including a disposition without prejudice), without (i) the disposition being adverse to Indemnitee, (ii) an adjudication that Indemnitee was liable to the Corporation, (iii) a plea of guilty or nolo contendere by Indemnitee, (iv) an adjudication that Indemnitee did not act in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Corporation, and (v) with respect to any criminal proceeding, an adjudication that Indemnitee had reasonable cause to believe his conduct was unlawful, Indemnitee shall be considered for the purposes hereof to have been wholly successful with respect thereto.

4. Notification and Defense of Claim. As a condition precedent to an Indemnitee's right to be indemnified pursuant to Section 1, 2 or 3 of this Article EIGHTH, or to receive advancement of expenses pursuant to Section 5 of this Article EIGHTH, such Indemnitee must notify the Corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving such Indemnitee for which indemnity or advancement of expenses will or could be sought. With respect to any action, suit, proceeding or investigation of which the Corporation is so notified, the Corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to Indemnitee. After notice from the Corporation to Indemnitee of its election so to assume such defense, the Corporation shall not be liable to Indemnitee for any legal or other expenses subsequently incurred by Indemnitee in connection with such action, suit, proceeding or investigation, other than as provided below in this Section 4. Indemnitee shall have the right to employ his or her own counsel in connection with such action, suit, proceeding or investigation, but the fees and expenses of such counsel incurred after notice from the Corporation of its assumption of the defense thereof shall be at the expense of Indemnitee unless (i) the employment of counsel by Indemnitee has been authorized by the Corporation, (ii) counsel to Indemnitee shall have reasonably concluded that there may be a conflict of interest or position on any significant issue between the Corporation and Indemnitee in the conduct of the defense of such action, suit, proceeding or investigation or (iii) the Corporation shall not in fact have employed counsel to assume the defense of such action, suit, proceeding or investigation, in each of which cases the fees and expenses of counsel for Indemnitee shall be at the expense of the Corporation, except as otherwise expressly provided by this Article. The Corporation shall not be entitled, without the consent of Indemnitee, to assume the defense of any claim brought by or in the right of the Corporation or as to which counsel for Indemnitee shall have reasonably made the conclusion provided for in clause (ii) of the preceding sentence. The Corporation shall not be required to indemnify Indemnitee under this Article EIGHTH for any amounts paid in settlement of any action, suit, proceeding or investigation effected without its written consent. The Corporation shall not settle any action, suit, proceeding or investigation in any manner which would impose any penalty or limitation on Indemnitee without Indemnitee's written consent. Neither the Corporation nor Indemnitee will unreasonably withhold or delay its consent to any proposed settlement.

5. Advance of Expenses. Subject to the provisions of Sections 4 and 6 of this Article EIGHTH, any expenses (including attorneys' fees) incurred by or on behalf of Indemnitee in defending an action, suit, proceeding or investigation or any appeal therefrom shall be paid by the Corporation in advance of the final disposition of such matter; provided, however, that the payment of such expenses incurred by or on behalf of Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined that Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article. Such undertaking shall be accepted without reference to the financial ability of Indemnitee to make such repayment.

6. Procedure for Indemnification and Advance of Expenses. In order to obtain indemnification pursuant to Section 1, 2 or 3 of this Article EIGHTH or advancement of expenses pursuant to Section 5 of this Article EIGHTH, an Indemnitee shall submit to the Corporation a written request. Any such advancement of expenses shall be made promptly, and in any event within 30 days after receipt by the Corporation of the written request of Indemnitee, unless the Corporation has assumed the defense pursuant to Section 4 of this Article EIGHTH (and none of the circumstances described in Section 4 of this Article EIGHTH that would nonetheless entitle the Indemnitee to indemnification or an advancement for the fees and expenses of separate counsel have occurred). Any such indemnification, unless ordered by a court, shall be made with respect to requests under Section 1 or 2 only as authorized in the specific case upon a determination by the Corporation that the indemnification of Indemnitee is proper because Indemnitee has met the applicable standard of conduct set forth in Section 1 or 2, as the case may be. Such determination shall be made in each instance (a) by a majority vote of the directors of the Corporation who are not at that time parties to the action, suit or proceeding in question ("disinterested directors"), whether or not a quorum, (b) by a committee of disinterested directors designated by majority vote of disinterested directors, whether or not a quorum, (c) if there are no disinterested directors, or if the disinterested directors so direct, by independent legal counsel (who may, to the extent permitted by law, be regular legal counsel to the Corporation) in a written opinion, or (d) by the stockholders of the Corporation.

7. Remedies. The right to indemnification or advancement of expenses as granted by this Article shall be enforceable by Indemnitee in any court of competent jurisdiction. Neither the failure of the Corporation to have made a determination prior to the commencement of such action that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation pursuant to Section 6 of this Article EIGHTH that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct. Indemnitee's expenses (including attorneys' fees) reasonably incurred in connection with successfully establishing Indemnitee's right to advancement of expenses or indemnification, in whole or in part, in any such proceeding shall also be indemnified by the Corporation.

8. Limitations. Notwithstanding anything to the contrary in this Article, except as set forth in Section 7 of this Article EIGHTH, the Corporation shall not indemnify or advance expenses to an Indemnitee pursuant to this Article EIGHTH in connection with a proceeding (or part thereof) initiated by such Indemnitee unless the initiation thereof was approved by the Board of Directors. Notwithstanding anything to the contrary in this Article, the Corporation shall not indemnify or advance expenses to an Indemnitee to the extent such Indemnitee is reimbursed or paid expenses from the proceeds of insurance, and in the event the Corporation makes any indemnification payments or advancement of expenses to an Indemnitee and such Indemnitee is subsequently reimbursed from the proceeds of insurance, such Indemnitee shall promptly refund indemnification payments or advancement of expenses to the Corporation to the extent of such insurance reimbursement.

9. Subsequent Amendment. No amendment, termination or repeal of this Article or of the relevant provisions of the General Corporation Law of Delaware or any other applicable laws shall affect or diminish in any way the rights of any Indemnitee to indemnification or advancement of expenses under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

10. Other Rights. The indemnification and advancement of expenses provided by this Article shall not be deemed exclusive of any other rights to which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or disinterested directors or otherwise, both as to action in Indemnitee's official capacity and as to action in any other capacity while holding office for the Corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of Indemnitee. Nothing contained in this Article shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification and advancement rights and procedures different from those set forth in this Article. In addition, the Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification and advancement rights

to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article.

11. Partial Indemnification and Advance of Expenses. If an Indemnitee is entitled under any provision of this Article to indemnification or advancement of expenses by the Corporation for some or a portion of the expenses (including attorneys' fees), judgments, fines or amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with any action, suit, proceeding or investigation and any appeal therefrom but not, however, for the total amount thereof, the Corporation shall nevertheless indemnify or advance expenses to Indemnitee for the portion of such expenses (including attorneys' fees), judgments, fines or amounts paid in settlement to which Indemnitee is entitled.

12. Insurance. The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan) against any expense, liability or loss incurred by him in any such capacity, or arising out of his status as such, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the General Corporation Law of Delaware.

13. Savings Clause. If this Article or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each Indemnitee as to any expenses (including attorneys' fees), judgments, fines and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including an action by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article that shall not have been invalidated and to the fullest extent permitted by applicable law.

14. Definitions. Terms used herein and defined in Section 145(h) and Section 145(i) of the General Corporation Law of Delaware shall have the respective meanings assigned to such terms in such Section 145(h) and Section 145(i).

NINTH: This Article is inserted for the management of the business and for the conduct of the affairs of the Corporation.

1. General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

2. Number of Directors; Election of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of directors of the Corporation shall be established by the Board of Directors. Until the fifth anniversary of the completion of the initial public offering of Common Stock of the Corporation, any change in the number of directors of the Corporation in any class will require a vote of not less than 75% of the directors then in office. Election of directors need not be by written ballot, except as and to the extent provided in the By-laws of the Corporation.

3. Classes of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the Board of Directors shall be and is divided into three classes: Class I, Class II and Class III. Upon the filing of this Restated Certificate of Incorporation, the Board of Directors shall assign each director then in office to one of the three classes, and, automatically and without any further action, each director shall become a member of the class to which such director is assigned and shall serve for a term of office applicable to such class.

4. Terms of Office. Subject to the rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting following the annual meeting at which such director was elected; provided that, with respect to the directors serving in the initial classes of Class I, Class II and Class III, the terms of the directors serving in Class I shall expire at the Corporation's first annual meeting of stockholders held after the initial assignment of directors to classified terms; the terms of the directors serving in Class II shall expire at the Corporation's second annual meeting of stockholders held after the initial assignment of directors to classified terms; and the terms of the directors serving in Class III shall expire at the third annual meeting of stockholders held after the initial assignment of directors to classified terms; provided, further, that the term of each director shall continue until the election and qualification of his successor and be subject to his earlier death, resignation or removal. A decrease in the number of authorized directors shall not shorten the term of any incumbent director.

5. Quorum. The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors fixed pursuant to Section 2 of this Article NINTH shall constitute a quorum. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

6. Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board of Directors unless a greater number is required by law or by this Certificate of Incorporation.

7. Removal. Subject to the rights of holders of any series of Preferred Stock, directors of the Corporation may be removed only for cause and only by the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast in an election of directors.

8. Vacancies. Subject to the rights of holders of any series of Preferred Stock and except as required by law, any vacancy or newly created directorship in the Board of Directors, however occurring, shall be filled only by the directors then in office, although less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. A director elected to fill a vacancy shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of a successor and to such director's earlier death, resignation or removal.

9. Appointment and Removal of the Chairman of the Board. Until the fifth anniversary of the completion of the initial public offering of the Common Stock of the Corporation, the appointment and removal of the Chairman of the Board will require a vote of not less than 75% of the directors then in office.

