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: 001-36481

ASPEN AEROGELS, INC.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**04-3559972** **(I.R.S. Employer Identification No.)**
30 Forbes Road, Building B **Northborough, Massachusetts** **(Address of principal executive offices)**	**01532** **(Zip Code)**

Registrant's telephone number, including area code: (508) 691-1111

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 Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit 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.

Large accelerated filer	☐		Accelerated filer	☒
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	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 31, 2016, the registrant had 23,308,914 shares of common stock outstanding.

ASPEN AEROGELS, INC.

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Trademarks, Trade Names and Service Marks

We own or have rights to use "Aspen Aerogels," "Cryogel," "Pyrogel," "Spaceloft," the Aspen Aerogels logo and other trademarks, service marks and trade names of Aspen Aerogels, Inc. appearing in this quarterly report on Form 10-Q. Solely for convenience, the trademarks, service marks and trade names referred to in this report are without the ® and TM symbols, but such references are not intended to indicate, in any way, that the owner thereof will not assert, to the fullest extent under applicable law, such owner's rights to these trademarks, service marks and trade names. This report contains additional trademarks, service marks and trade names of other companies, which, to our knowledge, are the property of their respective owners.

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements.

ASPEN AEROGELS, INC.

Consolidated Balance Sheets

(Unaudited)

	June 30, 2016	December 31, 2015
	(In thousands, except share and per share data)	
Assets		
Current assets:		
Cash and cash equivalents	$ 19,737	$ 32,804
Accounts receivable, net of allowances of $114 and $89, respectively	24,734	20,624
Inventories	11,788	6,532
Prepaid expenses and other current assets	1,635	1,687
Total current assets	57,894	61,647
Property, plant and equipment, net	81,146	78,322
Other assets	147	105
Total assets	$ 139,187	$ 140,074
Liabilities and Stockholders' Equity		
Current liabilities:		
Capital leases, current portion	$ 47	$ 67
Accounts payable	12,208	10,684
Accrued expenses	4,114	5,568
Deferred revenue	449	681
Other current liabilities	—	409
Total current liabilities	16,818	17,409
Capital leases, excluding current portion	17	40
Other long-term liabilities	341	151
Total liabilities	17,176	17,600
Commitments and contingencies (Note 6)		
Stockholders' equity:		
Preferred stock, $0.00001 par value; 5,000,000 shares authorized, no shares issued and outstanding at June 30, 2016 and December 31, 2015	—	—
Common stock, $0.00001 par value; 125,000,000 shares authorized, 23,308,914 and 23,184,852 shares issued and outstanding at June 30, 2016 and December 31, 2015, respectively	—	—
Additional paid-in capital	530,696	527,975
Accumulated deficit	(408,685)	(405,501)
Total stockholders' equity	122,011	122,474
Total liabilities and stockholders' equity	$ 139,187	$ 140,074

See accompanying notes to unaudited consolidated financial statements.

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ASPEN AEROGELS, INC.

Consolidated Statements of Operations

(Unaudited)

	Three Months Ended June 30, 2016	Three Months Ended June 30, 2015	Six Months Ended June 30, 2016	Six Months Ended June 30, 2015
	(In thousands, except share and per share data)			
Revenue:				
Product	$ 27,123	$ 29,755	$ 59,409	$ 52,966
Research services	595	341	1,130	630
Total revenue	27,718	30,096	60,539	53,596
Cost of revenue:				
Product	20,723	24,814	46,715	43,659
Research services	342	173	644	313
Gross profit	6,653	5,109	13,180	9,624
Operating expenses:				
Research and development	1,286	1,551	2,596	2,855
Sales and marketing	2,821	2,722	5,883	5,054
General and administrative	3,894	3,534	7,807	7,157
Total operating expenses	8,001	7,807	16,286	15,066
Loss from operations	(1,348)	(2,698)	(3,106)	(5,442)
Interest expense, net	(39)	(45)	(78)	(90)
Total interest expense, net	(39)	(45)	(78)	(90)
Net loss	$ (1,387)	$ (2,743)	$ (3,184)	$ (5,532)
Net loss per share:				
Basic	$ (0.06)	$ (0.12)	$ (0.14)	$ (0.24)
Diluted	$ (0.06)	$ (0.12)	$ (0.14)	$ (0.24)
Weighted-average common shares outstanding:				
Basic and diluted	23,111,127	22,999,988	23,087,299	22,996,152

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.

Consolidated Statements of Cash Flows

(Unaudited)

	Six Months Ended June 30, 2016	Six Months Ended June 30, 2015
	(In thousands)	
Cash flows from operating activities:		
Net loss	$ (3,184)	$ (5,532)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	4,826	4,759
Stock compensation expense	2,803	2,699
Changes in operating assets and liabilities:		
Accounts receivable	(4,110)	(2,033)
Inventories	(5,256)	(1,178)
Prepaid expenses and other assets	(45)	(1,267)
Accounts payable	1,459	1,177
Accrued expenses	(1,475)	(1,507)
Deferred revenue	(232)	2,239
Net cash used in operating activities	(5,214)	(643)
Cash flows from investing activities:		
Capital expenditures	(7,728)	(16,959)
Purchases of marketable securities	—	(2,504)
Net cash used in investing activities	(7,728)	(19,463)
Cash flows from financing activities:		
Repayment of obligations under capital lease	(43)	(38)
Payments made for employee restricted stock tax withholdings	(82)	—
Net cash used in financing activities	(125)	(38)
Net decrease in cash	(13,067)	(20,144)
Cash at beginning of period	32,804	49,719
Cash at end of period	$ 19,737	$ 29,575
Supplemental disclosures of cash flow information:		
Interest paid	$ 105	$ 99
Income taxes paid	$ —	$ —
Supplemental disclosures of non-cash activities:		
Changes in accrued capital expenditures	$ (95)	$ (5,588)
Settlement of asset retirement obligation	$ 241	$ —

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(UNAUDITED)

(1) Description of Business and Basis of Presentation

Nature of Business

Aspen Aerogels, Inc. (the Company) is an energy technology company that designs, develops and manufactures innovative, high-performance aerogel insulation. The Company also conducts research and development related to aerogel technology supported by funding from several agencies of the U.S. government and other institutions in the form of research and development contracts.

The Company maintains its corporate offices in Northborough, Massachusetts. The Company has two wholly owned subsidiaries: Aspen Aerogels Rhode Island, LLC and Aspen Aerogels Germany, GmbH.

Unaudited Interim Financial Information

The accompanying unaudited interim consolidated financial statements include the accounts of the Company and have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Certain information and disclosures normally included in the consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. As such, the information included in this quarterly report on Form 10-Q should be read in conjunction with the audited consolidated financial statements and accompanying notes in our Annual Report on Form 10-K for the year ended December 31, 2015 (the Annual Report), filed with the Securities and Exchange Commission on March 4, 2016.

In the opinion of the Company's management, the unaudited interim consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and include all adjustments that are of a normal recurring nature and necessary for the fair statement of the Company's financial position as of June 30, 2016 and the results of its operations for the three and six months ended June 30, 2016 and 2015 and the cash flows for the six month periods then ended. The Company has evaluated events through the date of this filing.

The results of operations for the three and six months ended June 30, 2016 are not necessarily indicative of the results to be expected for the year ending December 31, 2016 or any other period.

There have been no changes to the Company's significant accounting policies described in the Annual Report that have had a material impact on the Company's consolidated financial statements and notes thereto.

Principles of Consolidation

The accompanying consolidated financial statements, which have been prepared in accordance with U.S. GAAP, include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

(2) Significant Accounting Policies

Use of Estimates

The preparation of the consolidated financial statements requires the Company to make a number of estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include allowances for doubtful accounts, sales returns and allowances, product warranty costs, inventory valuation, the carrying amount of property and equipment, stock-based compensation and deferred income taxes. The Company evaluates its estimates and assumptions on an on-going basis using historical experience and other factors, including the current economic environment, which are believed to be reasonable under the circumstances. Management adjusts such estimates and assumptions when facts and circumstances dictate. Illiquid credit markets, volatile equity markets and declines in business investment increase the uncertainty inherent in such estimates and assumptions. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates. Changes in these estimates resulting from continuing changes in the economic environment will be reflected in the financial statements in future periods.

Cash and Cash Equivalents

Cash equivalents include short-term, highly liquid instruments, which consist of money market accounts. All cash and cash equivalents are maintained with major financial institutions in North America. Deposits with these financial institutions may exceed the amount of insurance provided on such deposits; however, these deposits typically may be redeemed upon demand and, therefore, bear minimal risk.

Deferred Revenue

The Company records deferred revenue for product sales when (i) the Company has delivered products but other revenue recognition criteria have not been satisfied, (ii) payments have been received in advance of products being delivered or (iii) amounts are billed in accordance with contractual terms in advance of products being delivered.

Stock-based Compensation

Stock-based compensation expense is measured at the grant date based on the fair value of the award. Expense is recognized on a straight-line basis over the requisite service period for all awards with service conditions. For performance-based awards, the grant date fair value is recognized as expense when the condition is probable of being achieved, and then on a graded basis over the requisite service period. The Company uses the Black-Scholes option-pricing model to determine the fair value of service-based option awards, which requires a number of complex and subjective assumptions including fair value of the underlying security, the expected volatility of the underlying security, a risk-free interest rate and the expected term of the option. The fair value of restricted stock and restricted stock unit grants is determined using the closing trading price of the Company's common stock on the date of grant. The fair value of awards containing market conditions is determined using a Monte Carlo simulation model based upon the terms of the conditions, the expected volatility of the underlying security, and other relevant factors.

During the six months ended June 30, 2016, the Company granted 75,152 shares of restricted common stock and non-qualified stock options (NSOs) to purchase 103,593 shares of common stock with a fair value of $0.4 million and $0.2 million, respectively, vesting over a period of one year to its non-employee directors under the 2014 Employee, Director and Consultant Equity Incentive Plan (the 2014 Equity Plan). During the six months ended June 30, 2016, the Company granted 420,284 restricted common stock units (RSUs) and NSOs to purchase 259,469 shares of common stock to employees under the 2014 Equity Plan. The employee RSUs and NSOs will vest over a three year period. Stock-based compensation is included in cost of sales or operating expenses, as applicable, and consists of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(In thousands)			
Cost of product revenue	$ 199	$ 191	$ 391	$ 406
Research and development expenses	148	215	288	363
Sales and marketing expenses	277	256	538	486
General and administrative expenses	809	742	1,586	1,444
Total stock-based compensation	$ 1,433	$ 1,404	$2,803	$2,699

Pursuant to the "evergreen" provisions of the 2014 Equity Plan, the number of shares of common stock authorized for issuance under the plan automatically increased by 463,697 shares to 6,069,201 shares effective January 1, 2016.

As of June 30, 2016, 2,721,549 shares of common stock were reserved for issuance upon the exercise or vesting, as appropriate, of outstanding stock-based awards granted under the 2014 Equity Plan. In addition, as of June 30, 2016, 93,065 shares of common stock were reserved for issuance upon the exercise of outstanding stock options granted under the Company's 2001 Equity Incentive Plan, as amended (the 2001 Equity Plan). Any cancellations or forfeitures of the options outstanding under the 2001 Equity Plan will result in the shares reserved for issuance upon exercise of such options becoming available for grant under the 2014 Equity Plan. As of June 30, 2016, there were 2,834,521 shares of common stock available for grant under the 2014 Equity Plan.

Earnings per Share

The Company calculates net loss per common share based on the weighted-average number of common shares outstanding during each period. Potential common stock equivalents are determined using the treasury stock method. The weighted-average number of common shares included in the computation of diluted net loss gives effect to all potentially dilutive common equivalent shares, including outstanding stock options, RSUs and warrants. Common equivalent shares are excluded from the computation of diluted net loss per share if their effect is antidilutive.

Segments

Operating segments are identified as components of an enterprise about which separate, discrete financial information is available for evaluation by the chief operating decision maker in making decisions on how to allocate resources and assess performance. The Company's chief operating decision maker is the Chief Executive Officer. The Company's chief operating decision maker reviews consolidated operating results to make decisions about allocating resources and assessing performance for the entire Company. The Company views its operations and manages its business as one operating segment.

Information about the Company's total revenues, based on shipment destination or services location, is presented in the following table:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	**2015**	**2016**	**2015**
	(In thousands)			
Revenue:				
U.S.	$10,208	$11,038	$21,621	$21,722
International	17,510	19,058	38,918	31,874
Total	$27,718	$30,096	$60,539	$53,596

Warranty Costs

The Company provides warranties for its products and records the estimated cost within cost of sales in the period that the related revenue is recorded. The Company's standard warranty period extends to one year from the date of shipment. The standard warranties provide that the Company's products will be free from defects in material and workmanship, and will, under normal use, conform to the specifications for the product. Historically, warranty claims and charges have been insignificant.

The Company's products may be utilized in systems that may involve new technical demands and new configurations. As such, the Company will continue to regularly review and assess whether warranty reserves shall be recorded in the period the related revenue is recorded. For initial shipments of products where the Company is unsure of meeting the customer's specifications, the Company will defer the recognition of product revenue and related costs until written customer acceptance is obtained.

For the six months ended June 30, 2016, the Company recorded warranty reserves totaling $0.5 million as a component of accrued expenses. These specific reserves principally relate to product warranty claims for a specific project. These claims are outside of the Company's typical experience.

Additionally, during the three months ended June 30, 2016 a customer notified the Company of a specific product application issue. The customer continues to request and receive shipment of additional aerogel product and no claim has been made. The Company cannot be certain that it will not be subject to an additional warranty claim.

Recently Issued Accounting Standards

In March 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-09, Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting (ASU 2016-09). The amendment is to simplify several aspects of the accounting for share-based payment transactions including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. For public entities, the amendments in ASU 2016-09 are effective for interim and annual reporting periods beginning after December 15, 2016. The Company is currently assessing the impact of ASU 2016-09 on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) (FASB ASU 2016-02). FASB ASU 2016-02 changes the accounting for leases and includes a requirement to record all leases on the consolidated balance sheets as assets and liabilities. This update is effective for fiscal years beginning after December 15, 2018. Early application is permitted. The Company has not yet selected a transition method and is evaluating the effect the updated standard will have on its consolidated financial statements and related disclosures.

In August 2015, the FASB issued a deferral of ASU 2014-09, Revenue from Contracts with Customers. The standard will eliminate the transaction- and industry-specific revenue recognition guidance under current U.S. GAAP and replace it with a principle based approach for determining revenue recognition. As a result of the deferral, public entities are required to apply the revenue recognition standard for the annual reporting period beginning on or after December 15, 2017, including interim periods within that annual reporting period. Early application is not permitted. The Company has not yet selected a transition method and is evaluating the effect that the updated standard will have on our consolidated financial statements and related disclosures.

In July 2015, the FASB issued ASU 2015-11, Inventory (Topic 330), which, for entities that do not measure inventory using the last-in, first-out (LIFO) or retail inventory method, changes the measurement principle for inventory from the lower of cost or market to lower of cost and net realizable value. The ASU also eliminates the requirement for these entities to consider replacement cost or net realizable value less an approximately normal profit margin when measuring inventory. Public entities are required to apply the standards for fiscal years beginning after December 15, 2016, including interim periods within those fiscal periods. Early adoption is permitted as of the beginning of an interim or annual period. The Company has not yet selected a transition method and is evaluating the effect that the updated standard will have on its consolidated financial statements and disclosures.

(3) Inventories

Inventories consist of the following:

	June 30, 2016	December 31, 2015
	(In thousands)	
Raw materials	$ 4,022	$ 4,432
Finished goods	7,766	2,100
Total	$11,788	$ 6,532

(4) Property, Plant and Equipment, Net

Property, plant and equipment consist of the following:

	June 30, 2016	December 31, 2015	Useful life
	(In thousands)		
Construction in progress	$ 11,675	$ 5,138	—
Buildings	23,885	23,884	30 years
Machinery and equipment	105,347	104,658	3-10 years
Computer equipment and software	7,221	6,888	3 years
Total	148,128	140,568	
Accumulated depreciation	(66,982)	(62,246)	
Property, plant and equipment, net	$ 81,146	$ 78,322	

Depreciation expense was $4.8 million and $4.7 million for the six months ended June 30, 2016 and 2015, respectively.

Construction in progress totaled $11.7 million and $5.1 million at June 30, 2016 and December 31, 2015, respectively, which included engineering designs and other pre-construction costs for the planned manufacturing facility in Statesboro, Georgia of $5.8 million and $2.3 million at June 30, 2016 and December 31, 2015, respectively.

(5) Accrued Expenses

Accrued expenses consist of the following:

	June 30, 2016	December 31, 2015
	(In thousands)	
Employee compensation	$ 2,594	$ 4,184
Other accrued expenses	1,520	1,384
Total	$ 4,114	$ 5,568

(6) Commitments and Contingencies

Customer Supply Agreement

On June 21, 2016, the Company entered into a supply agreement and a side agreement (together, the supply agreement) and a joint development agreement with BASF SE (BASF). Pursuant to the supply agreement, the Company will sell exclusively to BASF the Company's Spaceloft® A2 product at annual volumes to be specified by BASF, subject to certain volume limits. The supply agreement will terminate on December 31, 2027, if not renewed prior to such date. Upon expiration of the supply agreement, the Company will be subject to a post-termination supply commitment for an additional two years. The joint development agreement is designed to facilitate the collaboration between the parties on the development and commercialization of new products.

In addition, BASF will make a non-interest bearing prepayment to the Company in the aggregate amount of $22 million during the construction of the planned manufacturing facility in Statesboro, Georgia (Plant Two), subject to the Company's prior satisfaction of certain preconditions. BASF shall pay the prepayment to the Company in eight equal consecutive quarterly installments commencing on the later of (i) October 1, 2016 or (ii) the first day of the calendar quarter following the date on which the Plant Two progress preconditions are met. Once commenced, BASF's obligation to make such quarterly payments shall be subject to postponement in the event of delays of three months or more in the projected date of completion of Plant Two by a commensurate number of months. Quarterly prepayments of $2,750,000 are expected to begin October 1, 2016. BASF will also provide technical support targeting manufacturing productivity, product cost and profit margins.

After October 1, 2018, the Company will, at BASF's instruction, credit up to 25.3% of any amounts invoiced by the Company for Spaceloft® A2 product sold to BASF against the prepayment balance. However, BASF has no obligation to purchase products under the supply agreement. If any of the prepayment remains uncredited against amounts invoiced by the Company as of September 30, 2023, BASF may request that the Company repay the uncredited amount to BASF in four equal quarterly installments beginning on December 31, 2023. The repayment obligation will be secured by a security interest in real estate, plant and equipment at the Company's Rhode Island and Georgia manufacturing facilities.

Asset Retirement Obligation

As of December 31, 2015, the Company had asset retirement obligations (ARO) arising from requirements to perform certain asset retirement activities upon the termination of its Northborough, Massachusetts facility lease and upon disposal of certain machinery and equipment.

During the six months ended June 30, 2016, the Company incurred approximately $0.2 million in expenditures in support of completing the restoration of 31,577 square feet of space formerly utilized for manufacturing operations in the Northborough, Massachusetts facility. This manufacturing space was vacated and returned to the landlord on July 1, 2016.

On June 29, 2016, the Company executed an agreement to remain at the Northborough, Massachusetts facility through December 31, 2026. As part of the new agreement, the Company's obligation to restore the remaining space in the Northborough facility was eliminated. The settlement of the remaining reserve balance of approximately $0.2 million was reclassified to other liabilities and will be amortized as a reduction to rent expense over the term of the new lease agreement.

	Six months ended June 30, 2016
	(In thousands)
Balance at beginning of period	$ 397
Expenditures	(156)
Settlement of asset retirement obligation	(241)
Balance at end of period	$ —

Revolving Line of Credit

The Company maintains a revolving credit facility with Silicon Valley Bank which expires on August 31, 2016. The Company may borrow up to $20 million under the facility subject to compliance with certain covenants and borrowing base limitations. At the Company's election, the interest rate applicable to borrowings under the revolving credit facility may be based on the prime rate or

LIBOR. Prime rate-based rates vary from prime rate plus 0.75% per annum to prime rate plus 1.75% per annum, while LIBOR-based rates vary from LIBOR plus 3.75% per annum to LIBOR plus 4.25% per annum. In addition, the Company is required to pay a monthly unused revolving line facility fee of 0.5% per annum of the average unused portion of the revolving credit facility. The revolving credit facility is secured by a first priority security interest in all assets of the Company, including those at the East Providence facility, except for certain exclusions.

At both June 30, 2016 and December 31, 2015, the Company had no amounts drawn on the revolving credit facility. The Company had outstanding letters of credit backed by the revolving credit facility of $2.6 million and $2.7 million at June 30, 2016 and December 31, 2015, respectively, which reduce the funds otherwise available to the Company under the facility. Based on the available borrowing base, the effective amount available to the Company under the revolving credit facility at June 30, 2016 was $12.3 million after consideration of the $2.6 million of outstanding letters of credit. Under the revolving credit facility, the Company is required to comply with financial covenants relating to, among other items, minimum Adjusted EBITDA, maximum unfinanced capital expenditures and other non-financial covenants. At June 30, 2016, the Company was in compliance with all such financial covenants.

Letters of Credit

Pursuant to the terms of its existing Northborough, Massachusetts facility lease, the Company has been required to provide the landlord with letters of credit securing certain obligations. In addition, the Company has been required to provide certain customers with letters of credit securing obligations under commercial contracts. The Company had letters of credit outstanding for $2.6 million and $2.7 million at June 30, 2016 and December 31, 2015, respectively. These letters of credit are secured by the Company’s revolving credit facility.

Litigation

The Company is, from time to time, a party to litigation that arises in the normal course of its business operations. See Part II, Item 1 (“Legal Proceedings”) of this Quarterly Report on Form 10-Q for a description of certain of the Company’s current legal proceedings. The Company is not presently a party to any litigation for which it believes a loss is probable requiring an amount to be accrued or a possible loss contingency requiring disclosure.

Operating Leases

On June 29, 2016, the Company entered into a new lease agreement with Cabot II- MA1M03, LLC (Cabot Properties) to lease approximately 51,650 square feet of office space located in Northborough, MA, the location of the Company’s current headquarters. The new lease supersedes the existing lease between the Company and Cabot Properties. The lease term will commence on January 1, 2017 and cease on December 31, 2026. The annual base rent associated with the lease will be approximately $408,000 during the first year, and increase by approximately 3% annually for the term of the lease. The lease also provides for the payment by the Company of its pro rata share of real estate taxes and certain other expenses. Upon expiration of the lease term, the Company will have the right to extend the lease for an additional term of three years.

The new lease contains provisions for Cabot Properties to provide the Company with an allowance of up to $1.2 million to be utilized for the construction of improvements of the leased premises. The Company will account for these improvements in accordance with its capitalization policy. As reimbursements for certain improvements become due from Cabot Properties, the Company will account for the reimbursements as a lease obligation incentive. In addition, the new lease eliminated the Company’s obligation under the existing lease to restore a portion of the office space. This obligation was previously classified as an asset retirement obligation and the settlement of the remaining reserve balance of approximately $0.2 million was reclassified to other liabilities. These amounts will be recorded as a component of deferred rent in determining the minimum lease payments for the property.

(7) Net Loss Per Share

The computation of basic and diluted net loss per share consists of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(In thousands, except share and per share data)			
Numerator:				
Net loss	$ (1,387)	$ (2,743)	$ (3,184)	$ (5,532)
Denominator:				
Weighted average shares outstanding, basic and diluted	23,111,127	22,999,988	23,087,299	22,996,152
Net loss per share, basic and diluted	$ (0.06)	$ (0.12)	$ (0.14)	$ (0.24)

Potentially dilutive common shares that were excluded from the computation of diluted net loss per share because they were anti-dilutive consist of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Common stock options	2,055,398	1,298,931	2,055,398	1,298,931
Restricted common stock units	759,230	521,599	759,230	521,599
Common stock warrants	115	131	115	131
Restricted common stock awards	153,277	54,005	153,277	54,005
Total	2,968,020	1,874,666	2,968,020	1,874,666

In the table above, anti-dilutive shares consist of those common stock equivalents that have (i) an exercise price above the average stock price for the period or (ii) related average unrecognized stock compensation expense sufficient to buy-back the entire amount of shares. The Company excludes the shares issued in connection with restricted stock awards from the calculation of basic weighted average common shares outstanding until the restrictions lapse.

(8) Income Taxes

The Company incurred net operating losses and recorded a full valuation allowance against net deferred tax assets for all periods presented. Accordingly, the Company has not recorded a provision for federal or state income taxes.

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

The following information should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q and the audited financial information and the notes thereto included in the Annual Report on Form 10-K for the year ended December 31, 2015, filed with the Securities and Exchange Commission on March 4, 2016, which we refer to as the Annual Report.

Certain matters discussed in this Quarterly Report on Form 10-Q may be deemed to be forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. In this Quarterly Report on Form 10-Q, words such as "may," "will," "anticipate," "estimate," "expects," "projects," "intends," "plans," "believes" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements.

Our actual results and the timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Quarterly Report. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Quarterly Report, they may not be predictive of results or developments in future periods.

The following information and any forward-looking statements should be considered in light of factors discussed elsewhere in this Quarterly Report on Form 10-Q, including those risks identified under Part II, Item 1A of this Quarterly Report on Form 10-Q, and under "Risk Factors" in Item 1A of the Annual Report.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

You should read the following discussion and analysis of financial condition and results of operations together with Part I Item 1 "Financial Information" and our financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q.

Overview

We design, develop and manufacture innovative, high-performance aerogel insulation. We believe our aerogel blankets deliver the best thermal performance of any widely used insulation product available on the market today and provide a combination of performance attributes unmatched by traditional insulation materials. Our end-use customers select our products where thermal performance is critical and to save money, reduce energy use, preserve operating assets and protect workers.

Our insulation is used by oil producers and the owners and operators of refineries, petrochemical plants, LNG facilities, power generating assets and other energy infrastructure. Our Pyrogel and Cryogel product lines have undergone rigorous technical validation by industry leading end-users and achieved significant market adoption. We also derive product revenue from the building materials and other end markets. Customers in these markets use our aerogels for applications as diverse as wall systems, military and commercial aircraft, trains, buses, appliances, apparel, footwear and outdoor gear.

We generate product revenue through the sale of our line of aerogel blankets. We market and sell our products primarily through a sales force based in North America, Europe and Asia. The efforts of our sales force are supported by a small number of sales consultants with extensive knowledge of a particular market or region. Our sales force is responsible for establishing and maintaining customer and partner relationships, delivering highly technical information and ensuring high-quality customer service.

Our salespeople work directly with end-use customers and engineering firms to promote the qualification, specification and acceptance of our products. We also rely on an existing and well-established channel of qualified insulation distributors and contractors in more than 30 countries around the world that ensures rapid delivery of our products and strong end-user support. Our salespeople also work to educate insulation contractors about the technical and operating cost advantages of our aerogel blankets.