10. Stockholder Nominations and Introduction of Business, Etc. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the By-laws of the Corporation; provided, however, that no such advance notice shall be required until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation.

11. Amendments to Article. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, (i) until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least a majority of the votes which all the stockholders would be entitled to cast thereon, and (ii) following the second anniversary of the completion of the initial public offering of Common Stock

of the Corporation, the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast thereon, shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article NINTH.

TENTH: Stockholders of the Corporation may not take any action by written consent in lieu of a meeting. Notwithstanding any other provisions of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, (i) until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least a majority of the votes which all the stockholders would be entitled to cast thereon, and (ii) following the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast thereon, shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article TENTH.

ELEVENTH: Special meetings of stockholders for any purpose or purposes may be called at any time by the Board of Directors, the Chairman of the Board or the President, but such special meetings may not be called by any other person or persons. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting. Notwithstanding any other provision of law, this Certificate of Incorporation or the By-laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, (i) until the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least a majority of the votes which all the stockholders would be entitled to cast thereon, and (ii) following the second anniversary of the completion of the initial public offering of Common Stock of the Corporation, the affirmative vote of the holders of capital stock representing at least seventy-five percent (75%) of the votes which all the stockholders would be entitled to cast thereon, shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article ELEVENTH.

IN WITNESS WHEREOF, Emergent BioSolutions Inc. has caused this Third Restated Certificate of Incorporation to be duly executed and acknowledged in its name and on its behalf by an authorized officer as of this 19th day of May, 2016.

EMERGENT BIOSOLUTIONS INC.

By:/s/ Daniel J. Abdun-Nabi
Name: Daniel J. Abdun-Nabi
Title: President and Chief Executive Officer

Exhibit A

Certificate of Designations of Series A Junior Participating Preferred Stock

See attached.

CERTIFICATE OF DESIGNATIONS

OF

SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

OF

EMERGENT BIOSOLUTIONS INC.

Emergent BioSolutions Inc., a corporation organized and existing under the laws of the State of Delaware (hereinafter called the "Corporation"), hereby certifies that the following resolution was adopted by the Board of Directors of the Corporation at a meeting duly called and held on September 20, 2006:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation (hereinafter called the "Board") in accordance with the provisions of the Certificate of Incorporation, as amended, the Board hereby creates a series of Preferred Stock, $0.001 par value per share (the "Preferred Stock"), of the Corporation and hereby states the designation and number of shares, and fixes the relative rights, preferences and limitations thereof as follows:

Series A Junior Participating Preferred Stock:

Section 1. Designation and Amount. The shares of such series shall be designated as "Series A Junior Participating Preferred Stock" (the "Series A Preferred Stock") and the number of shares constituting the Series A Preferred Stock shall be One Hundred Thousand (100,000). Such number of shares may be increased or decreased by resolution of the Board prior to issuance; provided, that no decrease shall reduce the number of shares of Series A Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series A Preferred Stock.

Section 2. Dividends and Distributions.

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series A Preferred Stock with respect to dividends, the holders of shares of Series A Preferred Stock, in preference to the holders of Common Stock, par value $0.001 per share (the "Common Stock"), of the Corporation, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board out of funds of the Corporation legally available for the payment of dividends, quarterly dividends payable in cash on the last day of each fiscal quarter of the Corporation in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series A Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (a) $10 or (b) subject to the provision for adjustment hereinafter set forth, 1000 times the aggregate per share amount of all cash dividends, and 1000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series A Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series A Preferred Stock payable in shares of Series A Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series A Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series A Preferred Stock) into a greater or lesser number of shares of Series A Preferred Stock, then in each such case the amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under clause (b) of the first sentence of this Section 2(A) shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series A Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series A Preferred Stock outstanding immediately after such event.

(B) The Corporation shall declare a dividend or distribution on the Series A Preferred Stock as provided in paragraph (A) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock) and the Corporation shall pay such dividend or distribution on the Series A Preferred Stock before the dividend or distribution declared on the Common Stock is paid or set apart; provided that, in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of $10 per share on the Series A Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series A Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series A Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board may fix a record date for the determination of holders of shares of Series A Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series A Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series A Preferred Stock shall entitle the holder thereof to 1000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series A Preferred Stock payable in shares of Series A Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series A Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series A Preferred Stock) into a greater or lesser number of shares of Series A Preferred Stock, then in each such case the number of votes per share to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series A Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series A Preferred Stock outstanding immediately after such event.

(B) Except as otherwise provided herein, in the Certificate of Incorporation or by law, the holders of shares of Series A Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) (i) If at any time dividends on any Series A Preferred Stock shall be in arrears in an amount equal to six quarterly dividends thereon, the holders of the Series A Preferred Stock, voting as a separate series from all other series of Preferred Stock and classes of capital stock, shall be entitled to elect two members of the Board in addition to any Directors elected by any other series, class or classes of securities and the authorized number of Directors will automatically be increased by two. Promptly thereafter, the Board of the Corporation shall, as soon as may be practicable, call a special meeting of holders of Series A Preferred Stock for the purpose of electing such members of the Board. Such special meeting shall in any event be held within 45 days of the occurrence of such arrearage.

(ii) During any period when the holders of Series A Preferred Stock, voting as a separate series, shall be entitled and shall have exercised their right to elect two Directors, then, and during such time as such right continues, (a) the then authorized number of Directors shall be increased by two, and the holders of Series A Preferred Stock, voting as a separate series, shall be entitled to elect the additional Directors so provided for, and (b) each such additional Director shall not be a member of any existing class of the Board, but shall serve until the next annual meeting of stockholders for the election of Directors, or until his successor shall be elected and shall qualify, or until his right to hold such office terminates pursuant to the provisions of this Section 3(C).

(iii) A Director elected pursuant to the terms hereof may be removed with or without cause by the holders of Series A Preferred Stock entitled to vote in an election of such Director.

(iv) If, during any interval between annual meetings of stockholders for the election of Directors and while the holders of Series A Preferred Stock shall be entitled to elect two Directors, there is no such Director in office by reason of resignation, death or removal, then, promptly thereafter, the Board shall call a special meeting of the holders of Series A Preferred Stock for the purpose of filling such vacancy and such vacancy shall be filled at such special meeting. Such special meeting shall in any event be held within 45 days of the occurrence of such vacancy.

(v) At such time as the arrearage is fully cured, and all dividends accumulated and unpaid on any shares of Series A Preferred Stock outstanding are paid, and, in addition thereto, at least one regular dividend has been paid subsequent to curing such arrearage, the term of office of any Director elected pursuant to this Section 3(C), or his successor, shall automatically terminate, and the authorized number of Directors shall automatically decrease by two, the rights of the holders of the shares of the Series A Preferred Stock to vote as provided in this Section 3(C) shall cease, subject to renewal from time to time upon the same terms and conditions, and the holders of shares of the Series A Preferred Stock shall have only the limited voting rights elsewhere herein set forth.

(D) Except as set forth herein, or as otherwise provided by law, holders of Series A Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Series A Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series A Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Preferred Stock, except dividends paid ratably on the Series A Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series A Preferred Stock; or

(iv) redeem or purchase or otherwise acquire for consideration any shares of Series A Preferred Stock, or any shares of stock ranking on a parity with the Series A Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board) to all holders of such shares upon such terms as the Board, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Series A Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Certificate of Incorporation, or in any other Certificate of Designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

Section 6. Liquidation, Dissolution or Winding Up.

(A) Upon any liquidation, dissolution or winding up of the Corporation, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock unless, prior thereto, the holders of shares of Series A Preferred Stock shall have received $1000 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, provided that the holders of shares of Series A Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate amount to be distributed per share to holders of shares of Common Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Preferred Stock, except distributions made ratably on the Series A Preferred Stock and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up.

(B) Neither the consolidation, merger or other business combination of the Corporation with or into any other corporation nor the sale, lease, exchange or conveyance of all or any part of the property, assets or business of the Corporation shall be deemed to be a liquidation, dissolution or winding up of the Corporation for purposes of this Section 6.

(C) In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series A Preferred Stock payable in shares of Series A Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series A Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series A Preferred Stock) into a greater or lesser number of shares of Series A Preferred Stock, then in each such case the aggregate amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series A Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series A Preferred Stock outstanding immediately after such event.

Section 7. Consolidation, Merger, etc. Notwithstanding anything to the contrary contained herein, in case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of Series A Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series A Preferred Stock payable in shares of Series A Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series A Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series A Preferred Stock) into a greater or lesser number of shares of Series A Preferred Stock, then in each such case the amount set forth in the first sentence of this Section 7 with respect to the exchange or change of shares of Series A Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series A Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series A Preferred Stock outstanding immediately after such event.

Section 8. No Redemption. The shares of Series A Preferred Stock shall not be redeemable.

Section 9. Rank. The Series A Preferred Stock shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Preferred Stock issued either before or after the issuance of the Series A Preferred Stock, unless the terms of any such series shall provide otherwise.

Section 10. Amendment. At such time as any shares of Series A Preferred Stock are outstanding, the Certificate of Incorporation, as amended, of the Corporation shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series A Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series A Preferred Stock, voting together as a single class.

Section 11. Fractional Shares. Series A Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and have the benefit of all other rights of holders of Series A Preferred Stock.

IN WITNESS WHEREOF, this Certificate of Designations is executed on behalf of the Corporation by its Chief Executive Officer this 14th day of November, 2006.

EMERGENT BIOSOLUTIONS INC.