We also perform research services under contracts with various agencies of the U.S. government, including the Department of Defense and the Department of Energy, and other institutions. Research performed under contract with government agencies and other institutions enables us to develop and leverage technologies into broader commercial applications.

We manufacture our products using our proprietary process and technology at our facility in East Providence, Rhode Island. We completed the construction and start-up of a third production line in the East Providence facility during the first quarter of 2015 with a total construction cost of $31.8 million. The third production line increased our annual nameplate capacity to 50 million to 55 million square feet of aerogel blankets, depending on product mix.

On February 15, 2016, we entered into an Inducement Agreement with the Development Authority of Bulloch County, the City of Statesboro, Georgia and Bulloch County, Georgia (collectively, the Statesboro Entities). Pursuant to the Inducement Agreement, the Statesboro Entities will provide various incentives to induce us to invest $70 million in constructing and equipping our planned second manufacturing facility in Statesboro, Georgia and to create 106 full-time jobs. We will also receive statutory incentives for economic development provided by the State of Georgia.

Incentives provided by the Statesboro Entities will include property tax reductions and utility and site infrastructure improvements. The Development Authority will lease to us a 43.2 acre property for a term of five years, with an option to renew, in consideration for the payment of nominal rent, and grant us an option to purchase the property upon the earlier of the expiration or termination of the lease at a nominal price.

In addition, we entered into a (i) PILOT Agreement with the Statesboro Entities that sets forth our rights and obligations with respect to the incentives received pursuant to the Inducement Agreement and (ii) a Performance and Accountability Agreement with other state authorities, which provides for a grant of $250,000. Pursuant to these agreements, in the event that we fail to meet at least 80% of the investment and job creation goals within 36 months following the earlier to occur of (i) the completion and issuance of the certificate of occupancy with respect to the planned second manufacturing facility or (ii) June 30, 2018, we may be required to repay portions of property tax savings and other incentives. In addition, we must maintain our achievement of 80% of the investment and job creation goals for a period of 84 months.

On June 21, 2016, we entered into a supply agreement and a side agreement (together, the supply agreement) and a joint development agreement with BASF SE (BASF). Pursuant to the supply agreement, we will sell exclusively to BASF our Spaceloft® A2 product at annual volumes to be specified by BASF, subject to certain volume limits. The supply agreement will terminate on December 31, 2027, if not renewed prior to such date. Upon expiration of the supply agreement, we will be subject to a post-termination supply commitment for an additional two years. The joint development agreement is designed to facilitate the collaboration between the parties on the development and commercialization of new products.

In addition, BASF will make a non-interest bearing prepayment to us in the aggregate amount of $22 million during the construction of the planned manufacturing facility in Statesboro, Georgia (Plant Two), subject to our prior satisfaction of certain preconditions related to the finalization of certain aspects of the product specification and the progress of the financing and construction of Plant Two, including securing a debt commitment from a third party lender for at least $30 million. BASF shall pay the prepayment to us in eight equal consecutive quarterly installments commencing on the later of (i) October 1, 2016 or (ii) the first day of the calendar quarter following the date on which the Plant Two progress preconditions are met. Once commenced, BASF's obligation to make such quarterly payments shall be subject to postponement in the event of delays of three months or more in the projected date of completion of Plant Two by a commensurate number of months. Quarterly prepayments of $2,750,000 are expected to begin October 1, 2016. BASF will also provide technical support targeting manufacturing productivity, product cost and profit margins. In addition, prior to BASF paying any prepayment, we will be required to secure our obligation to repay the prepayments with a first priority security interest in all of our interest in real estate, machinery and equipment located at our existing manufacturing facility in East Providence, Rhode Island and that may, in the future, be located at Plant Two. Additionally, we will grant non-exclusive licenses to our subsidiaries under our intellectual property as necessary to operate such machinery and equipment.

After October 1, 2018, we will, at BASF's instruction, credit up to 25.3% of any amounts invoiced by us for Spaceloft® A2 product sold to BASF against the prepayment balance. However, BASF has no obligation to purchase products under the supply agreement. If any of the prepayment remains uncredited against amounts invoiced by us as of September 30, 2023, BASF may request that we repay the uncredited amount to BASF in four equal quarterly installments beginning on December 31, 2023.

Our revenue for the six months ended June 30, 2016 was $60.5 million, which represented an increase of $6.9 from the six months ended June 30, 2015. Net loss for the six months ended June 30, 2016 was $3.2 million and net loss per diluted share was $0.14. Net loss for the six months ended June 30, 2015 was $5.5 million and net loss per diluted share was $0.24.

Key Metrics and Non-GAAP Financial Measures

We regularly review a number of metrics, including the following key metrics, to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions.

Square Foot Operating Metric

We price our product and measure our product shipments in square feet. We estimate our annual nameplate capacity to be 50 million to 55 million square feet of aerogel blankets depending on product mix. We believe the square foot operating metric allows us and our investors to measure the growth in our manufacturing capacity and product shipments on a uniform and consistent basis. The following chart sets forth product shipments associated with recognized revenue in square feet for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(In thousands)			
Product shipments in square feet	9,943	11,150	21,789	19,929

Adjusted EBITDA

We use Adjusted EBITDA, a non-GAAP financial measure, as a means to assess our operating performance. We define Adjusted EBITDA as net income (loss) before interest expense, taxes, depreciation, amortization, stock-based compensation expense and other items, which occur from time to time, that we do not believe are indicative of our core operating performance. Adjusted EBITDA is a supplemental measure of our performance that is not presented in accordance with U.S. GAAP. Adjusted EBITDA should not be considered as an alternative to net income (loss) or any other measure of financial performance calculated and presented in accordance with U.S. GAAP. In addition, our definition and presentation of Adjusted EBITDA may not be comparable to similarly titled measures presented by other companies.

We use Adjusted EBITDA:

- as a measure of operating performance because it does not include the impact of items that we do not consider indicative of our core operating performance;
- for planning purposes, including the preparation of our annual operating budget,
- to allocate resources to enhance the financial performance of our business; and
- as a performance measure used under our bonus plan.

We also believe that the presentation of Adjusted EBITDA provides useful information to investors with respect to our results of operations and in assessing the performance and value of our business. Various measures of EBITDA are widely used by investors to measure a company's operating performance without regard to items that can vary substantially from company to company depending upon financing and accounting methods, book values of assets, capital structures and the methods by which assets were acquired.

Although measures similar to Adjusted EBITDA are frequently used by investors and securities analysts in their evaluation of companies, we understand that Adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for net income, income from operations, net cash provided by operating activities or an analysis of our results of operations as reported under U.S. GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect our historical cash expenditures or future requirements for capital expenditures or other contractual commitments;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect stock-based compensation expense;
- Adjusted EBITDA does not reflect our income tax expense or cash requirements to pay our income taxes;
- Adjusted EBITDA does not reflect our interest expense, or the cash requirements necessary to service interest or principal payments on our debt;

- Although depreciation, amortization and impairment charges are non-cash charges, the assets being depreciated, amortized or impaired will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for these replacements; and
- Other companies in our industry may calculate EBITDA or Adjusted EBITDA differently than we do, limiting their usefulness as a comparative measure.

Because of these limitations, our Adjusted EBITDA should not be considered as a measure of discretionary cash available to us to reinvest in the growth of our business or as a measure of cash available for us to meet our obligations.

To properly and prudently evaluate our business, we encourage you to review the U.S. GAAP financial statements included elsewhere in this Quarterly Report on Form 10-Q, and not to rely on any single financial measure to evaluate our business.

The following table presents a reconciliation of net loss, the most directly comparable U.S. GAAP measure, to Adjusted EBITDA for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
	(In thousands)			
Net loss	$(1,387)	$ (2,743)	$(3,184)	$(5,532)
Depreciation and amortization	2,416	2,574	4,826	4,759
Stock-based compensation (1)	1,433	1,404	2,803	2,699
Interest expense	39	45	78	90
Adjusted EBITDA	$ 2,501	$ 1,280	$ 4,523	$ 2,016

(1) Represents non-cash stock-based compensation related to vesting and modifications of stock option grants, vesting of RSUs and vesting of restricted common stock.

Our Adjusted EBITDA is affected by a number of factors including volume and mix of aerogel products sold, average selling prices, average material costs, our actual manufacturing costs, the costs associated with and timing of expansions and start-up of additional production capacity, and the amount and timing of operating expenses. As we build out our manufacturing capacity, we expect increased manufacturing expenses will periodically have a negative impact on Adjusted EBITDA, but will set the framework for improved Adjusted EBITDA moving forward. Accordingly, we expect that our Adjusted EBITDA will vary from period to period as we continue to expand our manufacturing capacity.

Components of Our Results of Operations

Revenue

We recognize product revenue from the sale of our line of aerogel products and research services revenue from the provision of services under contracts with various agencies of the U.S. government and other institutions. Product revenue is recognized upon transfer of title and risk of loss, which is generally upon shipment or delivery.

Cost of Revenue

Cost of revenue for our product revenue consists primarily of materials and manufacturing expense, including direct labor, utilities, maintenance expense and depreciation on manufacturing assets. Cost of product revenue is recorded when the related product revenue is recognized. Cost of product revenue also includes stock-based compensation of manufacturing employees and shipping costs.

Material is our most significant component of cost of product revenue and includes fibrous batting, silica materials and additives. Material costs as a percentage of product revenue vary from product to product due to differences in average selling prices, material requirements, blanket thicknesses and manufacturing yields. In addition, we provide warranties for our products and record the estimated cost within cost of sales in the period that the related revenue is recorded. As a result, material costs as a percentage of revenue will vary from period to period due to changes in the mix of aerogel products sold or the estimated cost of warranties. However, in general, we expect material costs in the aggregate to decline as a percentage of revenue as we seek to achieve higher selling prices, material sourcing improvements, quality improvements and manufacturing yield enhancements for our aerogel products.

Manufacturing expense is also a significant component of cost of revenue. As we increase manufacturing capacity through our planned construction and operation of a second manufacturing facility and, over time, potentially expand the production lines at this facility, we expect manufacturing expense as a percentage of product revenue will increase in the near-term following each expansion but will decrease in the long-term with increased revenues supported by the effect of completed capacity expansions.

Cost of revenue for our research services revenue consists of direct labor costs of research personnel engaged in the contract research, third-party consulting expense, and associated direct material costs. This cost of revenue also includes overhead expenses associated with project resources, development tools and supplies. Cost of revenue for our research services revenue is recorded when the related research services revenue is recognized.

Gross Profit

Our gross profit as a percentage of revenue is affected by a number of factors, including the mix of aerogel products sold, average selling prices, average material costs, our actual manufacturing costs and the costs associated with expansions and start-up of production capacity. Accordingly, we expect our gross profit in absolute dollars and as a percentage of revenue to vary from period to period. As we continue to build out our manufacturing capacity, we expect increased manufacturing expenses will periodically have a significant negative impact on gross profit in the short-term. However, in general, we expect gross profit to improve as a percentage of revenue in the long-term due to expected increases in manufacturing productivity and production volumes, supported by expected capacity expansions, improvements in manufacturing yields and realization of material purchasing efficiencies.

Operating Expenses

Operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Operating expenses include personnel costs, legal fees, professional fees, service fees, insurance premiums, travel expense, facilities related costs and other costs and fees. The largest component of our operating expenses is personnel costs, consisting of salaries, benefits, incentive compensation and stock-based compensation. We expect to continue to hire a significant number of new employees in order to support our anticipated growth. In any particular period, the timing and extent of personnel additions, legal activities, including patent enforcement actions, marketing programs, and a range of similar activities or actions could materially affect our operating expenses, both in absolute dollars and as a percentage of revenue.

Research and Development Expenses

Research and development expenses consist primarily of expenses for personnel engaged in the development of next generation aerogel compositions, form factors and manufacturing technologies. These expenses also include testing services, prototype expenses, consulting services, equipment depreciation, facilities costs and related overhead. We expense research and development costs as incurred. We expect to continue to devote substantial resources to the development of new aerogel technology. We believe that these investments are necessary to maintain and improve our competitive position. We expect to continue to invest in research and engineering personnel and the infrastructure required in support of their efforts. We expect that our research and development expenses will increase in absolute dollars but decrease as a percentage of revenue in the long-term.

Sales and Marketing Expenses

Sales and marketing expenses consist primarily of personnel costs, incentive compensation, marketing programs, travel and related costs, consulting expenses and facilities related costs. We plan to expand our sales force and sales consultants globally to drive anticipated growth in customers and demand for our products. We expect that sales and marketing expenses will increase in absolute dollars but decrease as a percentage of revenue in the long-term.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs, legal expenses, consulting and professional services, audit and tax consulting costs, and expenses for our executive, finance, human resources and information technology organizations. General and administrative expenses have increased as we have incurred additional costs related to operating as a publicly-traded company, which include costs of compliance with securities, corporate governance and related laws and regulations, investor relations expenses, increased insurance premiums, including director and officer insurance, and increased audit and legal fees. In addition, we expect our general and administrative expenses to increase as we add general and administrative personnel to support the anticipated growth of our business and continued expansion of our manufacturing operations. We also expect that the patent enforcement actions, described in more detail under "Legal Proceedings" in Part II, Item 1 of this Quarterly Report on Form 10-Q, will result in a near term increase in legal expense and, if such litigation is protracted, could result in significant additional legal expense over the medium to long term. In the longer term, we expect that general and administrative expenses will increase in absolute dollars but decrease as a percentage of revenue.

Interest Expense

For the three and six months ended June 30, 2016 and 2015, interest expense consisted primarily of fees related to our revolving credit facility.

Provision for Income Taxes

We have incurred net losses since inception and have not recorded benefit provisions for U.S. federal income taxes or state income taxes since the tax benefits of our net losses have been offset by valuation allowances due to the uncertainty associated with the utilization of net operating loss carryforwards.

Results of Operations

Three months ended June 30, 2016 compared to the three months ended June 30, 2015

The following tables set forth a comparison of the components of our results of operations for the periods presented:

Revenue

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Revenue:						
Product	$27,123	98%	$29,755	99%	$(2,632)	(9)%
Research services	595	2%	341	1%	254	74%
Total revenue	$27,718	100%	$30,096	100%	$(2,378)	(8)%

The following chart sets forth product shipments in square feet for the periods presented:

	Three Months Ended June 30,		Change	
	2016	2015	Amount	Percentage
Product shipments in square feet (in thousands)	9,943	11,150	(1,207)	(11)%

Total revenue decreased $2.4 million, or 8%, to $27.7 million for the three months ended June 30, 2016 from $30.1 million in the comparable period in 2015 primarily as a result of a decrease in product revenue.

Product revenue decreased by $2.6 million, or 9%, to $27.1 million for the three months ended June 30, 2016 from $29.8 million in the comparable period in 2015. This decrease was principally the result of the decrease in sales of our aerogel products in the subsea market and by a major South Asian energy company, offset, in part, by an increase in sales in the European building materials market, the North American energy market and the remainder of the Asian energy market.

Product revenue for the three months ended June 30, 2016 included $4.5 million to a distributor in the North American energy market. Product revenue for the three months ended June 30, 2015 included $8.0 million to a major Asian energy company and $4.6 million to a Singapore based subsea contractor.

The average selling price per square foot of our products increased by $0.06, or 2%, to $2.73 per square foot for the three months ended June 30, 2016 from $2.67 per square foot for the three months ended June 30, 2015. This increase in average selling price had the effect of increasing product revenue by $0.6 million for the three months ended June 30, 2016 from the comparable period in 2015. In volume terms, product shipments decreased by 1.2 million square feet, or 11%, to 9.9 million square feet of aerogel products for the three months ended June 30, 2016, as compared to 11.2 million square feet for the three months ended June 30, 2015. The decrease in product volume had the effect of decreasing product revenue by $3.2 million for the three months ended June 30, 2016 from the comparable period in 2015.

Research services revenue increased $0.3 million, or 74%, to $0.6 million for the three months ended June 30, 2016 from $0.3 million in the comparable period in 2015. The increase was primarily due to the timing and amount of funding available under existing research contracts during the three months ended June 30, 2016 from the comparable period in 2015.

Product revenue was 98% and 99% of total revenue for the three months ended June 30, 2016 and 2015, respectively. Research services revenue was 2% and 1% of total revenue for the three months ended June 30, 2016 and 2015, respectively.

Cost of Revenue

	Three Months Ended June 30,							
	2016			2015			Change	
	Amount	Percentage of Related Revenue	Percentage of Total Revenue	Amount	Percentage of Related Revenue	Percentage of Total Revenue	Amount	Percentage
	($ in thousands)							
Cost of revenue:								
Product	$20,723	76%	75%	$24,814	83%	82%	$(4,091)	(16)%
Research services	342	57%	1%	173	51%	1%	169	98%
Total cost of revenue	$21,065	76%	76%	$24,987	83%	83%	$(3,922)	(16)%

Total cost of revenue decreased $3.9 million, or 16%, to $21.1 million for the three months ended June 30, 2016 from $25.0 million in the comparable period in 2015. The decrease in total cost of revenue was the result of a decrease of $4.7 million in material costs, offset in part, by an increase of $0.6 million in manufacturing expense and an increase of $0.2 million in cost of research services.

Product cost of revenue decreased $4.1 million, or 16%, to $20.7 million for the three months ended June 30, 2016 from $24.8 million in the comparable period in 2015. The $4.1 million decrease was the result of a $4.7 million decrease in material costs, offset, in part, by a $0.6 million increase in manufacturing expense year over year. The decrease in material costs was principally driven by the 1.2 million square foot, or 11%, decrease in product shipments period over period, in combination with an improvement in product manufacturing yields and a favorable mix of products sold. The increase in manufacturing expense was the result of increases in compensation expense of $0.2 million and maintenance expense of $0.6 million, offset, in part, by decreases in utility costs of $0.1 million and depreciation expense of $0.1 million.

Product cost of revenue as a percentage of product revenue decreased to 76% during the three months ended June 30, 2016 from 83% during the three months ended June 30, 2015 due to a favorable mix of products sold, the impact of price increases, and improved capacity utilization, manufacturing productivity, and product manufacturing yields.

Research services cost of revenue increased $0.2 million, or 98%, to $0.3 million for the three months ended June 30, 2016 from $0.2 million in the comparable period in 2015. The increase in cost of research services revenue was due to the 74% increase in research services revenue during the three months ended June 30, 2016 and an increase in the use of outside consultants to support the contracted research.

Gross Profit

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Gross profit	$ 6,653	24%	$ 5,109	17%	$ 1,544	30%

Gross profit increased $1.5 million, or 30%, to $6.7 million for the three months ended June 30, 2016 from $5.1 million in the comparable period in 2015. The increase in gross profit reflected the $4.7 million decrease in material costs associated with the 1.2 million square foot, or 11%, decrease in product shipments period over period, in combination with improved product manufacturing yields and a favorable mix of products sold, offset, in part, by the $2.4 million reduction in total revenue, the $0.6 million increase in manufacturing expense, and the $0.1 million increase in cost of research services revenue.

Gross profit as a percentage of total revenue increased to 24% of total revenue for the three months ended June 30, 2016 from 17% in the comparable period in 2015.

Research and Development Expenses

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Research and development expenses	$ 1,286	5%	$ 1,551	5%	$ (265)	(17)%

Research and development expenses decreased $0.3 million, or 17%, to $1.3 million for the three months ended June 30, 2016 from $1.6 million in the comparable period in 2015. The $0.3 million decrease was primarily due to an increase of $0.3 million in payroll costs allocated to cost of research services revenue or capitalized to construction in process.

Research and development expenses as a percentage of total revenue were 5% for the three months ended June 30, 2016 and 2015.

In the long-term, we expect to increase investment in research, development and engineering personnel, projects and infrastructure in support of efforts to develop new products, technologies and markets. However, we expect that research and development expenses will decline as a percentage of total revenue in the long-term due to projected growth in product revenue.

Sales and Marketing Expenses

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Sales and marketing expenses	$ 2,821	10%	$ 2,722	9%	$ 99	4%

Sales and marketing expenses increased $0.1 million, or 4%, to $2.8 million for the three months ended June 30, 2016 from $2.7 million in the comparable period in 2015. The $0.1 million increase was primarily due to an increase of $0.1 million in travel related expenses.

Sales and marketing expenses as a percentage of total revenue increased to 10% for the three months ended June 30, 2016 from 9% in the comparable period in 2015 due principally to the decline in total revenue during the three months ended June 30, 2016.

In the long-term, we plan to continue to expand our sales force to support anticipated growth in customers and demand for our products. However, we expect that sales and marketing expenses will decrease as a percentage of total revenue in the long-term due to projected growth in product revenue.

General and Administrative Expenses

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
General and administrative expenses	$ 3,894	14%	$ 3,534	12%	$ 360	10%

General and administrative expenses increased $0.4 million, or 10% to $3.9 million during the three months ended June 30, 2016 from $3.5 million in the comparable period in 2015. The $0.4 million increase was primarily the result of the expenditure of $0.4 million in legal fees and expenses related to our patent enforcement actions, and an increase in other legal fees of $0.1 million, offset, in part, by a decrease in compensation related expenses of $0.2 million.

General and administrative expenses as a percentage of total revenue increased to 14% for the three months ended June 30, 2016 from 12% in the comparable period in 2015. This increase was due to the combination of the increase in general and administrative expenses and the decline in total revenue during the three months ended June 30, 2016.

We expect to continue to increase general and administrative personnel and expense levels in the long term to support the anticipated growth of our business and continued expansion of our manufacturing operations. We also expect that the patent enforcement actions, described in more detail under "Legal Proceedings" in Part II, Item 1 of this Quarterly Report on Form 10-Q, will result in a near term increase in legal expense and, if such actions are protracted, could result in significant additional legal expense over the medium to long term. In the longer term, we expect that general and administrative expenses will increase in absolute dollars but decrease as a percentage of revenue.

Interest Expense

	Three Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Interest expense	$ (39)	0%	$ (45)	0%	$ 6	13%

Interest expense of less than $0.1 million during the three months ended June 30, 2016 and 2015 was comprised primarily of costs related to our revolving credit facility.

Six months ended June 30, 2016 compared to the six months ended June 30, 2015

The following tables set forth a comparison of the components of our results of operations for the periods presented:

Revenue

	Six Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Revenue:						
Product	$59,409	98%	$52,966	99%	$ 6,443	12%
Research services	1,130	2%	630	1%	500	79%
Total Revenue	$60,539	100%	$53,596	100%	$ 6,943	13%

The following chart sets forth product shipments in square feet for the periods presented:

	Six Months Ended June 30, 2016	Six Months Ended June 30, 2015	Change Amount	Change Percentage
Product shipments in square feet (in thousands)	21,789	19,929	1,860	9%

Total revenue increased $6.9 million, or 13%, to $60.5 million for the six months ended June 30, 2016 from $53.6 million in the comparable period in 2015 due to a $6.4 million increase in product revenue and a $0.5 million increase in research services revenue.

Product revenue increased by $6.4 million, or 12%, to $59.4 million for the six months ended June 30, 2016 from $53.0 million in the comparable period in 2015. This increase was principally the result of an increase in sales of our aerogel products in the Asian petrochemical market and the European building materials market, offset, in part, by declines in the subsea market and in the North American and European energy markets. The increase in product revenue during the six months ended June 30, 2016 also reflects price increases enacted in late 2015 and was supported by the increase in manufacturing capacity associated with operation of the third production line in the East Providence facility which began operation at the end of the first quarter in 2015.

Product revenue for the six months ended June 30, 2016 included $9.2 million to a distributor in the North American energy market and $8.5 million to a major Asian energy company. Product revenue for the six months ended June 30, 2015 included $8.7 million to a major Asian energy company and $7.7 million to a distributor in the North American energy market.

The average selling price per square foot of our products increased by $0.07, or 3%, to $2.73 per square foot for the six months ended June 30, 2016 from $2.66 per square foot for the six months ended June 30, 2015. This increase in average selling price contributed $1.4 million to the increase in product revenue during the six months ended June 30, 2016. In volume terms, product shipments increased 1.9 million square feet, or 9%, to 21.8 million square feet of aerogel products for the six months ended June 30, 2016, as compared to 19.9 million square feet for the six months ended June 30, 2015. The increase in product volume contributed approximately $5.0 million to the increase in product revenue during the six months ended June 30, 2016.

Research services revenue increased $0.5 million, or 79%, to $1.1 million for the six months ended June 30, 2016 from $0.6 million in the comparable period in 2015. The increase was primarily due to the timing and amount of funding available under existing research contracts during the six months ended June 30, 2016 from the comparable period in 2015.

Product revenue was 98% and 99% of total revenue for the six months ended June 30, 2016 and 2015, respectively. Research services revenue was 2% and 1% of total revenue for the six months ended June 30, 2016 and 2015, respectively. We expect that product revenue will continue to constitute the vast majority of total revenue generated during 2016.

Cost of Revenue

	Six Months Ended June 30, 2016			2015			Change	
	Amount	Percentage of Related Revenue	Percentage of Total Revenue	Amount	Percentage of Related Revenue	Percentage of Total Revenue	Amount	Percentage
	($ in thousands)							
Cost of revenue:								
Product	$46,715	79%	77%	$43,659	82%	81%	$ 3,056	7%
Research services	644	57%	1%	313	50%	1%	331	106%
Total cost of revenue	$47,359	78%	78%	$43,972	82%	82%	$ 3,387	8%

Total cost of revenue increased $3.4 million, or 8%, to $47.4 million for the six months ended June 30, 2016 from $44.0 million in the comparable period in 2015. The increase in total cost of revenue was the result of an increase of $2.6 million in manufacturing expense, an increase of $0.5 million in material costs, and an increase of $0.3 million in cost of research services.

Product cost of revenue increased $3.1 million, or 7%, to $46.7 million for the six months ended June 30, 2016 from $43.7 million in the comparable period in 2015. The $3.1 million increase was the result of a $2.6 million increase in manufacturing expense and an increase in material costs of $0.5 million. The increase in manufacturing expense was the result of increases in compensation expense of $1.0 million, maintenance and operating supplies expenses of $1.2 million, utility costs of $0.2 million and depreciation expense of $0.2 million resulting from operation of the third production line in the East Providence manufacturing facility which commenced operation in March 2015. Despite year over year growth in product volume of 9% during the six months ended June 30, 2015, material costs growth was limited to $0.5 million, or 2%, due to improvements in manufacturing productivity and product yields versus the comparable period in 2015.

Product cost of revenue as a percentage of product revenue decreased to 79% during the six months ended June 30, 2016 from 82% during the six months ended June 30, 2015 due primarily to improvements in manufacturing productivity and yields.

Research services cost of revenue increased $0.3 million, or 106%, to $0.6 million for the six months ended June 30, 2016 from $0.3 million in the comparable period in 2015. The increase in cost of research services revenue was due to the 79% increase in research services revenue during the six months ended June 30, 2016, in combination with the increased use of outside consultants to support the contracted research.