By: /s/ Fuad El-Hibri

Name: Fuad El-Hibri

Title:President, Chief Executive Officer and Chairman of the Board of Directors

FOURTH AMENDED AND RESTATED
EMERGENT BIOSOLUTIONS INC. 2006 STOCK INCENTIVE PLAN

1. Purpose

The purpose of this Fourth Amended and Restated 2006 Stock Incentive Plan (the "Plan") of Emergent BioSolutions Inc., a Delaware corporation (the "Company"), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to align their interests with those of the Company's stockholders. The Plan amends and restates the 2006 Stock Incentive Plan (the "Original Plan") that was originally adopted by the board of directors of the Company (the "Board") on October 25, 2006 and approved by the stockholders on October 27, 2006, was amended by the Board on March 31, 2009 and approved by the stockholders on May 21, 2009, was amended by the Board on March 6, 2012 and approved by the stockholders on May 17, 2012, was amended by the Board on March 20, 2014 and approved by the stockholders on May 22, 2014 and was amended by the Board on March 24, 2016 and approved by our stockholders on May 19, 2016. Except where the context otherwise requires, the term "Company" shall include any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code") and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board.

2. Eligibility

All of the Company's employees, officers, directors, consultants and advisors to the Company (as such terms consultants and advisors are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the "Securities Act"), or any successor form) are eligible to receive options, stock appreciation rights, restricted stock, restricted stock units and other stock-unit awards (each, an "Award") under the Plan. Each person who receives an Award under the Plan is deemed a "Participant".

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a "Committee"). All references in the Plan to the "Board" shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board's powers or authority under the Plan have been delegated to such Committee or officers.

(c) Delegation to Officers. Subject to any requirements of applicable law (including as applicable Sections 152 and 157(c) of the General Corporation Law of the State of Delaware), the Board may delegate to one or more officers of the Company the power to grant Awards (subject to any limitations under the Plan) to employees or officers of the Company and to exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the terms of Awards to be granted by such officers, the maximum number of shares subject to Awards that the officers may grant, and the time period in which such Awards may be granted; and provided further, that no officer shall be authorized to grant Awards to any "executive officer" of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the "***Exchange Act***")) or to any "officer" of the Company (as defined by Rule 16a-1(f) under the Exchange Act).

(d) Awards to Non-Employee Directors. Awards made to non-employee directors will be granted and administered by a Committee, all of the members of which are independent directors as defined by Section 303A.02 of the New York Stock Exchange Listed Company Manual.

4. Stock Available for Awards.

(a) Maximum Number of Shares. An aggregate of 3,750,000 shares of common stock, $0.001 par value per share, of the Company (the "Common Stock") shall be added to the 15,178,826 shares issuable or transferable under the Plan as of March 23, 2016 for a total of 18,928,826 shares.

If any Award expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right), is settled in cash, or results in any shares of Common Stock not being issued, the unused shares of Common Stock covered by such Award shall again be available for the grant of Awards under the Plan. Shares of Common Stock delivered (either by actual delivery, attestation or net exercise) to the Company by a Participant to (i) purchase shares of Common Stock upon the exercise of an Award or (ii) satisfy tax withholding obligations with respect to Options and Stock Appreciation Rights (including shares retained from the Option or Stock Appreciation Right creating the tax obligation) shall not be added back to the number of shares available for future grant of Awards (for the avoidance of doubt, shares of Common Stock delivered to the Company by a Participant to satisfy tax withholding obligations with respect to Restricted Stock, Restricted Stock Units and Other Stock Unit Awards (including shares retained from the Restricted Stock, Restricted Stock Unit or Other Stock Unit Award creating the tax obligation) shall be added back to the number of shares available for future grant of Awards). However, in the case of Incentive Stock Options (as hereinafter defined), the foregoing provisions shall be subject to any limitations under the Code. Shares of Common Stock issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares. Notwithstanding anything to the contrary herein, with respect to Stock Appreciation Rights settled in shares of Common Stock upon exercise, the aggregate number of shares of Common Stock with respect to which the Stock Appreciation Right is exercised, rather than the number of shares of Common Stock actually issued upon exercise, shall be counted against the number of shares of Common Stock available for Awards under the Plan. In no event shall shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award increase the number of shares available for future grant of Awards.

(b) Computing the Total Number of Shares of Common Stock Available Under the Plan. For purposes of computing the maximum aggregate number of shares of Common Stock available for issuance under the Plan, the following rules shall apply:

(i) Any shares of Common Stock made subject to Awards of Options or Stock Appreciation Rights shall be counted against the maximum aggregate number of shares of Common Stock available for issuance under the Plan as one (1) share of Common Stock for every one (1) share of Common Stock granted.

(ii) Any shares of Common Stock made subject to Awards of Options or Stock Appreciation Rights which shares are returned to the Plan pursuant to Section 4(a) shall be retuned as one (1) share of Common Stock for every one (1) share of Common Stock granted.

(iii) Any shares of Common Stock made subject to a Full-Value Award (as defined below): (A) granted prior to May 21, 2009, shall be counted against the maximum aggregate number of shares of Common Stock available for issuance under the Plan as one (1) share of Common Stock for every one (1) share of

Common Stock granted; (B) granted on or after May 21, 2009 but prior to May 17, 2012, shall be counted against the maximum aggregate number of shares of Common Stock available for issuance under the Plan as 1.5 shares of Common Stock for every one (1) share of Common Stock granted; (C) granted on or after May 17, 2012 but prior to May 22, 2014, shall be counted against the maximum aggregate number of shares of Common Stock available for issuance under the Plan as 1.86 shares of Common Stock for every one (1) share of Common Stock granted; and (D) granted on or after May 22, 2014, shall be counted against the maximum aggregate number of shares of Common Stock available for issuance under the Plan as 2.3 shares of Common Stock for every one (1) share of Common Stock granted. A "Full-Value Award" is an Award of Restricted Stock, a Restricted Stock Unit Award, an Other Stock Unit Award or a Performance Award.

(iv) Any shares of Common Stock made subject to a Full-Value Award which shares are returned to the Plan pursuant to Section 4(a): (A) shall be returned as one (1) share of Common Stock for every one (1) share of Common Stock granted prior to May 21, 2009; (B) shall be returned as 1.5 shares of Common Stock for every one (1) share of Common Stock granted on or subsequent to May 21, 2009 and prior to May 17, 2012; (C) shall be returned as 1.86 shares of Common Stock for every one (1) share of Common Stock granted on or subsequent to May 17, 2012 and prior to May 22, 2014. Beginning on May 22, 2014, any shares of Common Stock subject to a Full-Value Award that are returned to the Plan will be returned as 2.3 shares of Common Stock for every one (1) share of Common Stock subject to such Award, regardless of when the Award was granted.

(c) Sublimits.

(i) Section 162(m) Per Participant Limit. The maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 1,000,000 per calendar year. For purposes of the foregoing limit, the combination of an Option in tandem with a SAR (as each is hereafter defined) shall be treated as a single Award. The per Participant limit described in this Section 4(c) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder ("Section 162(m)"). For the avoidance of doubt, all shares of Common Stock underlying Awards granted under the Plan shall be counted on a one-for-one basis for purposes of the sublimit set forth in this section.

(ii) Limit Applicable to Non-Employee Directors. In any calendar year, the sum of cash compensation paid to any non-employee director for service as a director and the value of Awards under the Plan made to such non-employee director (calculated based on the grant date fair value of such Awards for financial reporting purposes) shall not exceed $1,000,000.

(d) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock unit awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a), except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an "Option") and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable. An Option that is not intended to be an Incentive Stock Option (as hereinafter defined) shall be designated a "Nonstatutory Stock Option".

(b) Incentive Stock Options. An Option that the Board intends to be an "incentive stock option" as defined in Section 422 of the Code (an "Incentive Stock Option") shall only be granted to employees of Emergent BioSolutions Inc., any of Emergent BioSolutions Inc.'s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or for any action taken by the Board, including without limitation the conversion of an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify such exercise price in the applicable option agreement; provided, however, that the exercise price shall not be less than 100% of the Fair Market Value (as defined below) on the date the Option is granted.

(d) Duration and Vesting of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement subject to the limitations of the Plan; provided, however, that no Option granted before March 6, 2012 will be granted for a term in excess of 10 years and no Option granted on or after March 6, 2012 will be granted for a term in excess of 7 years. Options granted to Participants other than non-employee directors that vest solely based on the passage of time shall not vest (i) prior to the first anniversary of the date of grant; (ii) as to more than one-third of the Award prior to the second anniversary of the date of grant; and (iii) as to more than two-thirds of the Award prior to the third anniversary of the date of grant. Options to non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the earlier of the first anniversary of the date of grant and the date of the first annual meeting held after the date of grant; (ii) as to more than one-third of the Award prior to the earlier of the second anniversary of the date of grant and the date of the second annual meeting held after the date of grant; and (iii) as to more than two-thirds of the Award prior to the earlier of the third anniversary of the date of grant and the date of the third annual meeting held after the date of grant. Notwithstanding the foregoing, the Board or the Committee, either at the time the Option is granted or at any time thereafter, may allow an Option to accelerate and become vested, in whole or in part, prior to the vesting date specified above, in the event of the death or disability of the Participant.Options that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, the earlier of the first anniversary of the date of grant and the date of the first annual meeting held after the date of grant). The foregoing minimum vesting requirements shall not apply to Awards granted, in the aggregate, for up to 5% of the authorized number of shares specified in Section 4(a). For the avoidance of doubt, all shares of Common Stock underlying Awards granted under the Plan shall be counted on a one-for-one basis for purposes of the minimum vesting provision set forth in this section. The six foregoing sentences shall apply to Options granted on or after May 19, 2016.

(e) Exercise of Option. Options may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board together with payment in full as specified in Section 5(f) for the number of shares for which the Option is exercised. Subject to Section 10(e), shares of Common Stock subject to the Option will be delivered by the Company following exercise either as soon as practicable.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(i) in cash or by check, payable to the order of the Company;

(ii) except as otherwise provided in the applicable option agreement, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding; (iii) to the extent provided for in the applicable option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their fair market value as determined by (or in a manner approved by) the Board ("Fair Market Value"), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be

established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(iv) to the extent permitted by applicable law and provided for in the applicable option agreement or approved by the Board, in its sole discretion, by (i) delivery of a promissory note of the Participant to the Company on terms determined by the Board, or (ii) payment of such other lawful consideration as the Board may determine; or

(v) by any combination of the above permitted forms of payment.

(g) Limitation on Repricing. Unless such action is approved by the Company's stockholders or is pursuant to Section 9 of the Plan: (i) outstanding Options granted under the Plan may not be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option, (ii) the Board may also not cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option, (iii) the Board may not cancel in exchange for a cash payment any outstanding Option with an exercise price per share above the then-current Fair Market Value or (iv) the Board may not take any other action under the Plan that constitutes a "repricing" under the rules of the New York Stock Exchange ("NYSE").

6. Stock Appreciation Rights

(a) General. A Stock Appreciation Right, or SAR, is an Award entitling the holder, upon exercise, to receive an amount of Common Stock determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of Common Stock. The date as of which such appreciation or other measure is determined shall be the exercise date.

(b) Grants. Stock Appreciation Rights may be granted in tandem with, or independently of, Options granted under the Plan.

(i) Tandem Awards. When Stock Appreciation Rights are expressly granted in tandem with Options, (i) the Stock Appreciation Right will be exercisable only at such time or times, and to the extent, that the related Option is exercisable (except to the extent designated by the Board in connection with a Reorganization Event or a Change in Control Event) and will be exercisable in accordance with the procedure required for exercise of the related Option; (ii) the Stock Appreciation Right will terminate and no longer be exercisable upon the termination or exercise of the related Option, except to the extent designated by the Board in connection with a Reorganization Event or a Change in Control Event and except that a Stock Appreciation Right granted with respect to less than the full number of shares covered by an Option will not be reduced until the number of shares as to which the related Option has been exercised or has terminated exceeds the number of shares not covered by the Stock Appreciation Right; (iii) the Option will terminate and no longer be exercisable upon the exercise of the related Stock Appreciation Right; and (iv) the Stock Appreciation Right will be transferable only with the related Option. No tandem SAR may have a base amount that is less than 100% of the fair market value of a share of Common Stock on the date of grant. No tandem SAR granted prior to March 6, 2012 may have a term of more than ten (10) years from the date of grant and no tandem SAR granted on or after March 6, 2012 may have a term of more than seven (7) years from the date of grant.

(ii) Independent SARs. A Stock Appreciation Right not expressly granted in tandem with an Option will become exercisable at such time or times, and on such conditions, as the Board may specify in the SAR Award; provided, however, that the base amount specified on the date of grant to calculate appreciation shall be no less than 100% of the fair market value of a share of Common Stock on the date of grant and the maximum term of any Stock Appreciation Right shall (i) with respect to Stock Appreciation Rights granted prior to March 6, 2012, be no more than ten (10) years from the date of grant and (ii) with respect to Stock Appreciation Rights granted on or after March 6, 2012 be no more than seven (7) years from the date of grant.

(c) Exercise. Stock Appreciation Rights may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board, together with any other documents required by the Board.

(d) Vesting. Stock Appreciation Rights granted to Participants other than non-employee directors that vest solely based on the passage of time shall not vest (i) prior to the first anniversary of the date of grant; (ii) as to more than one-third of the Award prior to the second anniversary of the date of grant; and (iii) as to more than two-thirds of the Award prior to the third anniversary of the date of grant. Stock Appreciation Rights granted to non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the earlier of the first anniversary of the date of grant and the date of the first annual meeting held after the date of grant; (ii) as to more than one-third of the Award prior to the earlier of the second anniversary of the date of grant and the date of the second annual meeting held after the date of grant; and (iii) as to more than two-thirds of the Award prior to the earlier of the third anniversary of the date of grant and the date of the third annual meeting held after the date of grant. Notwithstanding the foregoing, the Board or the Committee, either at the time the Stock Appreciation Right is granted or at any time thereafter, may allow an Stock Appreciation Right to accelerate and become vested, in whole or in part, prior to the vesting date specified above, in the event of the death or disability of the Participant. Stock Appreciation Rights that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, the earlier of the first anniversary of the date of grant and the date of the first annual meeting held after the date of grant). The foregoing minimum vesting requirements shall not apply to Awards granted, in the aggregate, for up to 5% of the authorized number of shares specified in Section 4(a). For the avoidance of doubt, all shares of Common Stock underlying Awards granted under the Plan shall be counted on a one-for-one basis for purposes of the minimum vesting provision set forth in this section. The six foregoing sentences shall only apply to Stock Appreciation Rights granted on or after May 19, 2016.

(e) Limitation on Repricing. Unless such action is approved by the Company's stockholders or is pursuant to Section 9 of the Plan: (i) outstanding Stock Appreciation Rights granted under the Plan may not be amended to provide a base price per share that is lower than the then-current base price per share of such outstanding Stock Appreciation Right, (ii) the Board may also not cancel any outstanding stock appreciation right (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having a base price per share lower than the then-current base price per share of the cancelled stock appreciation right, (iii) the Board may not cancel in exchange for a cash payment any outstanding Stock Appreciation Right with a base price per share above the then-current Fair Market Value or (iv) the Board may not take any other action under the Plan that constitutes a "repricing" under the rules of the NYSE.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock ("Restricted Stock"), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. Instead of granting Awards for Restricted Stock, the Board may grant Awards entitling the recipient to receive shares of Common Stock to be delivered at the time such shares of Common Stock vest ("Restricted Stock Units") (Restricted Stock and Restricted Stock Units are each referred to herein as a "Restricted Stock Award").

(b) Terms and Conditions for all Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, provided that for Restricted Stock Awards granted on or after May 19, 2016, the following minimum vesting provisions shall apply. Restricted Stock Awards granted to Participants other than non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the first anniversary of the date of grant; (ii) as to more than one-third of the Award prior to the second anniversary of the date of grant; and (iii) as to more than two-thirds of the Award prior to the third anniversary of the date of grant. Restricted Stock Awards granted to non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the earlier of the first anniversary of the date of grant

and the date of the first annual meeting held after the date of grant; (ii) as to more than one-third of the Award prior to the earlier of the second anniversary of the date of grant and the date of the second annual meeting held after the date of grant; and (iii) as to more than two-thirds of the Award prior to the earlier of the third anniversary of the date of grant and the date of the third annual meeting held after the date of grant. Restricted Stock Awards that do not vest solely based on the passage of time (excluding Performance Awards granted pursuant to Section 10(i)) shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, the earlier of the first anniversary of the date of grant and date of the first annual meeting held after the date of grant).

Notwithstanding any other provision of the Plan (other than Section 10(i), if applicable), the Board or Committee may, either at the time a Restricted Stock Award is made or at any time thereafter, waive any right to repurchase shares of Common Stock (or waive the forfeiture thereof) or remove or modify the restrictions applicable to the Restricted Stock Award, in whole or in part, in the event of the death or disability of the Participant. The foregoing minimum vesting requirements shall not apply to Awards granted, in the aggregate, for up to 5% of the authorized number of shares specified in Section 4(a). For the avoidance of doubt, all shares of Common Stock underlying Awards granted under the Plan shall be counted on a one-for-one basis for purposes of the minimum vesting provisions set forth in this section.

(c) Additional Provisions Relating to Restricted Stock

(i) Dividends. Unless otherwise provided in the applicable Award agreement, any dividends (whether paid in cash, stock or property) declared and paid by the Company with respect to shares of Restricted Stock ("Unvested Dividends") shall be paid to the Participant only if and when such shares become free from the restrictions on transferability and forfeitability that apply to such shares. Each payment of Unvested Dividends will be made no later than the end of the calendar year in which the dividends are paid to stockholders of that class of stock or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the shares of Restricted Stock.

(ii) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death (the "Designated Beneficiary"). In the absence of an effective designation by a Participant, "Designated Beneficiary" shall mean the Participant's estate.

(d) Additional Provisions Relating to Restricted Stock Units

(i) Settlement. Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company such number of shares of Common Stock or an amount of cash equal to the Fair Market Value of such number of shares of Common Stock, as provided in the applicable Award agreement. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant.

(ii) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(iii) Dividend Equivalents. To the extent provided by the Board, in its sole discretion, a grant of Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("Dividend Equivalents"). Dividend Equivalents may be settled in cash and/or shares of Common Stock and shall be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid, as determined by the Board in its sole discretion, subject in each case to such terms and conditions as the Board shall establish, in each case to be set forth in the applicable Award agreement.

8. Other Stock-Unit Awards

Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants ("Other Stock Unit Awards"), including without limitation Awards entitling recipients to receive shares of Common Stock to be delivered in the future. Such Other Stock Unit Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock Unit Awards may be paid in shares of Common Stock or cash, as the Board shall determine. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock Unit Award, including any purchase price applicable thereto**,** provided that for Other Stock Unit Awards granted on or after May 19, 2016 the following minimum vesting provisions shall apply.

Other Stock Unit Awards granted to Participants other than non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the first anniversary of the date of grant; (ii) as to more than one-third of the Award prior to the second anniversary of the date of grant; and (iii) as to more than two-thirds of the Award prior to the third anniversary of the date of grant. Other Stock Unit Awards granted to non-employee directors that vest solely based on the passage of time shall not vest: (i) prior to the earlier of the first anniversary of the date of grant and the date of the first annual meeting held after the date of grant; (ii) as to more than one-third of the Award prior to the earlier of the second anniversary of the date of grant and the date of the second annual meeting held after the date of grant; and (iii) as to more than two-thirds of the Award prior to the earlier of the third anniversary of the date of grant and the date of the third annual meeting held after the date of grant. Other Stock Unit Awards that do not vest solely based on the passage of time (excluding Performance Awards granted pursuant to Section 10(i)) shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, the earlier of the first anniversary of the date of grant and date of the first annual meeting held after the date of grant).