Gross Profit

	Six Months Ended June 30,					
	2016		2015		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Gross profit	$13,180	22%	$ 9,624	18%	$ 3,556	37%

Gross profit increased $3.6 million, or 37%, to $13.2 million for the six months ended June 30, 2016 from $9.6 million in the comparable period in 2015. The increase reflected $5.0 million related to increased volume supported by output from the third production line in the East Providence manufacturing facility, $1.4 million in incremental contribution from an effective 3% sales price increase, and $0.2 million in higher contribution due to the increase in research services revenue, offset, in part, by the increase in material costs of $0.5 million and the $2.6 million increase in manufacturing expense related principally to operation of the third production line.

Gross profit as a percentage of total revenue increased to 22% of total revenue for the six months ended June 30, 2016 from 18% in the comparable period in 2015 due principally to improvements in manufacturing productivity and yields.

Research and Development Expenses

	Six Months Ended June 30,					
	2016		2015		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Research and development expenses	$ 2,596	4%	$ 2,855	5%	$ (259)	(9)%

Research and development expenses decreased $0.3 million, or 9%, to $2.6 million for the six months ended June 30, 2016 from $2.9 million in the comparable period in 2015. The $0.3 million decrease was primarily due to an increase of $0.3 million in payroll costs allocated to cost of research services revenue or capitalized to construction in process.

Research and development expenses as a percentage of total revenue decreased to 4% for the six months ended June 30, 2016 from 5% in the comparable period in 2015 due to both the decrease in research and development expenses and the increase in total revenue during the six months ended June 30, 2016.

In the long-term, we expect to increase investment in research, development and engineering personnel, projects and infrastructure in support of efforts to develop new products, technologies and markets. However, we expect that research and development expenses will decline as a percentage of total revenue in the long-term due to projected growth in product revenue.

Sales and Marketing Expenses

	Six Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Sales and marketing expenses	$ 5,883	10%	$ 5,054	9%	$ 829	16%

Sales and marketing expenses increased $0.8 million, or 16%, to $5.9 million for the six months ended June 30, 2016 from $5.1 million in the comparable period in 2015. The $0.8 million increase was primarily due to an increase of $0.4 million in payroll and related costs, $0.2 million in travel expenses and $0.2 million in product marketing expenses.

Sales and marketing expenses as a percentage of total revenue increased to 10% for the six months ended June 30, 2016 from 9% in the comparable period in 2015. This increase was the result of the 16% rate of growth in sales and marketing expenses and the 8% rate of growth in total revenue during the six months ended June 30, 2016.

In the long-term, we plan to continue to expand our sales force to support anticipated growth in customers and demand for our products. However, we expect that sales and marketing expenses will decrease as a percentage of total revenue in the long-term due to projected growth in product revenue.

General and Administrative Expenses

	Six Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Percentage	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
General and administrative expenses	$ 7,807	13%	$ 7,157	13%	$ 650	9%

General and administrative expenses increased $0.7 million, or 9%, to $7.8 million during the six months ended June 30, 2016 from $7.2 million in the comparable period in 2015. The $0.7 million increase was primarily the result of the expenditure of $0.6 million in legal fees and expenses related to our patent enforcement actions.

General and administrative expenses as a percentage of total revenue remained consistent at 13% for the six months ended June 30, 2016 and 2015. We expect to continue to increase general and administrative personnel and expense levels in the long term to support the anticipated growth of our business and continued expansion of our manufacturing operations. We also expect that the patent enforcement actions, described in more detail under "Legal Proceedings" in Part II, Item 1 of this Quarterly Report on Form 10-Q, will result in a significant near term increase in legal expense.

Interest Expense

	Six Months Ended June 30,				Change	
	2016		2015			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	($ in thousands)					
Interest expense	$ (78)	0%	$ (90)	0%	$ 12	13%

Interest expense of less than $0.1 million during the six months ended June 30, 2016 and 2015 was comprised primarily of costs related to our revolving credit facility.

Liquidity and Capital Resources

Overview

We have experienced significant losses and invested significant resources since our inception to develop and commercialize our aerogel technology and to build a manufacturing infrastructure capable of supplying aerogel products at the volumes and costs required by our customers. These investments have included research and development and other operating expenses, capital expenditures and investment in working capital balances.

We have been experiencing revenue growth as we gain share in our target markets. Our current financial forecast anticipates long-term revenue growth, with increasing levels of gross profit and improved cash flows from operations. However, we expect to incur significant capital expenditures through 2020 related to the expansion of our manufacturing capacity to support the expected growth in demand.

We believe that our existing cash balance and anticipated available credit will be sufficient to fund a portion of the design, development and construction of our second manufacturing facility. We expect to supplement our cash balance and available credit with anticipated cash flows from operations, local government grants, debt financings and potentially equity financings to provide the capital required to complete the first production line in our second manufacturing facility.

Primary Sources of Liquidity

Our principal sources of liquidity are currently our cash and cash equivalents and our revolving credit facility with Silicon Valley Bank. Cash and cash equivalents consist primarily of cash and money market accounts on deposit with banks. As of June 30, 2016, we had $19.7 million of cash and cash equivalents.

At June 30, 2016, our only debt obligations were $0.1 million related to capital lease obligations. At June 30, 2016, we also had $2.6 million of outstanding letters of credit secured by the revolving credit facility with Silicon Valley Bank.

We initially entered into the revolving credit facility with Silicon Valley Bank in March 2011. This facility was amended from time to time through 2014. On September 3, 2014, we further amended the loan and security agreement to extend the maturity date of the revolving credit facility to August 31, 2016 and to increase the maximum amount we are permitted to borrow, subject to continued covenant compliance and borrowing base requirements, from $10.0 million to $20.0 million. At our election, the interest rate applicable to borrowings under the amended revolving credit facility may be based on the prime rate or LIBOR. Prime rate-based rates vary from prime rate plus 0.75% per annum to prime rate plus 1.75% per annum, while LIBOR-based rates vary from LIBOR plus 3.75% per annum to LIBOR plus 4.25% per annum. In addition, we are required to pay a monthly unused revolving line facility fee of 0.5% per annum of the average unused portion of the revolving credit facility.

Due to the borrowing base limitations of the revolving credit facility, the effective amount available to us under the facility at June 30, 2016 was $12.3 million after giving effect to the $2.6 million of letters of credit outstanding. As of June 30, 2016, we had no outstanding balances drawn on the revolving credit facility.

We are considering various options with respect to our revolving credit facility that expires on August 31, 2016, including a possible extension or amendment of the facility or a potential refinancing.

Analysis of Cash Flow

Net Cash Used in Operating Activities

During the six months ended June 30, 2016, we used $5.2 million in net cash from operating activities, as compared to $0.6 million in net cash during the comparable period in 2015, an increase in the use of cash of $4.6 million. This increase was primarily the result of an increase in cash from changes in operating assets and liabilities of $7.1 million, offset, in part, by a decrease in cash from an improvement in net loss adjusted for non-cash items in the period of $2.5 million.

Net Cash Used in Investing Activities

Net cash used in investing activities is primarily related to capital expenditures to support our growth and investment in marketable securities. Net cash used in investing activities for the six months ended June 30, 2016 and 2015 was $7.7 million and $19.5 million, respectively.

Net cash used in investing activities for the six months ended June 30, 2016 included a total of $7.7 million in capital expenditures for engineering design and other pre-construction costs related to our planned manufacturing facility in Statesboro, Georgia, and machinery and equipment to improve the throughput and efficiency of our East Providence facility. Net cash used in investing activities for the six months ended June 30, 2015 included $17.0 million of capital expenditures primarily to construct the third production line in our East Providence manufacturing facility and $2.5 million for the purchase of marketable securities.

Net Cash Used in Financing Activities

Net cash used in financing activities for the six months ended June 30, 2016 totaled $0.1 million and consisted of $0.1 million for payments made for employee tax withholdings associated with the vesting of restricted stock units and less than $0.1 million for repayments of obligations under capital leases. Net cash used in financing activities for the six months ended June 30, 2015 totaled less than $0.1 million for repayments of obligations under capital leases.

Off Balance Sheet Arrangements

Since our inception, we have not engaged in any off balance sheet activities as defined in Item 303(a)(4) of Regulation S-K.

Contractual Obligations and Commitments

The following are the material changes to our contractual obligations and commitments as reported in our Annual Report on Form 10-K for the year ending December 31, 2015, filed with the SEC on March 4, 2016.

Operating Leases

On June 29, 2016, we entered into an Industrial Real Estate Lease, or the Lease, with Cabot II- MA1M03, LLC, or Cabot Properties to lease approximately 51,650 square feet of space located at 30 Forbes Road, Northborough, MA 01532, the location of our current headquarters. The Lease supersedes the Multi-Tenant Industrial Net Lease dated as of August 20, 2001, as amended, by and between us and TMT 290 Industrial Park, Inc., Cabot Properties' predecessor-in-interest. The term of the Lease begins on January 1, 2017 and ends on December 31, 2026. The annual base rent associated with the Lease will be approximately $408,000 during the first year, increasing by approximately 3% annually for the term of the Lease, to be paid monthly. The Lease also provides for our payment of our pro rata share of real estate taxes and certain other expenses. Upon expiration of the Lease term, we will have the right to extend the Lease for an additional term of three years.

Supply Agreement

On June 21, 2016, we entered into a supply agreement and a side agreement (together, the supply agreement) with BASF SE, or BASF. Pursuant to the supply agreement, we will sell exclusively to BASF our Spaceloft ® A2 product, or the Product, at annual volumes to be specified by BASF, subject to certain volume limits. Pricing shall be based on a cost-plus formula. The supply agreement also specifies the markets in which BASF will be permitted to sell Product. The supply agreement will terminate on December 31, 2027, if not renewed prior to such date. Upon expiration of the supply agreement, we will be subject to a post-termination supply commitment for an additional two years. In addition to the customary terms associated with supply agreements, in order to support our anticipated investment in a second manufacturing facility, or Plant Two, BASF will make a non-interest bearing advance to us in the aggregate amount of $22 million, or the Pre-Payment, during the construction of Plant Two, subject to our prior satisfaction of certain preconditions related to the finalization of certain aspects of the Product specification and the progress of the financing and construction of Plant Two, including securing a debt commitment from a third party lender for at least $30 million. In addition, prior to BASF paying any Pre-Payment, we will be required to secure our obligation to repay the Pre-Payment with a first priority security interest in all of our interest in real estate, machinery and equipment located at our existing manufacturing facility in East Providence, Rhode Island and that may, in the future, be located at Plant Two. Additionally, we will grant non-exclusive licenses to our subsidiaries under our intellectual property as necessary to operate such machinery and equipment. BASF shall pay the Pre-Payment to us in eight equal consecutive quarterly installments commencing on the later of (i) October 1, 2016 or (ii) the first day of the calendar quarter following the date on which the Plant Two progress preconditions are met. Once commenced, BASF's obligation to make such quarterly payments shall be subject to postponement in the event of delays of three months or more in the projected date of completion of Plant Two by a commensurate number of months. After October 1, 2018, we will, at BASF's instruction, credit up to 25.3% of any amounts that we invoice for Product sold to BASF against the Pre-Payment. BASF has no obligation to purchase Product under the supply agreement. If any of the Pre-Payment remains uncredited against amounts that we invoice as described above as of September 30, 2023, BASF may request that we repay the unused amount to BASF in four equal quarterly installments beginning on December 31, 2023. Notwithstanding the foregoing, we may repay the Pre-Payment to BASF at any time in whole or in part for any reason. In the event of a sale of all or substantially all of our assets or a change of control of the Company, BASF may in certain instances have the right to terminate the supply agreement, in which case any uncredited amount of the Pre-Payment as of such sale or change of control will be due and payable to BASF within 30 days of the relevant transaction.

Joint Development Agreement

Contemporaneous with the execution of supply agreement, we and BASF also entered into a Joint Development Agreement, or the JDA, setting forth the rights and obligations of us and BASF with respect to collaboration between the parties on the development and commercialization of new products. Under the JDA, each party may propose that the parties enter into joint efforts to seek to develop one or more products or services for commercialization on terms to be agreed by the parties. The JDA establishes a joint steering committee with equal representation from each of us and BASF to oversee any such collaboration. Unless otherwise agreed, all intellectual property created in the performance of joint development activities will generally be jointly owned by us and BASF. The JDA will have an initial term of two years with the option for the parties to renew at the expiration. Either party may terminate the JDA for any reason with 90-days prior notice to the other party, provided that such termination will not terminate any project under the JDA then in progress, with any such ongoing project able to be terminated by either party for any reason on 90-days prior notice to the other party.

Recent Accounting Pronouncements

Information regarding new accounting pronouncements is included in note 2 to our unaudited consolidated financial statements contained in Item 1 of this Quarterly Report on Form 10-Q.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. The preparation of our financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses and related disclosures. We believe that the estimates, assumptions and judgments involved in these accounting policies have the greatest potential impact on our financial statements; and therefore, we consider these to be our critical accounting policies. Accordingly, we evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions. See our Annual Report on Form 10-K for the year ended December 31, 2015, filed on March 4, 2016 with the Securities and Exchange Commission, and note 2 to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for information about these critical accounting policies, as well as a description of our other significant accounting policies.