Notwithstanding any other provision of the Plan (other than Section 10(i), if applicable), the Board or Committee may, either at the time a Stock Unit Award is made or at any time thereafter, waive any right to repurchase shares of Common Stock (or waive the forfeiture thereof) or remove or modify the restrictions applicable to the Stock Unit Award, in whole or in part, in the event of the death or disability of the Participant. The foregoing minimum vesting requirements shall not apply to Awards granted, in the aggregate, for up to 5% of the authorized number of shares specified in Section 4(a)(1). For the avoidance of doubt, all shares of Common Stock underlying Awards granted under the Plan shall be counted on a one-for-one basis for purposes of the minimum vesting provisions set forth in this section.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the limits set forth in Section 4(c), (iii) the share- and per-share provisions and the exercise price of each SAR, (iv) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award, and (v) the share- and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock Unit Award, shall be appropriately adjusted by the Company (or substituted Awards may be made, if applicable) to the extent determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to any outstanding Options are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then optionees who exercise such Options between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization and Change in Control Events

(i) Definitions

(A) A "Reorganization Event" shall mean:

(1) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled;

(2) any exchange of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange transaction; or

(3) any liquidation or dissolution of the Company.

(B) A "Change in Control Event" shall mean:

(1) the acquisition by an individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Exchange Act) (a "Person") of beneficial ownership of any capital stock of the Company if, after such acquisition, such Person beneficially owns (within the meaning of Rule 13d 3 promulgated under the Exchange Act) 50% or more of either (x) the aggregate number of shares of Common Stock then-outstanding (the "Outstanding Company Common Stock") or (y) the combined voting power of the then-outstanding securities of the Company entitled to vote generally in the election of directors (the "Outstanding Company Voting Securities"); provided, however, that for purposes of this subsection (1), the following acquisitions shall not constitute a Change in Control Event: (A) any acquisition directly from the Company (excluding an acquisition pursuant to the exercise, conversion or exchange of any security exercisable for, convertible into or exchangeable for common stock or voting securities of the Company, unless the Person exercising, converting or exchanging such security acquired such security directly from the Company or an underwriter or agent of the Company), (B) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company, or (C) any acquisition by any corporation pursuant to a Business Combination (as defined below) which complies with clauses (x) and (y) of subsection (3) of this definition; or

(2) such time as the Continuing Directors (as defined below) do not constitute a majority of the Board (or, if applicable, the Board of Directors of a successor corporation to the Company), where the term "Continuing Director" means at any date a member of the Board (x) who was a member of the Board on the date of the initial adoption of this Plan by the Board or (y) who was nominated or elected subsequent to such date by at least a majority of the directors who were Continuing Directors at the time of such nomination or election or whose election to the Board was recommended or endorsed by at least a majority of the directors who were Continuing Directors at the time of such nomination or election; provided, however, that there shall be excluded from this clause (y) any individual whose initial assumption of office occurred as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents, by or on behalf of a person other than the Board; or (3) the consummation of a merger, consolidation, reorganization, recapitalization or share exchange involving the Company or a sale or other disposition of all or substantially all of the assets of the Company (a "Business Combination"), unless, immediately following such Business Combination, each of the following two conditions is satisfied: (x) all or substantially all of the individuals and entities who were the beneficial owners of the Outstanding Company Common Stock and Outstanding Company Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than 50% of the then-outstanding shares of common stock and the combined voting power of the then-outstanding securities entitled to vote generally in the election of directors, respectively, of the resulting or acquiring corporation in such Business Combination (which shall include, without limitation, a corporation which as a result of such transaction owns the Company or substantially all of the Company's assets either directly or through one or more subsidiaries) (such resulting or acquiring corporation is referred to herein as the "Acquiring Corporation") in substantially the same proportions as their ownership of the Outstanding Company Common Stock and Outstanding Company Voting Securities, respectively, immediately prior to such Business Combination and (y) no Person (excluding any employee benefit plan (or related trust) maintained or sponsored by the Company or by the Acquiring Corporation) beneficially owns, directly or indirectly, 50% or more of the then-outstanding shares of common stock of the Acquiring Corporation, or of the combined voting power of the then-outstanding securities of such corporation entitled to vote generally in the election of directors (except to the extent that such ownership existed prior to the Business Combination); or

(3) the liquidation or dissolution of the Company.

(C) "Good Reason" shall mean any significant diminution in the Participant's title, authority, or responsibilities from and after such Reorganization Event or Change in Control Event, as the case may be, or any reduction in the annual cash compensation payable to the Participant from and after such Reorganization Event or Change in Control Event, as the case may be, or the relocation of the place of business at which the Participant is principally located to a location that is greater than 50 miles from its location immediately prior to such Reorganization Event or Change in Control Event.

(D) "Cause" shall mean any (i) willful failure by the Participant, which failure is not cured within 30 days of written notice to the Participant from the Company, to perform his or her material responsibilities to the Company, (ii) willful misconduct by the Participant which affects the business reputation of the Company, (iii) material breach by the Participant of any employment, consulting, confidentiality, non-competition or non-solicitation agreement with the Company, (iv) conviction or plea of nolo contendere (no contest) by the Participant to a felony, or (v) commission by the Participant of any act involving fraud, theft or dishonesty with respect to the Company's business or affairs. The Participant shall be considered to have been discharged for "Cause" if the Company determines, within 30 days after the Participant's resignation, that discharge for Cause was warranted.

(ii) Effect on Options

(A) Reorganization Event. Upon the occurrence of a Reorganization Event (regardless of whether such event also constitutes a Change in Control Event), or the execution by the Company of any agreement with respect to a Reorganization Event (regardless of whether such event will result in a Change in Control Event), the Board shall provide that all outstanding Options shall be assumed, or equivalent options shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof); provided that if such Reorganization Event also constitutes a Change in Control Event, except to the extent specifically provided to the contrary in the instrument evidencing any Option or any other agreement between a Participant and the Company such assumed or substituted options shall become immediately exercisable in full if, on or prior to the first anniversary of the date of the consummation of the Reorganization Event, the Participant's employment with the Company or the acquiring or succeeding corporation is terminated for Good Reason by the Participant or is terminated without Cause by the Company or the acquiring or succeeding corporation or the Participant's service on the Board is terminated. For purposes hereof, an Option shall be considered to be assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of common stock of the acquiring or succeeding corporation (or an affiliate thereof) equivalent in value (as determined by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

Notwithstanding the foregoing, if the acquiring or succeeding corporation (or an affiliate thereof) does not agree to assume, or substitute for, some or all of such Options, or in the event of a liquidation or dissolution of the Company, the Board shall, upon written notice to the Participants, provide with respect to any Options that are not to be assumed by an acquiring or succeeding corporation that all then unexercised Options will become exercisable in full as of a specified time prior to the Reorganization Event and will terminate immediately prior to the consummation of such Reorganization Event, except to the extent exercised by the Participants before the consummation of such Reorganization Event; provided, however, that in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share of Common Stock surrendered pursuant to such Reorganization Event (the "Acquisition Price"), then the Board may instead provide that all such outstanding Options shall terminate upon consummation of such Reorganization Event and that each Participant shall receive, in exchange therefor, a cash payment equal to the amount (if any) by

which (A) the Acquisition Price multiplied by the number of shares of Common Stock subject to such outstanding Options (whether or not then exercisable), exceeds (B) the aggregate exercise price of such Options and any applicable tax withholdings.

(B) Change in Control Event that is not a Reorganization Event. Upon the occurrence of a Change in Control Event that does not also constitute a Reorganization Event, except to the extent specifically provided to the contrary in the instrument evidencing any Option or any other agreement between a Participant and the Company, then outstanding Options shall continue to become vested in accordance with the original vesting schedule set forth in such Option, provided, however, that each such Option shall be immediately exercisable in full if, on or prior to the first anniversary of the date of the consummation of the Change in Control Event, the Participant's employment with the Company or the acquiring or succeeding corporation is terminated for Good Reason by the Participant or is terminated without Cause by the Company or the acquiring or succeeding corporation.

(iii) Effect on Restricted Stock Awards

(A) Reorganization Event that is not a Change in Control Event. Upon the occurrence of a Reorganization Event that is not a Change in Control Event, the repurchase and other rights of the Company under each outstanding Restricted Stock Award shall inure to the benefit of the Company's successor and shall apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to the Common Stock subject to such Restricted Stock Award.

(B) Change in Control Event. Upon the occurrence of a Change in Control Event (regardless of whether such event also constitutes a Reorganization Event), except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock Award or any other agreement between a Participant and the Company, each then outstanding Restricted Stock Award shall continue to become free from conditions or restrictions in accordance with the original schedule set forth in such Restricted Stock Award, provided, however, that each such Restricted Stock Award shall immediately become free from all conditions or restrictions if, on or prior to the first anniversary of the date of the consummation of the Change in Control Event, the Participant's employment with the Company or the acquiring or succeeding corporation is terminated for Good Reason by the Participant or is terminated without Cause by the Company or the acquiring or succeeding corporation.