Certain Factors That May Affect Future Results of Operations

The Securities and Exchange Commission, or SEC, encourages companies to disclose forward-looking information so that investors can better understand a company's future prospects and make informed investment decisions. This Quarterly Report on Form 10-Q contains such "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other important factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about: our beliefs in the appropriateness of our assumptions, the accuracy of our estimates regarding expenses, loss contingencies, future revenues, future profits, uses of cash, available credit, capital requirements, and the need for additional financing; the performance of our aerogel blankets; our plans to construct a second manufacturing facility in Statesboro, Georgia; the estimated effects of our planned second manufacturing facility on our annual nameplate capacity; our estimates of annual production capacity; our strategic partnership with BASF and the potential benefits of such a relationship, including the potential for it to create new product and market opportunities; our supply agreement with BASF, our exclusive supply to BASF of its Spaceloft ® A2 product, the potential for future cash advances from BASF under the supply agreement (payment of which are subject to certain conditions) to provide a source of financing for some portion of the cost of the planned construction of our proposed manufacturing plant expected to be located in Statesboro, Georgia, and the potential for BASF to become a significant customer for our products; our joint development agreement with BASF, the potential for it to support the development of new aerogel products and technologies, and the potential for it to assist our market diversification and growth strategy; our beliefs about the usefulness of the square foot operating metric; our beliefs about the financial metrics that are indicative of our core performance; our beliefs about the usefulness of our presentation of Adjusted EBITDA; our expectations about the effect of manufacturing capacity on financial metrics such as Adjusted EBITDA; our beliefs about the outcome, effects or estimated costs of current or potential litigation or their respective timing, including expected legal expense in connection with the Company's patent enforcement actions; our expectations about hiring additional personnel; our plans to devote substantial resources to the development of new aerogel technology; our expectations about product mix; our beliefs about the impact of sales price increases; our expectations about future material costs and manufacturing expenses as a percentage of revenue; our expectations of future gross profit and the effect of manufacturing expenses, manufacturing capacity and productivity on gross profit; our expectations about our resources and other investments in new technology and related research and development activities and associated expenses; our expectations about short and long term (a) research and development (b) general and administrative and (c) sales and marketing expenses; our expectations of continued revenue growth, increased gross profit, and improving cash flows over the long term; our expectations about incurring significant capital expenditures in the future; our expectations about the expansion of our workforce and resources and its effect on sales and marketing, general and administrative, and related expenses; our expectations about future product revenue and growth of demand for our products; our expectations about the effect of stock based compensation on various costs and expenses; our expectations about potential sources of future financing; our beliefs about the impact of accounting policies on our financial statements; our beliefs about the effect of interest rates, inflation and foreign currency fluctuations on our results of operations and financial condition; and our beliefs about the expansion of our international operations.

Words such as “may,” “will,” “anticipate,” “estimate,” “expects,” “projects,” “intends,” “plans,” “believes” and words and terms of similar substance used in connection with any discussion of future operating or financial performance, identify forward-looking statements. All forward-looking statements are management’s present expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those described in the forward-looking statements. These risks include, but are not limited to, those set forth in Part II, Item 1A of this Quarterly Report on Form 10-Q and under the heading “Risk Factors” contained in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2015.

In light of these assumptions, risks and uncertainties, the results and events discussed in the forward-looking statements contained in this Quarterly Report on Form 10-Q might not occur. Stockholders and other readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this Quarterly Report on Form 10-Q. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements attributable to Aspen Aerogels, Inc. or to any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure results primarily from fluctuations in interest rates as well as from inflation. In the normal course of business, we are exposed to market risks, including changes in interest rates which affect our line of credit under our revolving credit facility as well as cash flows. We may also face additional exchange rate risk in the future as we expand our business internationally.

Interest Rate Risk

We are exposed to changes in interest rates in the normal course of our business. At June 30, 2016, we had unrestricted cash and cash equivalents of $19.7 million. These amounts were held for working capital and capital expansion purposes and were invested primarily in deposit and money market accounts at a major financial institution in North America. Due to the short-term nature of these investments, we believe that our exposure to changes in the fair value of our cash as a result of changes in interest rates is not material.

As of June 30, 2016, we have no debt outstanding other than capital lease obligations of approximately $0.1 million with fixed interest rates. At June 30, 2016, we also had $2.6 million of outstanding letters of credit.

In September 2014, we amended our loan and security agreement to extend the maturity date of the revolving credit facility to August 31, 2016 and to increase the maximum amount we are permitted to borrow, subject to continued covenant compliance and borrowing base requirements, from $10 million to $20 million. At our election, the interest rate applicable to borrowings under the amended revolving credit facility may be based on the prime rate or LIBOR. Prime rate-based rates vary from prime rate plus 0.75% per annum to prime rate plus 1.75% per annum, while LIBOR-based rates vary from LIBOR plus 3.75% per annum to LIBOR plus 4.25% per annum. In addition, we are required to pay a monthly unused revolving line facility fee of 0.5% per annum of the average unused portion of the revolving credit facility.

Due to the borrowing base limitations, the effective amount available to us under the revolving credit facility at June 30, 2016 was $12.3 million after giving effect to the $2.6 million of letters of credit outstanding. As of June 30, 2016, we had no outstanding balances drawn on the revolving credit facility.

Inflation Risk

Although we expect that our operating results will be influenced by general economic conditions, we do not believe that inflation has had a material effect on our results of operations during the periods presented in this report. However, our business may be affected by inflation in the future.

Foreign Currency Exchange Risk

We are subject to inherent risks attributed to operating in a global economy. Principally all of our revenue, receivables, purchases and debts are denominated in U.S. dollars.

Item 4. Controls and Procedures.

(a) *Evaluation of Disclosure Controls and Procedures* . We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Securities and Exchange Act of 1934, as amended, or the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

As of June 30, 2016, our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Our 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 such evaluation, our principal executive officer and principal financial officer have concluded, that, as of June 30, 2016, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

(b) *Changes in Internal Controls* . During the three months ended June 30, 2016, there were no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, 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.

On May 5, 2016, we filed a complaint for patent infringement against Nano Tech Co., Ltd. and Guangdong Alison Hi-Tech., Ltd. (together, the "Respondents") in the United States International Trade Commission (the "ITC"). The ITC complaint alleges that these two China-based companies have engaged and are engaging in unfair trade practices by importing aerogel products in the United States that infringe several of the Company's patents. In the ITC complaint, we are seeking exclusion orders directing United States Customs and Border Protection to stop the importation of infringing products. On June 2, 2016, the ITC instituted an investigation based on our complaint. The investigation is ongoing with participation from Respondents through their respective counsel.

On April 11, 2016 we also filed a patent infringement suit at the District Court in Mannheim, Germany against the Respondents and two European distributors. We have since settled with one European distributor in exchange for a commitment not to procure infringing products and cooperation with our case and the litigation against the other defendants is ongoing.

Due to their nature, it is difficult to predict the outcome or the costs involved in any litigation. Furthermore, the Respondents may have significant resources and interest to litigate and therefore, this litigation could be protracted and may ultimately involve significant legal expenses. In addition to the foregoing, we have been and may be from time to time party to other legal proceedings that arise in the ordinary course of business and to other patent enforcement actions to assert our patent rights.

Item 1A. Risk Factors.

The following are material changes to the risk factors included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015.

Failure by us to develop, maintain and strengthen strategic relationships with industry leaders to commercialize our products, particularly in the building and construction market, may adversely affect our results of operations and our ability to grow our business .

Our business strategy requires us to align the design and performance attributes of our products to the evolving needs of the market. To facilitate this process, we have sought out partnerships and relationships with industry leaders in order to assist in the development and commercialization of our products. We face competition from other manufacturers of insulation in seeking out and entering into such partnerships and relationships with industry leaders in our target markets and we may therefore not be successful in establishing strategic relationships in those markets.

In the building and construction market, we have entered into a supply agreement and a side agreement (together, the supply agreement) and a joint development agreement with BASF SE (BASF). Pursuant to the supply agreement, we will sell exclusively to BASF our Spaceloft® A2 product at annual volumes to be specified by BASF, subject to certain volume limits. The joint development agreement is designed to facilitate the collaboration between the parties on the development and commercialization of new products.

In addition, under the supply agreement, BASF will make a non-interest bearing prepayment to us in the aggregate amount of $22 million during the construction of the planned manufacturing facility in Statesboro, Georgia (Plant Two), subject to our prior satisfaction of certain preconditions related to the finalization of certain aspects of the product specification and the progress of the financing and construction of Plant Two. Once commenced, BASF's obligation to make such quarterly payments shall be subject to postponement in the event of delays of three months or more in the projected date of completion of Plant Two by a commensurate number of months. Prior to BASF paying any prepayment, we will be required to secure our obligation to repay the prepayments with a first priority security interest in all of our interest in real estate, machinery and equipment located at our existing manufacturing facility in East Providence, Rhode Island and that may, in the future, be located at Plant Two. Additionally, we will grant non-exclusive licenses to our subsidiaries under our intellectual property as necessary to operate such machinery and equipment and such license will be transferable to BASF should it take possession of such collateral. BASF has no obligation to purchase products under the supply agreement and BASF may require us to repay any amount of the prepayment that remains uncredited against amounts invoiced by us.

BASF has not yet placed any orders for product under the supply agreement and there can be no assurance that BASF will ever do so. Even if BASF were to place orders, there can be no assurance that BASF will ever be a significant customer for our products.

With respect to the prepayment by BASF, we may be unable to meet the conditions to which the prepayment by BASF is subject, including with respect to the finalization of certain aspects of the product specification and the progress of the financing and construction of our planned Plant Two, which would eliminate one of our expected sources of financing for a portion of the construction of Plant Two. Furthermore, there can be no assurance that we or BASF will be able to perform under the supply agreement or the joint development agreement or achieve our or its respective goals with respect to the supply agreement, the joint development agreement or the broader relationship between us and BASF.

In the event that we are unable to develop products that meet market needs or maintain our relationship with BASF, we may be required to find less prominent partners in the building and construction market and we may be less able or unable to successfully penetrate that market. As a result of any of the above, we may lessen or lose our ability to grow our business in the building and construction market and to finance and construct our planned Plant Two, which could adversely affect our business, financial condition and results of operations, including impairing our profitability.

We have entered into and may enter into in the future agreements that may limit our ability to broadly market our products or could involve future obligations, which could make it more difficult for us to commercialize certain of our products and negatively affect our business and results of operations.

We have a joint development agreement with BASF to develop products in the building and construction market. In order to develop and commercialize our products, we may enter into additional joint development agreements or commercial arrangements. We cannot be certain that any products will be successfully developed under any such agreement or, even if developed, that they will be successfully produced or commercialized. These agreements may contain exclusivity, ownership and other terms that may limit our ability to commercialize any products or technology developed in connection with such agreements, including in ways that we do not envision at the time of entering into the agreement. In addition, these agreements may not obligate either party to make any purchases and may contain technical specifications that must be achieved to the satisfaction of our partner, which we cannot be certain we will be able to achieve. If our ability to commercialize products or technology developed in connection with these agreements is limited or if we fail to achieve the technical specifications that may be required, then our business, financial condition and results of operations could be materially adversely affected.

Our inability to protect our intellectual property rights could negatively affect our business and results of operations.

Our ability to compete effectively depends in part upon developing, maintaining and/or protecting intellectual property rights relevant to our aerogel product forms, applications, manufacturing technologies and brand names. We rely principally on a combination of patent protection, trade secret laws, confidentiality and nondisclosure agreements, trademark registrations, common law rights and licensing arrangements to establish and protect the intellectual property rights relevant to our business. However, these measures may not be adequate in every given case to permit us to gain or keep any competitive advantage, particularly in those countries where the laws do not protect our proprietary rights as fully as or where the enforcement tools are weaker or less effective than those in the United States. In particular, since aerogels were developed approximately 80 years ago, there has been a wide range of research, development and publication related to aerogels, which makes it difficult to establish intellectual property rights to many key elements of aerogel technology and to obtain patent protection. Accordingly, much of the general technology that we use in our manufacture of aerogel blankets is not protected by patents.

Where we consider it appropriate, our strategy is to seek patent protection in the United States and other countries on technologies used in or relating to our aerogel product forms, applications and manufacturing technologies. As of June 30, 2016, we had 31 issued U.S. patents and 55 issued foreign patents, including two U.S. patents and 17 foreign patents that we co-own with third parties. The issuance of a patent is not conclusive as to its scope, validity or enforceability. Thus, any patent held by us or to be issued to us from a pending patent application, could be challenged, invalidated or held unenforceable in litigation or proceedings before the U.S. Patent and Trademark Office, or USPTO, and/or other patent tribunals. Third parties could develop technologies that circumvent the patent protection we have secured. No consistent policy regarding the breadth of patent claims has emerged to date in the United States and the landscape could become more uncertain in view of future rule changes by the USPTO, the introduction of patent reform legislation and decisions in patent law cases by the federal courts including the United States Supreme Court.

The patent landscape outside the United States is even less predictable. As a result, the validity and enforceability of patents cannot be predicted with certainty. For example, we are aware of competitors that manufacture and market aerogel insulation products in China, where it may be difficult for us to enforce our intellectual property rights against these or other competitors. On May 5, 2016, we filed a complaint for patent infringement against Nano Tech Co., Ltd. and Guangdong Alison Hi-Tech., Ltd. (together, Respondents) in the United States International Trade Commission (ITC). We also filed a patent infringement suit on April 11, 2016 at the District Court in Mannheim, Germany against the Respondents and two European distributors. We have since settled with one European distributor in exchange for a commitment not to procure infringing products and cooperation with our case, and the litigation against the other defendants is ongoing. See "—We have initiated intellectual property litigation that will be costly, and could limit or invalidate our intellectual property rights, divert time and efforts away from business operation, require us to pay damages and/or otherwise have an adverse material impact on our business, and we could become subject to additional intellectual property litigation in the future" below.

In addition, we may fail to apply for patents on important technologies or product candidates in a timely fashion, if at all, and our existing and future patents may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products or technologies, in particular given the long history of aerogel development. Furthermore, third parties could practice our intellectual property rights in territories where we do not have patent protection. Such third parties may then try to import products made using our intellectual property rights into the United States or other countries. Our strategy is to seek registration of trademarks for our brands in many, but not all of the jurisdictions in which we sell our products based on various factors, including our sales volumes in the jurisdiction, our ability to enforce local laws and cost. Our strategy may not be adequate to protect our brands in all circumstances, especially in foreign jurisdictions.

As of June 30, 2016, we had 23 pending U.S. patent applications and 52 pending foreign patent applications, including two pending U.S. patent application and two foreign pending patent applications that we co-own with other third parties. Our pending patent applications are directed to various enabling technologies for the product forms, applications and manufacturing technologies that support our current business, as well as aspects of products under development or contemplated for the future. The issuance of patents from these applications involves complex legal and factual questions and, thus, we cannot provide assurance that any of our pending patent applications will result in the issuance of patents to us. The USPTO, relevant foreign patent offices and other relevant patent tribunals may deny or require significant narrowing of claims in our pending patent applications. Patents issued as a result of any of our pending patent applications may not cover our enabling technology and/or the products or processes that support our current or future business or afford us with significant commercial protection against others with similar technology. Proceedings before the USPTO could result in adverse decisions as to the priority of our inventions and the narrowing or invalidation of claims in issued patents. In addition, our pending patent applications filed in foreign countries are subject to laws, rules and procedures that differ from those of the United States, and thus foreign patent applications may not be granted even if counterpart United States patents are issued.

We have initiated intellectual property litigation that will be costly, and could limit or invalidate our intellectual property rights, divert time and efforts away from business operation, require us to pay damages and/or otherwise have an adverse material impact on our business, and we could become subject to additional such intellectual property litigation in the future.

The success of our business is highly dependent on protecting our intellectual property rights. Unauthorized parties may attempt to copy or otherwise obtain and use our products and/or enabling technology. Policing the unauthorized use of our intellectual property rights is difficult and expensive, as is enforcing these rights against unauthorized use by others. Identifying unauthorized use of our intellectual property rights is difficult because we may be unable to monitor the technologies and/or materials being employed by other parties. The steps we have taken or will take may not prevent unauthorized use of our intellectual property rights, particularly in foreign countries where enforcement of intellectual property rights may be more difficult than in the United States.

On May 5, 2016, we filed a complaint for patent infringement against Nano Tech Co., Ltd. and Guangdong Alison Hi-Tech., Ltd. in the United States International Trade Commission. The ITC complaint alleges that these two China-based companies have engaged and are engaging in unfair trade practices by importing and selling aerogel products in the United States that infringe several of the Company's patents. In the ITC complaint, we are seeking exclusion orders directing United States Customs and Border Protection to stop the importation of infringing products. On June 2, 2016, the ITC instituted an investigation based on our complaint. The investigation is ongoing with participation from the Respondents through their respective counsel. We also filed a patent infringement suit on April 11, 2016 at the District Court in Mannheim, Germany against the Respondents and two European distributors. We have since settled with one European distributor in exchange for a commitment not to procure infringing products and cooperation with our case, and the litigation against the other defendants is ongoing. Due to their nature, it is difficult to predict the outcome or the costs involved in any litigation. Furthermore, the Respondents may have significant resources and interest to litigate and therefore, this litigation could be protracted and may ultimately involve significant legal expenses.

Our continued commercial success will also depend in part upon not infringing the patents or violating other intellectual property rights of third parties. We are aware of patents and patent applications generally relating to aspects of our technologies filed by, and issued to, third parties. Our knowledge of the patent landscape with respect to the technologies currently embodied within our aerogel products and the technologies that we practice in manufacturing those products indicates that the third-party patent rights most relevant to our business are those owned by Cabot and licensed to us under the cross license agreement with Cabot. Nevertheless, we cannot determine with certainty whether patents or patent applications of other parties may materially affect our ability to conduct our business. There may be existing patents of which we are unaware that we may inadvertently infringe, resulting in claims against us or our customers. In recent years, Chinese, Japanese and South Korean entities have filed a significant number of patent applications related to aerogel products in both their home countries and in foreign countries. These application patents may make it more difficult for OEMs and end-use customers in these countries to use our products in new and different applications, which in turn may limit our ability to penetrate new markets.

In the event that the manufacture, use and/or sale of our products or technologies is challenged, or if our product forms or technologies conflict with patent rights of others or our operations conflict with trademark or similar rights of others, third parties could bring legal actions against us in the United States, Europe or other countries, claiming damages and seeking to enjoin the manufacturing and/or marketing of our products. In addition, it is not possible to predict with certainty what patent claims may arise from pending patent applications of third parties. In the United States, for example, patent prosecution can proceed in secret prior to issuance of a patent, provided such application is not filed in a foreign jurisdiction. For U.S. patent applications that are also filed in foreign jurisdictions, such patent applications will not be published until 18 months from the filing date of the application. As a result, third parties may be able to obtain patents with claims relating to our product forms, applications and/or manufacturing processes which they could attempt to assert against us or our end-users.

In the case of any of the above, litigation may be necessary to enforce, protect or defend our intellectual property rights or to determine the validity and scope of the intellectual property rights of others. Any such litigation, including our ongoing patent enforcement actions described above, could be unsuccessful, cause us to incur substantial costs, divert resources and the efforts of our personnel away from daily operations, harm our reputation and/or result in the impairment of our intellectual property rights. In some cases, litigation may be threatened or brought by a patent holding company (otherwise known as non-practicing entities or patent “trolls”) or other adverse patent owner who has no relevant product revenues and against which our patents may provide little or no deterrence. If we are found to infringe any patents, regardless of whether in litigation is brought against us by third parties or, as in the case of our ongoing patent enforcement actions described above, brought by us against third parties, we could be required to:

- pay substantial monetary damages, including lost profits, reasonable royalties and/or treble damages if an infringement is found to be willful;
- totally discontinue or substantially modify any products or processes that are found to be in violation of another party’s intellectual property rights; and/or

seek a license to continue making and selling our products and/or using our manufacturing processes, which we may not be able to obtain on reasonable terms, if at all, which could significantly increase our operating expenses and/or decrease our revenue.

In the actions brought by us against third parties, including our ongoing patent enforcement actions described above, we may be required to pay costs and expenses of opposing parties, including attorney fees, if we lose.

If our competitors are able to use our technology without payment to us, our ability to compete effectively could be harmed. Our contracts generally indemnify our customers for third-party claims of intellectual property infringement related to the manufacture and use of our products, and typically up to the amount of the purchase price paid for the product, which could cause us to become involved, and subject to liability, in litigation between our customers and third parties. The expense of defending these claims may adversely affect our results of operations.

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

(a) *Unregistered Sales of Equity Securities.* Not applicable.

(b) *Use of Proceeds from Initial Public Offering of Common Stock.* We registered shares of our common stock in connection with our initial public offering pursuant to a registration statement on Form S-1 (File No. 333-195523), which was declared effective by the SEC on June 12, 2014, and a registration statement on Form S-1 (File No. 333-196719) filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended, or the Securities Act.

We received aggregate net proceeds from the offering of approximately $74.7 million, after deducting $4.3 million of underwriting discounts and approximately $3.5 million of offering expenses.

As of June 30, 2016, we have used $19.8 million of the net proceeds of the offering to repay all amounts outstanding under our subordinated notes and our revolving credit facility; $30.6 million of the net proceeds of the offering for capital expenditures related to our third production line; and $5.8 million of the net proceeds of the offering for our planned manufacturing facility in Statesboro, Georgia. The remainder of the net proceeds is held in a deposit account and money market account with a major financial institution in North America. We have broad discretion in the use of the net proceeds from our initial public offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our stock. There has been no material change in our planned use of the balance of the net proceeds from the offering as described in our final prospectus dated June 12, 2014, filing with the Securities and Exchange Commission on June 16, 2014.

(c) *Purchases of Equity Securities By the Issuer and Affiliated Purchasers* . We did not repurchase any of our equity securities during the quarter ended June 30, 2016.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

(a) Exhibits

10.1*	Supply Agreement, dated June 21, 2016, by and between the Registrant and BASF SE.
10.2*	Side Agreement, dated June 21, 2016, by and between the Registrant and BASF SE.
10.3*	Joint Development Agreement, dated June 21, 2016, by and between the Registrant and BASF SE.
10.4	Industrial Real Estate Lease, dated June 29, 2016, by and between the Registrant and Cabot II – MA1M03, LLC.
10.5+	Aspen Aerogels, Inc. Non-Employee Director Compensation Policy.
31.1	Certification of principal executive officer under Section 302(a) of the Sarbanes-Oxley Act of 2002.
31.2	Certification of principal financial officer under Section 302(a) of the Sarbanes-Oxley Act of 2002.
32	Certifications of the principal executive officer and the principal financial officer under Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from Aspen Aerogels, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets (unaudited) as of June 30, 2016 and December 31, 2015, (ii) the Consolidated Statements of Operations (unaudited) for the three and six months ended June 30, 2016 and 2015, (iii) the Consolidated Statements of Cash Flows (unaudited) for the six months ended June 30, 2016 and 2015, and (iv) the Notes to Consolidated Financial Statements (unaudited).

\+ Management contract or compensatory plan or arrangement.

* Confidential treatment is being requested with respect to certain portions of this Exhibit, which portions have been omitted and are being filed separately with the Securities and Exchange Commission as part of an application for confidential treatment pursuant to the Securities Exchange Act of 1934, as amended.

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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.

ASPEN AEROGELS, INC.

Date: August 5, 2016	By: /s/ Donald R. Young Donald R. Young President and Chief Executive Officer (principal executive officer)
Date: August 5, 2016	By: /s/ John F. Fairbanks John F. Fairbanks Vice President, Chief Financial Officer and Treasurer (principal financial officer and principal accounting officer)

Supply Agreement

between

BASF SE

and

Aspen Aerogels, Inc.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Supply Agreement (the "Agreement")

Between

BASF SE

Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany

-hereinafter along with its Affiliates referred to as "BASF"-

and

Aspen Aerogels, Inc.,

30 Forbes Road, Building B, Northborough, MA 01532, United States of America

-hereinafter along with its Affiliates referred to as "ASPEN"-

BASF and ASPEN are hereinafter individually referred to as **"Party"** and collectively as **"Parties".**

Preamble

Whereas, based on the Memorandum of Understanding dated July 31, 2015 by and between the Parties, the Parties wish to expand the long-term global market for Spaceloft A2 taking into account an increasing demand for Spaceloft A2 from BASF, and

Whereas, ASPEN wishes to supply and deliver and BASF wishes to purchase and receive Spaceloft A2 at mutually agreed terms and conditions, and

Whereas, ASPEN has commenced investment in the engineering and construction of a second manufacturing plant to increase production capacity of Spaceloft A2 and other aerogel products, and

Whereas BASF is willing to support ASPEN's investment in the second manufacturing plant by entering into this Agreement together with the commitment to render a pre-payment for certain volumes of Spaceloft A2, and

Whereas, it is the common understanding of the Parties that the terms under which Spaceloft A2 will be sold and delivered by ASPEN shall also be applicable to the purchase and receipt of Spaceloft A2 by BASF and,

Whereas, the Parties wish to achieve and maintain competitiveness by innovation and productivity improvements in cooperation with each other as set forth herein, and

Now, therefore, the Parties hereto agree as follows:

Definitions

"Affiliate"	shall mean any entity that is directly or indirectly controlled by a Party;
" **ASPEN** "	shall mean ASPEN and any entity that is directly or indirectly controlled by ASPEN;
"BASF"	shall mean BASF SE, Ludwigshafen/Rhine, Germany, and any entity that is directly or indirectly controlled by, or under common control of BASF SE, Ludwigshafen/Rhine, Germany;
"BASF Markets"	shall have the meaning as defined in §1 and Annex 1 hereto;
"Effective Date"	shall mean the latest date set forth in the signature block below;
" **JDA** "	shall mean a framework joint development agreement to be entered into contemporaneously with this Agreement by ASPEN and BASF focusing on the joint development of new products, technology, intellectual property or know how;
"MoU"	shall mean the Memorandum of Understanding signed by ASPEN and BASF SE on July 31 st , 2015;
"Optimization Projects"	shall have the meaning as defined in §12 below;
"Phase-Out Volume"	shall have the meaning as defined in §11 below;
"Plant Two"	shall mean the first production line in a production facility contemplated, as of the Effective Date, to be constructed by ASPEN in Statesboro, Georgia, United States of America as a capacity extension for manufacturing aerogel products including Products;
"Pre-Marketing Phase"	shall mean the period from [***] until [***];
"Pre-Payment"	shall mean an amount of twenty two million U.S. Dollars ($22,000,000) to be paid by BASF to ASPEN in accordance with §5;
"Pre-payment Balance"	shall mean the remaining portion of the Pre-Payment which has not been previously applied against amounts invoiced for Product purchased by BASF hereunder, or otherwise repaid by ASPEN.