(iv) Effect on Stock Appreciation Rights and Other Stock Unit Awards

The Board may specify in an Award at the time of the grant the effect of a Reorganization Event and Change in Control Event on any SAR and Other Stock Unit Award.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant, except as may be otherwise provided in an Award agreement; provided, however, that the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, domestic partner, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if, with respect to such proposed transferee, the Company would be eligible to use a Registration Statement on Form S-8 for the registration of the sale of the Common Stock subject to such Award under the Securities Act ; provided, further, that the Company shall not be required to recognize any such transfer until such time as the Participant and such authorized transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award; and, provided, further, that no option intended to be an incentive stock option shall be transferable unless the Board shall otherwise permit. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, termination of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise or release from forfeiture of an Award or, if the Company so requires, at the same time as is payment of the exercise price unless the Company determines otherwise. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income), except that, to the extent that the Company is able to retain shares of Common Stock having a Fair Market Value that exceeds the statutory minimum applicable withholding tax without financial accounting implications or the Company is withholding in a jurisdiction that does not have a statutory minimum withholding tax, the Company may retain such number of shares of Common Stock (up to the number of shares having a fair market value equal to the maximum individual statutory rate of tax (determined by (or in a manner approved by) the Company)) as the Company shall determine in its sole discretion to satisfy the tax liability associated with any Award. Shares surrendered to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Sections 5(g) and 6(e) with respect to repricings, Sections 5(d), 6(d), 7(b) and 8 with respect to minimum vesting of Awards, Section 10(i) with respect to Performance Awards or Section 11(d) with respect to actions requiring stockholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option, provided either (i) that the Participant's consent to such action shall be required unless the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant or (ii) that the change is permitted under Section 9 hereof; provided further, notwithstanding anything to the contrary herein, the Board shall have no authority to amend, modify or terminate any outstanding Award that has the same effect of actions expressly prohibited by Section 5(g) and requires approval by the Company's stockholders.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to

the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. Except as provided in Sections 5(d), 6(d), 7(b), 8 and 10(i), the Board may at any time provide that any Award shall become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

(i) Performance Awards

(i) Grants. Restricted Stock Awards and Other Stock Unit Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 10(i) ("Performance Awards"), subject to the limit in Section 4(c) on shares covered by such grants. Performance Awards can also provide for cash payments of up to $2,000,000 per calendar year per individual. Performance Awards shall not vest prior to the first anniversary of the date of grant. If Dividends or Dividend Equivalents are granted in connection with a Performance Award, such Dividend or Dividend Equivalent shall be paid only if the performance goal or goals associated with such Performance Award are satisfied.

(ii) Committee. Grants of Performance Awards to any Covered Employee intended to qualify as "performance-based compensation" under Section 162(m) ("Performance-Based Compensation") shall be made only by a Committee (or subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as "performance-based compensation" under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be deemed to be references to such Committee or subcommittee. "Covered Employee" shall mean any person who is a "covered employee" under Section 162(m)(3) of the Code.

(iii) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following, which may be determined in accordance with Generally Accepted Accounting Principles ("GAAP") or on a non-GAAP basis:

(A) *Earnings or Profitability Measures*, including but not limited to: (i) revenue (gross, operating or net); (ii) revenue growth; (iii) income (gross, operating, net or adjusted); (iv) earnings before interest and taxes ("EBIT"); (v) earnings before interest, taxes, depreciation and amortization ("EBITDA"); (vi) earnings growth, (vii) profit margins or contributions; and (viii) expense levels or ratios;

(B) *Return Measures*, including, but not limited to: return on (i) investment; (ii) assets; (iii) equity; or (iv) capital (total or invested);

(C) *Cash Flow Measures*, including but not limited to: (i) operating cash flow; (ii) cash flow sufficient to achieve financial ratios or a specified cash balance; (iii) free cash flow; (iv) cash flow return on capital; (v) net cash provided by operating activities; (vi) cash flow per share; and (vii) working capital or adjusted working capital;

(D) *Stock Price and Equity Measures*, including, but not limited to: (i) return on stockholders' equity; (ii) total stockholder return; (iii) stock price; (iv) stock price appreciation; (v) market capitalization; (vi) earnings per share (basic or diluted) (before or after taxes); and (vii) price-to-earnings ratio;

(E) *Strategic Metrics*, including, but not limited to: (i) acquisitions or divestitures; (ii) collaborations, licensing or joint ventures; (iii) product research and development; (iv) clinical trials; (v) regulatory filings or approvals; (vi) patent application or issuance; (vii) manufacturing or process development; (viii) sales or net sales; (ix) sales growth, (x) market share; (xi) market penetration; (xii) inventory control; (xiii) growth in assets; (xiv) key hires; (xv) business expansion; (xvi) achievement of milestones under a third-party agreement; (xvii) financing; (xviii) resolution of significant litigation; (xix) legal compliance or risk reduction; (xx) improvement of financial ratings; or (xxi) achievement of balance sheet or income statement objectives,

(F) In each case such performance measures may be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the impairment or writedown of any asset or assets, (v) charges for restructuring and rationalization programs or (vi) other extraordinary or non-recurring items, as specified by the Committee when establishing the performance measures. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(iv) Adjustments. Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of Shares payable pursuant to such Award, and the Committee may not waive the achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(v) Other. The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation.

11. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan shall become effective immediately prior to the closing of the Company's initial public offering. No Awards shall be granted prior to (i) the date on which the Plan was adopted by the Board or (ii) the date the Plan was approved by the Company's stockholders. The Plan shall expire on December 31, 2021.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time; provided, however, that, to the extent determined by the Board, no amendment requiring stockholder approval under any applicable legal, regulatory or listing requirement shall become effective until such stockholder approval is obtained; provided further, that stockholder approval shall be required for any amendment to the Plan that (i) materially increases the number of shares of Common Stock available for issuance under the Plan (other than an increase to reflect an adjustment described in Section 9) or (ii) materially expands the class of service providers eligible to participate in the Plan.

(e) Authorization of Sub-Plans. The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable blue sky, securities or tax laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to this Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Provisions for Foreign Participants. The Board may modify Awards or Options granted to Participants who are foreign nationals or employed outside the United States or establish subplans or procedures under the Plan to recognize differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

(g) Compliance with Code Section 409A. Except as provided in individual Award agreements initially or by amendment, if and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes "nonqualified deferred compensation" within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A of the Code) (the "New Payment Date"), except as Section 409A of the Code may then permit. The
aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than such state.

Approved by the Board of Directors of Emergent
BioSolutions Inc. on March 24, 2016, subject to
stockholder approval.

EXHIBIT 10.3

CONSULTING AGREEMENT

This Consulting Agreement ("***Agreement***"), effective as of 8:00 am on May 18, 2016 ("***Effective Date***"), is made by and between Emergent BioSolutions Inc. ("***Emergent***"), having its principal office at 400 Professional Drive, Suite 400, Gaithersburg, Maryland 20879, and John E. Niederhuber, M.D. ("***Consultant***"), having his principal office at **** ********** *****, *******, ** *****. Emergent and Consultant are hereinafter referred to individually as "***Party***" or collectively as the "***Parties***". The Parties hereby agree as follows:

WHEREAS, Emergent plans to spin-off its biosciences business (the "**Spin-off**") to create a separate, independent public company to be named Aptevo Therapeutics Inc. ("**Aptevo**").

WHEREAS, it is anticipated that Consultant will cease to be a member of the Emergent board of directors prior to Emergent's 2016 annual meeting of shareholders and will become a member of the Aptevo board of directors upon the effectiveness of the Spin-off.

WHEREAS, Emergent desires to retain the services of Consultant to provide evaluative services, expert advice and guidance, general strategy recommendations, and other similar assistance regarding industry products, technology platforms, and research and development programs as may be reasonably requested from time to time by the Scientific Review Committee of the Emergent Board of Directors.

WHEREAS, it is further desired that the Consultant be able to maintain the status of "independent director" (as defined by the rules of the NASDAQ Stock Market LLC) of Aptevo, notwithstanding this Agreement.

NOW, THEREFORE, in consideration of the foregoing and subject to the covenants and conditions set forth herein, the Parties agree as follows:

1. Services; Orders. Beginning on the Effective Date, Consultant agrees to perform certain services ("***Services***") for Emergent as mutually agreed from time to time in a fully-executed work order or purchase order (each, an "***Order***"), substantially similar to the form attached hereto as Exhibit A. Each Order shall identify the Services to be performed, the person(s) providing Services, applicable milestones and deliverables, and the fees and maximum compensation. If Consultant is requested or required to perform work beyond the Services necessarily contemplated by or specifically set forth in an applicable Order, any such additional work and an appropriate adjustment to amounts payable shall be negotiated in good faith and mutually agreed upon in writing prior to the performance thereof. If any Affiliate of Emergent enters into an Order with Consultant, for purposes of such Order and this Agreement "Emergent" shall mean and refer to such Affiliate, and "Parties" shall mean and refer to such Affiliate and Consultant. "***Affiliate***" shall mean any direct or indirect, current or future subsidiary of a Party, or any other entity controlled by, under common control with, or which controls such Party. "***Control***" shall mean direct or indirect possession of at least fifty percent (50%) of another entity's voting equity (or other comparable interest for a non-corporation), or the power to direct or cause the direction of the management or policies of such entity whether through ownership of securities, by contract or otherwise. Unless otherwise explicitly noted in an Order, this Agreement supersedes any provision of any Order or other document that is inconsistent with this Agreement. "***Representatives***" shall mean the members, principals, directors, shareholders, officers, employees, agents, Affiliates and advisors of a Party.

2. Federally-funded Services. In the event that Emergent uses a Federal grant or contract as the source of funding for any Services, Emergent shall notify Consultant and may require, as a condition of such grant or contract and for continued eligibility for such federal funding, that the Parties comply with additional contract provisions, including certain clauses of the Federal Acquisitions Regulation, agency supplements, policy directives or other terms and conditions ("***Flowdown Provisions***"). Emergent shall have the right to include applicable Flowdown Provisions in the relevant Order, and Consultant shall comply with such Flowdown Provisions. If Flowdown Provisions require Emergent to submit detailed and certified cost or pricing data for Consultant's performance of Services, Consultant shall promptly provide and certify such non-proprietary data as is reasonably required to permit Emergent to comply with the Flowdown Provisions. Consultant shall also provide any other cost or pricing data as is required for Consultant to comply with the Flowdown Provisions. Notwithstanding any indemnification provision(s) of this Agreement to the contrary, unless otherwise specified in the applicable Order, Consultant shall indemnify and hold harmless Emergent for any cost or price reduction effected by the Federal Government, to the extent caused by (a) certified cost or pricing data submitted by Consultant or its permitted subcontractors that is not accurate, current or complete as certified by Consultant, or (b) the failure of Consultant or its permitted subcontractors to disclose and consistently follow applicable cost accounting practices and standards or otherwise comply with the Flowdown Provisions (including any regulations promulgated by the Cost Accounting Standards Board).

3. Performance Standards. Services shall be provided in accordance with the terms of this Agreement, specific requirements of the Order, and best industry standards applicable thereto. Consultant shall have the right to control and determine the time, place, methods, manner and means of performing the Services. In performing the Services, the amount of time devoted by Consultant on any given day will be entirely within Consultant's control, and Emergent will rely on Consultant to put in the amount of time as is necessary to satisfactorily provide the Services. Consultant shall (a) provide the facilities and supplies necessary to perform Services unless otherwise specified in an applicable Order, (b) report to the authorized contact(s) identified in the applicable Order or such other person(s) as Emergent or its Affiliates may designate from time to time in writing, (c) provide Emergent with deliverables and reports described in the applicable Order or such other reports as Emergent or its Affiliates may from time to time request, and (d) not subcontract with or otherwise engage or consult any third party to provide Services or any part thereof without Emergent's prior written consent.

4. Payment. Emergent shall compensate Consultant for Services rendered based on invoices submitted by Consultant under the applicable Order and in accordance with the terms of this Agreement and any Order. All invoices shall reference the Emergent Accounting Codes designated in the applicable Order. Invoices shall be payable within forty-five (45) days of receipt by Emergent. Payment of an invoice shall be in full compensation for the corresponding Services performed unless expressly otherwise agreed in writing by the Parties. Consultant shall not receive employee benefits (such as paid vacation, sick leave or any insurance benefits) from Emergent even if Consultant is physically situated at Emergent's offices. Consultant shall be fully responsible for payment of all income taxes, social security taxes, and for any other taxes or payment which may be due and owing by Consultant as the result of fees or amounts paid to Consultant by Emergent under this Agreement, and Consultant shall indemnify and hold harmless Emergent from and against any such tax or payment.

5. Expenses. Unless otherwise set forth in an applicable Order, Emergent shall reimburse Consultant for out-of-pocket expenses reasonably incurred in the performance of Services in addition to the compensation detailed in the applicable Order. Consultant shall submit monthly invoices detailing and categorizing expenses incurred during the immediately preceding month and shall provide supporting documentation as reasonably required by Emergent. Expenses shall not be marked up. Unless otherwise provided in the applicable Order, all travel must be in accordance with Emergent's policy, including, but not limited to, Emergent's Corporate Travel, Food and Lodging Policy. This Agreement relates to the provision of Services only, and Consultant shall not purchase equipment, goods, software or other tangible or intangible property for which it will seek reimbursement from Emergent without Emergent's express, prior written authorization.

6. Confidential Information. Consultant acknowledges that this Agreement creates a confidential relationship between the Parties, and that, in order to perform the Services, Consultant or its employees may need to have access to certain commercially valuable, proprietary, and non-public information that Emergent considers to be Confidential Information ("***Confidential Information***") means any and all written, oral, electronic, graphic or other

information relating directly or indirectly to Emergent, or its Affiliates, or the business, products, markets, customers, suppliers, condition (financial or otherwise), operations, assets, liabilities, results of operations, cash flows or prospects of Emergent or its Affiliates that is delivered, disclosed or furnished by or on behalf of Emergent or its Affiliates to Consultant or its Representatives whether before, on or after the Effective Date hereof, or which Consultant or its Representatives otherwise learns or obtains, through observation or through analysis of such information, and shall also be deemed to include all notes, analyses, compilations, studies, forecasts, interpretations or other documents prepared by Consultant or its Representatives to the extent such material contains, reflects or is directly based upon, in whole or in part, such information. Confidential Information may include, without limitation, technical information, business plans, identification or characterization of biological or other materials, results and/or design of experiments or preclinical or clinical testing, know-how, trade secrets, methods, methodologies, designs, specifications, clinical protocols, data, inventions, improvements, intellectual properties, devices, processes, procedures, financial analysis, accounting policies and procedures, employee staffing, employee compensation and benefits, manuals and marketing and advertising strategies disclosed directly or indirectly by Emergent or its Affiliates to Consultant (whether prepared by Emergent or its Representatives). The existence, terms and conditions of this Agreement, any Work Product (as defined below), and any communications related to the Services shall also be considered Confidential Information. Consultant agrees to keep confidential and not, without the prior written consent of Emergent, publish, disclose to any third party or use (except for purposes of performance under this Agreement) any Confidential Information. The obligations of this paragraph do not pertain to information which is generally known or hereafter becomes generally known to the public through no fault of Consultant. Consultant shall promptly return all Confidential Information (including any copies thereof) to Emergent upon completion of the Term (as defined below) or upon Emergent's request. Consultant shall be entitled to disclose Confidential Information as required by applicable law, regulation or court order only to the extent necessary to comply therewith; *provided, however*, Consultant shall provide Emergent an opportunity to seek to prevent disclosure of, or to obtain a protective order for, such Confidential Information by giving advance written notice of such required disclosure; *provided further*, that Consultant shall make such required disclosures in consultation with Emergent and shall cooperate with Emergent in connection with efforts to obtain any protective order or other remedy.

7. Ownership of Work Product. The Parties recognize that it is unlikely that Consultant will develop any inventions during the Term. However, it is expected that Consultant will prepare documents and information on behalf of Emergent, and it is expected that Consultant will work closely with scientific staff. Consequently, and for removal of any doubt, Consultant shall promptly disclose to Emergent in writing all data, information, documents, know-how, materials and inventions relating to or arising out of Services ("***Work Product***"), and agrees that all right, title, and interest in and to the Work Product shall belong to and be the property of Emergent. Consultant does hereby assign, transfer, and convey to Emergent and its successors and assigns all its rights, title and interest in and to the Work Product and shall promptly do and ensure that its Representatives do all acts and sign all documents necessary to perfect Emergent's rights, title, and interest in and to such Work Product as shall be requested by Emergent (at Emergent's expense). All documents and materials prepared by Consultant in the performance of Services constitute works-for-hire and shall belong to and be the exclusive property of Emergent, and shall be surrendered by Consultant to Emergent upon request.

8. Independent Contractor. With respect to the subject matter hereof, the Parties are and remain independent contractors. This Agreement shall not be deemed to create an employer/employee relationship, joint venture, partnership, association, or agency between the Parties. Consultant is not authorized to incur or create any obligation (express or implied) on behalf of Emergent or to bind Emergent in any manner whatsoever.

9. Term; Termination. This Agreement is effective as of the Effective Date and shall continue in effect until the Agreement otherwise terminates under this Section ("***Term***"). This Agreement (or any Order, as applicable) shall terminate upon the first to occur of the following dates (the "***Termination Date***"): (a) June 30, 2018, (b) the date Emergent provides Consultant with written notice (setting out with particularity) that this Agreement is being terminated for "cause" where Consultant: (i) commits any act of embezzlement, theft or fraud against Emergent; (ii) is convicted of a felony or any crime involving moral turpitude, whether or not related to Services; (iii) commits any act of gross negligence or willful misconduct; or (iv) breaches the representations, warranties or covenants contained in this Agreement; or (c) the date Consultant terminates the Agreement for convenience on not less than thirty (30) days' prior written notice. If this Agreement is terminated by Emergent under the foregoing subsection (b)(iv), in addition to any other rights or remedies available at law or in equity, Consultant will surrender any claim for payment under the Agreement and will refund any payments received under this Agreement. The provisions of Sections 4 – 7, 9, 11 – 14, and 17 shall survive the expiration or termination of this Agreement for any reason. Upon termination of this Agreement, Emergent shall have no further liability other than for payment in accordance with the terms of this Agreement for Services provided prior to the termination date.

10. Representations and Warranties. In addition to any other representations and warranties set forth in this Agreement, Consultant represents and warrants that: (a) Consultant will perform Services in a competent, diligent and workmanlike manner consistent with best industry standards of professional conduct; (b) Consultant has not ever been debarred, and any Consultant representative who provides any portion of the Services has not been debarred, pursuant to the United States Food, Drug and Cosmetic Act, or been excluded from any federal health care program (including Medicare or Medicaid), and Consultant will notify Emergent immediately if any of the foregoing occurs; (c) Consultant shall not use, in the performance of the Services or the creation of any Work Product, or disclose to Emergent, any confidential or proprietary information of any other person in violation of any obligation or duty that Consultant owes to the other person, and Consultant's compliance with this Section 10(c) will not restrict or impair Consultant's performance of the Services and its other obligations to Emergent; (d) Consultant has full power to enter into and fully perform this Agreement and Consultant's execution, delivery and performance of this Agreement does not violate any employment, nondisclosure, confidentiality, consulting or other agreement to which Consultant is a party or by which it may be bound; (e) in the event Consultant is employed by a third party, Consultant has verified that the Services do not present a conflict with Consultant's primary employment and that Consultant has the right and authority to enter into this Agreement and to comply with the requirements of Section 7 (Ownership of Work Product); and (f) Consultant shall maintain, at Consultant's sole cost and expense, policies of private health insurance and automobile liability insurance at commercially reasonable levels.

11. Compliance with Laws. Consultant shall perform its duties and responsibilities hereunder in accordance with the highest standards of ethical business conduct and not engage in any acts or activities that are illegal or that may adversely affect or reflect upon the business, integrity or goodwill of Emergent. Consultant shall take no action that it believes might cause (or be construed as causing) Emergent to be in violation of international, federal, state or local laws or regulations, or Emergent's policies and procedures. Consultant further agrees, to the extent applicable to performance of the Services, to abide by the Emergent BioSolutions Code of Conduct & Business Ethics policy as posted on Emergent's website (see www.emergentbiosolutions.com). Without limiting the generality of the foregoing, Consultant represents, warrants and agrees that Consultant will: (a) comply with all applicable laws, rules and regulations, including anti-bribery, anti-corruption and anti-gratuities laws or other similar laws; (b) comply with Emergent stated policies and procedures generally applicable to parties operating at Emergent's offices, including those governing safety, health, harassment, and discrimination; (c) prohibit its staff or any representatives from involvement with the payment or giving of anything of value, either directly or indirectly, to an official of any government, political party or official thereof, any candidate for foreign political office, or any official of an international organization, for the purpose of influencing an act or decision in its official capacity, or inducing that official to use influence with any government, to assist Emergent in obtaining or retaining business for or with, or directing business to, any person, or for obtaining an improper advantage; and (d) certify in writing, at such times as may be requested by Emergent, that Consultant and its Representatives understand, have complied with and are in compliance with the foregoing. Consultant will immediately advise Emergent if Consultant should learn of or have reason to believe that there has been a violation of any of the foregoing undertakings.

12. Export Control Restrictions. Each Party agrees that information related to the development, production or use of a product, material, software or other item subject to the export control laws of the United States, the United Kingdom or other applicable jurisdiction ("***Controlled Technology***") will not be transferred or "released" (as that term is defined in Title 15 CFR Sec. 734.2(b)(3)) to the other Party unless and until the Party proposing to disclose such Controlled Technology notifies the prospective receiving Party that such information constitutes Controlled Technology and the prospective receiving Party agrees in writing to receive such Controlled Technology, and that any such ultimate disclosure or "release" shall be provided under a license or as may otherwise be authorized by applicable law.

13. Indemnification. Consultant shall hold harmless and indemnify Emergent, and its Representatives, from and against any and all suits, demands, losses, damages, judgments, claims, costs (including reasonable attorneys' fees and costs) or other liabilities (including claims for personal injury or death) to the extent arising from or relating to the performance of Services under this Agreement, or the negligence, acts or omissions of Consultant or any of Consultant's Representatives.

14. Dispute Resolution. All disputes or claims arising hereunder that cannot be resolved by the Parties shall be submitted to non-binding mediation for a period of thirty (30) days, which may be extended by written agreement of the Parties. If such dispute is not resolved through mediation or otherwise within the specified period, either Party may pursue remedies available to it at law or in equity, subject to the terms of this Agreement.

15. [Reserved]

16. [Reserved]

17. Restriction on Insider Trading. Emergent is a publicly traded company listed on the New York Stock Exchange and Aptevo is expected to become a publicly traded company listed on The Nasdaq Global Market. Consultant acknowledges the existence of laws and regulations prohibiting "insider trading," including the purchase or sale of securities of a company while in the possession of material information that has not been generally disclosed in the marketplace. Consultant acknowledges and agrees that it may have access to certain material nonpublic information of Emergent or its Affiliates, including Aptevo, as a result of the Services, and covenants and agrees that it will not engage in insider trading or disclose such information to any third parties.

18. Miscellaneous Provisions.

(a) Non-Waiver. No delay by or omission of any Party in exercising any right, power, privilege, or remedy shall impair such right, power, privilege, or remedy or be construed as a waiver thereof.

(b) Remedies. The rights and remedies provided in this Agreement are cumulative and are not exclusive of other rights or remedies provided by law.

(c) Notices. Any notice hereunder shall be given by first class mail, express mail, or facsimile (followed by confirmation), addressed to the Parties at the addresses given in the preamble of this Agreement, or to such other address as a Party may later designate in writing to the other Party. Notice of any legal action, claim or other legal matter given by Consultant to Emergent shall be directed to Emergent's General Counsel at 400 Professional Drive, Suite 400, Gaithersburg, Maryland 20879, USA.

(d) Use of Name. Neither Party shall use the name, tradename or trademark of the other Party in a press release, advertising, publicity or promotional activity without the prior written consent of the other Party.

(e) Severability. In the event that any section or any part of a section of this Agreement should be declared void, invalid, or unenforceable by any court of law, for any reason, such a determination shall not render void, invalid, or unenforceable any other section or any part of any other section of this Agreement and the remainder of this Agreement shall remain in full force and effect.

(f) Headings. Headings and titles of parts and sections are for convenience only and have no interpretative significance.

(g) Assignment. This Agreement may not be assigned by Consultant without Emergent's prior, express written consent. Emergent may, without Consultant's written consent, assign and transfer this Agreement to any Affiliate, or to any other entity which is controlled by a Party or which controls a Party, in whole or in part, in which event Consultant agrees to continue to perform the duties and obligations according to the terms hereof to or for such assignee or transferee of this Agreement.

(h) Amendments. No modification or amendment to this Agreement or any Order shall be effected by or result from the receipt, acceptance, signing or acknowledgement of any purchase order, quotation, invoice, shipping document or other business form containing terms or conditions different from those set forth in this Agreement or any Order, and all such additional terms and conditions are hereby specifically rejected by both Parties.

(i) Governing Law and Jurisdiction. This Agreement and its interpretation shall be governed by the laws of Maryland without reference to its conflict of law or choice of law provisions. Any action commenced by a Party to enforce the terms of this Agreement must be brought in the courts of the jurisdiction where the Services were primarily delivered hereunder, and the Parties hereby irrevocably consent to the jurisdiction and venue of such courts to enforce the terms of this Agreement. **The Parties expressly waive any right that they have or may have to a jury trial of any dispute arising out of or in any way related to this Agreement, or any breach thereof**.

(j) Integration; Counterparts; Signatures. This Agreement and any Orders (including any corresponding Exhibits explicitly included and made part of an Order by the Parties), constitute the entire agreement of the Parties, supersede all prior discussions, negotiations and understandings verbal and written, if any, and may only be amended or modified by a written agreement signed by both Parties. In the event of a conflict between the terms of this Agreement and the terms of any Order, Exhibit or attachment hereto, proposal, quotation or any Consultant documentation, the terms of this Agreement shall prevail. This Agreement may be signed in multiple identical copies, each of which shall be deemed to be an original copy, and each facsimile or electronic copy shall constitute a legally binding, enforceable document.

(k) Advice of Counsel. EACH PARTY ACKNOWLEDGES THAT, IN EXECUTING THIS AGREEMENT, SUCH PARTY HAS HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND HAS READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT SHALL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION HEREOF.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, Emergent and Consultant have executed this Agreement to be effective as of the Effective Date.

EMERGENT BIOSOLUTIONS INC.

By: /s/ Daniel J. Abdun-Nabi

Name: Daniel J. Abdun-Nabi

Title: President and Chief Executive Officer
Date: 17 May 2016

JOHN E. NIEDERHUBER, M.D.

/s/ John E. Niederhuber, M.D.

Date: May 12, 2016

ORDER

This Order, effective as of 8:00 am on May 18, 2016 ("***Effective Date***"), is made by and between Emergent BioSolutions Inc. ("***Emergent***") and John E. Niederhuber, M.D. ("***Consultant***"), and is an "Order" under the Consulting Agreement dated as of the Effective Date, between Emergent and Consultant ("***Agreement***"). Capitalized terms used but not defined herein shall have the meaning ascribed to such terms in the Agreement.

1. Description of Services: To provide evaluative services, expert advice and guidance, general strategy recommendations, and other similar assistance regarding industry products, technology platforms, and research and development programs as may be reasonably requested from time to time by the Scientific Review Committee of the Emergent Board of Directors.

2. Period of Performance: Effective Date – Termination Date (as defined in Section 9 of the Agreement)

3. Person(s) providing Services: John E. Niederhuber, M.D.

4. Reports: Consultant shall provide Emergent with such reports as may be requested by Emergent or its representative(s) from time to time.

5. Fees, Maximum Compensation and Expenses:

   - Ø Fees: $2,000 per calendar quarter.
   - Ø Equity Compensation:
     - o Consultant will be granted 2,000 Restricted Stock Units ("RSUs") under the Third Amended and Restated Emergent BioSolutions Inc. 2006 Stock Incentive Plan on the Effective Date;
     - o Consultant will be granted 2,000 additional RSUs on the first anniversary of the Effective Date; and
     - o All RSUs shall vest on the first anniversary of the date of grant.
   - Ø Maximum Compensation: $2,000 per calendar quarter, provided that the reimbursement of reasonable and customary business expenses shall be excluded from this maximum compensation amount.
   - Ø Expenses: Reimbursable in accordance with the terms of the Agreement

6. Invoicing and Payment: Invoices shall be sent and payments made in accordance with the terms of the Agreement, and the following shall apply:

   - Ø Manner/Location for Payments: First-class mail to primary business address
   - Ø Accounting Codes (Must be noted on invoices for payment to be processed):

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   - Ø Emergent Address for Invoices: Emergent BioSolutions Inc.
     400 Professional Drive, Suite 400
     Gaithersburg, MD 20879
     Attention: Accounts Payable

7. Contacts: Consultant: John E. Niederhuber, M.D.

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   Emergent: A.B. Cruz III
   Phone: 240.631.3230,
   Email: cruzab@ebsi.com

   Emergent BioSolutions Inc.
   400 Professional Drive, Suite 400
   Gaithersburg, MD 20879

IN WITNESS WHEREOF, the Parties have executed this Order as of the Effective Date.

EMERGENT BIOSOLUTIONS INC.

By: /s/ Daniel J. Abdun-Nabi

Name: Daniel J. Abdun-Nabi

Title: President and Chief Executive Officer
Date: 17 May 2016

JOHN E. NIEDERHUBER, M.D.

/s/ John E. Niederhuber, M.D.
Date: May 12, 2016