“Price”	shall mean the price for the Products to be paid by BASF to ASPEN calculated as set forth in the Side Agreement and further defined in §4 hereto, as amended pursuant to the Section 1.4 of this Agreement to add Successor Products;
“Product” or “Products”	shall mean individually or collectively Spaceloft A2 and, if added under Section 1.4, Successor Products;
“Recommended Measures”	shall mean non-binding recommendations by BASF to ASPEN for certain process optimization measures in accordance with §12 below;
“Safety Stock”	shall have the meaning as defined in §3;
“Security Interest”	shall mean collateral provided by ASPEN in favour of BASF SE to secure settlement of the Pre-Payment in accordance with §5 below and Annex 4 hereto;
“Side Agreement”	shall mean the side agreement between ASPEN and BASF dated as of Effective Date, setting out the manner of calculation of the Price of Products sold hereunder.
“Spaceloft A2”	shall mean [***] with properties complying with Specifications and marketed as of the Effective Date as Spaceloft ® A2;
“Specifications”	shall mean the specifications for the Products as further defined in §1 and Annex 1 hereto;
“[***] Cost”	shall mean [***], as further described in the Side Agreement.
“Successor Products”	shall mean any improvements, modifications or enhancements to Spaceloft A2 as agreed to by both Parties from time to time pursuant to §1.4 and §1.5;
“Target Date”	shall mean September 30, 2023;
“Target Volume”	shall mean the volume of Product to be sold and delivered by ASPEN and purchased and received by BASF in each calendar year as further defined in §2 below;
“Term”	shall mean the term of this Agreement in accordance with §11;
“Total Volume Range”	shall mean the total annual volume range of Products in accordance with Annex 2 hereto;

"Transaction"	shall mean the transfer of all or substantially all of the assets of ASPEN directly related to the performance under this Agreement or the acquisition of over 50% (fifty percent) of the voting capital stock of ASPEN, in each case, to a third party who does not already own in excess of 5% (five percent) of the voting capital stock of ASPEN on the date of this Agreement.

§1 Products

1.1 ASPEN agrees to sell and deliver exclusively to BASF and BASF agrees to purchase and receive Products from ASPEN on the terms and conditions of this Agreement for incorporation into value added products and systems for sale to customers making use of the Products within the BASF Markets identified in Annex 1. BASF will not sell or otherwise supply Product to third parties who BASF knows, or reasonably should know, intend to use the Products in any markets other than the BASF Markets. For the sake of clarity, BASF acknowledges that nothing in this Agreement restricts ASPEN's ability to sell its products other than Products to any third party or within any market anywhere in the world.

1.2 The Products to be delivered shall be in accordance with the Specifications set forth in Annex 1 as of the date of delivery. The Specifications may be modified only upon the mutual written consent of both Parties.

1.3 ASPEN shall inform BASF at least [***], or such shorter period as may be agreed by both Parties in writing, in advance of any changes that recognizably affect the quality of a Product as set forth in the Specifications. In particular, ASPEN shall inform BASF of changes to processes involving the introduction of new technologies, changes to raw materials and transfer of production to another location. Products that are affected by such changes may only be shipped after ASPEN has obtained the written consent of BASF.

1.4 Through the Term, ASPEN may develop Successor Products that would be supplied to BASF subject to the Parties reaching agreement as to revised specifications, pricing, volumes, and related terms.

1.5 In case (i) BASF is not able to profitably meet the requirements of its customers or (ii) alternative product characteristics or specifications are required for BASF to meet legal requirements, in each case, with respect to Products, then BASF will immediately inform ASPEN thereof and provide ASPEN with a description of the specifications and characteristics of new products necessary to meet the requirements of BASF's customers. ASPEN will initiate commercially reasonable development efforts to improve, modify or enhance Spaceloft A2, but only to the extent that the efforts could be reasonably expected to achieve the desired specifications and characteristics of such enhanced products within a period of [***]. If successfully developed, and on agreement of the Parties as to revised specifications, pricing, volumes, and related terms for such enhanced products as provided in Section 1.4, such enhanced products will be deemed Successor Products. If ASPEN cannot develop such enhanced products within a period of [***], the Parties will consider development of such enhanced products for inclusion as a project under the JDA.

§2 Volumes and Forecasting

2.1 During the Term, ASPEN will sell and deliver to BASF volumes of Product within the Total Volume Range for use in the BASF Markets, pursuant to §2.2 and §2.3.

2.2 During the Pre-Marketing Phase, BASF may elect to purchase Products within the Total Volume Range applicable to each calendar year in its sole discretion. BASF shall provide purchase orders for Product, in volumes, in the aggregate, within the applicable Total Volume Range, for delivery within calendar years [***]. The Parties will within [***] of ASPEN's receipt of each order develop a mutually agreeable delivery schedule for delivery of such Product consistent with ASPEN's lead times then in effect.

2.3 On or before [***] and each [***] thereafter, the Target Volume of Product to be purchased by BASF for the following calendar year, which shall be within the applicable Total Volume Range defined in Annex 2, shall be defined and ordered by BASF from ASPEN. The Parties will, within [***] of BASF's order, develop a mutually agreeable delivery schedule for delivery of Product aggregating to the Total Volume Range in the following calendar year consistent with ASPEN lead times. The purchase and sale of the Target Volume thus ordered for each calendar year shall be binding upon the Parties. BASF orders for Product in volumes in excess of the Target Volume for each calendar year shall be binding on ASPEN only on Aspen's express written acceptance of such orders.

§3 Safety Stock

3.1 ASPEN will build a Safety Stock of Product on or before [***] equivalent to [***] of the agreed Target Volume (see example in Annex 3) applicable to calendar year [***]. Such Safety Stock will be adjusted on or before [***] of each successive calendar year to [***] of the applicable Target Volume for such calendar year. At BASF's direction, Safety Stock may be utilized to meet Target Volume in the event of a Force Majeure as defined in Section 7.

3.2 In addition, BASF will be entitled to direct ASPEN to sell and deliver Safety Stock to BASF once in any calendar year in the event that BASF's requirements for Product exceed Target Volume and ASPEN is unable to meet BASF's additional requirements. After any delivery and sale of Products from Safety Stock to BASF, ASPEN will take commercially reasonable efforts to replenish Safety Stock within a six month period. ASPEN shall use commercially reasonable efforts to rotate Safety Stock to reduce aging of such Safety Stock.

§4 Prices and Conditions

4.1 The Price for Product sold hereunder shall be calculated as set forth in the Side Agreement. The terms of this Agreement and the Side Agreement shall be the exclusive terms and conditions with respect to purchase and supply of Products under this Agreement and take precedence over any additional or different terms and conditions provided by either Party, to which notice of objection by the other Party is hereby given. Neither the commencement of performance, delivery nor receipt of products or payment shall be deemed an acceptance of any additional or different terms and conditions. None of the terms and conditions contained herein may be added to, modified, superseded or otherwise altered except in writing by duly authorized representatives of the parties.

4.2 All Prices are in United States dollars. Prices are exclusive of all charges or levies of any nature, including all applicable federal, state, provincial, municipal or other governmental excise, sales, use, value added, occupational, import duties, or similar taxes or tariffs now in force or enacted in the future (collectively, the "Additional Charges") and, therefore, are subject to an increase in an amount equal to any such Additional Charges that ASPEN may be required to collect or pay upon sale or delivery of Products purchased. A certificate of exemption or similar document in appropriate form for the jurisdiction of BASF's place of business and any jurisdiction to which Products are to be directly shipped hereunder is required in order to exempt the sale from sales or use tax liability. BASF shall obtain and furnish evidence of such exemption at the time of placement of order. BASF agrees to indemnify and hold harmless ASPEN and its successors and assigns from and against any liability for tax in connection with the sale or use, as well as the collection or withholding thereof, including penalties and interest. ASPEN will provide a certificate of origin with any shipment of Products. ASPEN and BASF will work together to ensure (including providing any reasonable declaration) the transactions pursuant to this Agreement can benefit from the anticipated Transatlantic Trade and Investment Partnership.

4.3 On request of BASF, ASPEN's books and records as they relate to annual Price calculations may be audited by an independent third party auditor without a prior business relationship with either BASF or ASPEN. Such audit will be to examine whether Price has been calculated by ASPEN in accordance with the provisions of this Agreement in all material respects. ASPEN will make available or provide access to all relevant documents to the third party auditor. The independent auditor will provide a summary report to BASF and ASPEN on whether ASPEN's Price calculations are consistent in all material respects with the provisions of this

Agreement. The third party auditor will keep all other information of ASPEN strictly confidential and will not disclose such information to BASF or any other third party. ASPEN shall bear the costs of the third party auditor in the event ASPEN's Price calculations are not consistent in all material respects with the provisions of this Agreement. Otherwise BASF shall bear such audit costs.

4.4 All orders must be placed in writing and verbal orders shall be confirmed in writing. All orders must include requested delivery dates, quantities, shipment destination and complete description of Products being ordered. After receipt of an order, ASPEN will confirm its acceptance in writing and may also inform BASF of an estimated ship date simultaneously or at a later date. Orders accepted or acknowledged by ASPEN cannot be cancelled without the prior written consent of ASPEN. No order can be cancelled after the order is shipped.

4.5 All Products will be shipped [***] (Incoterms 2010) from ASPEN's applicable facility in the U.S. to [***] ("Delivery Point") and further to [***] ("Destination Point" which, if not specified in the relevant order, will be [***]), unless agreed otherwise in writing. All shipping, handling, transportation, and insurance costs incurred following the release of Product from ASPEN's applicable facility in the U.S. to the Destination Point shall, to the extent paid by ASPEN, be either included as a separate item in the invoice for Products, or separately invoiced and payable by BASF. In no event shall ASPEN be liable for any delay in delivery caused between Delivery Point and Destination Point, nor shall the carrier selected by ASPEN for the transport from Delivery Point to Destination Point be deemed an agent of ASPEN. ASPEN may make partial shipments against an order in its sole discretion. Each such shipment shall constitute a separate sale, and BASF shall pay for the units shipped whether such shipment is in whole or partial fulfilment of an order. Title to Products shall pass to BASF upon delivery of Products at the Delivery Point.

4.6 BASF shall examine the Products as soon as possible after their arrival at the BASF's facility, and in any event not more than [***] following the Product's arrival at BASF's designated facility. BASF shall notify ASPEN in writing (i) with respect to missing Products, immediately upon receipt by reference to the accompanying bill of lading, and (ii) with respect to Products that do not conform to applicable specifications or are damaged in transit due to inadequate packaging, within [***]. The Products will be deemed to conform to the applicable specifications despite minor discrepancies that are usual in the trade, and BASF will not be entitled to abatement of the Price for such minor discrepancies. Where the Products are materially non-conforming, the remedies provided in the limited warranty set forth herein shall serve as BASF's exclusive remedy.

§5 Pre-Payment and Payment Terms

5.1 In order to support ASPEN's investment in Plant Two, BASF (or its Affiliate) will provide the Pre-Payment to ASPEN in accordance with Annex 4. The Parties agree that a specified portion of the Pre-Payment will be credited as provided in Annex 4 by ASPEN against payment due on sales and deliveries of Product by ASPEN to BASF between October 1, 2018 and the Target Date. If by the Target Date, credits associated with the sale and delivery of Product by ASPEN to BASF have not fully covered the value of the Pre-Payment, BASF shall be entitled to request from ASPEN the repayment of the remainder of the Pre-Payment Balance to BASF as specified in Annex 4 ("BASF Request"). The BASF Request may be executed at any time after the Target Date until the Pre-Payment has been fully repaid by Aspen upon [***] prior written notice and reflecting the current value of the Pre-Payment Balance.

5.2 As collateral for the Pre-Payment, ASPEN will provide BASF with a Security Interest in ASPEN's assets in accordance with Annex 4.

5.3 ASPEN shall invoice all orders for Product on shipment. BASF shall settle all invoiced amounts due to ASPEN within [***] of the date of the corresponding invoice. On BASF's instruction, ASPEN will apply an amount (if available) of the Pre-Payment Balance against payment of up to twenty five and three tenths percent (25.3%) of the invoiced Price of Product. BASF shall remit the remainder in cash in United States dollars by wire transfer. Cash payments not received within the prescribed time shall be assessed a finance charge at the annual rate of [***], starting from the invoice date. BASF shall be liable for any costs or expenses incurred by ASPEN in collecting any late payment, including, but not limited to, administrative and personnel costs, collection agency fees and expenses, court costs, and attorney's fees and expenses.

5.4 To the extent a BASF Affiliate orders and purchases Products pursuant to this Agreement, ASPEN shall send the respective invoice(s) directly to such Affiliate and such BASF Affiliate shall be responsible for payment of such invoices, subject to the partial credit against Pre-Payment Balance as described in § 5.1.

§6 Warranty

6.1 ASPEN warrants to BASF that the Products supplied pursuant to this Agreement are free from defects in workmanship and materials for a period of one (1) year from the date of shipment to BASF. This limited warranty does not apply to fitness for any particular purpose or for use in any application. Since BASF may obtain devices which have the capability of testing whether Product meets the specifications, no claim of any kind with respect to the conformance of Product to the specifications, whether or not based on negligence, warranty, strict liability or any other theory of law, will be greater than the Price of the quantity of nonconforming Product in respect to which such claim is made. The foregoing constitutes BASF's exclusive remedy and ASPEN's sole obligation with respect to any such claim. This limited warranty does not extend to any Product that has been damaged or rendered defective (a) as a result of accident, misuse, abuse, negligence, installation, act of God, disaster, or other external cause, (b) by the use of parts not manufactured or sold by ASPEN, or (c) by modification or service by anyone other than (i) ASPEN or (ii) anyone authorized by ASPEN. ASPEN is not responsible for damage that occurs as a result of (i) BASF's failure to follow the instructions that accompany the Products or otherwise provided by ASPEN or (ii) by operation outside the usage parameters specified by ASPEN. No credit shall be allowed for repair work performed by BASF or unauthorized parties. BASF shall notify ASPEN of any non-conformance during the warranty period, obtain from ASPEN a return material authorization ("RMA") for the non-conforming Products, and return the non-conforming Products to ASPEN, freight prepaid, within [***] of receipt of the RMA, with a statement describing in reasonable specificity the non-conformity for which the Products are returned. ASPEN's exclusive obligation with respect to the non-conforming Products shall be, at ASPEN's option, to repair or replace any Product determined to be defective. Products that are repaired or replaced hereunder shall be warranted as set forth above for the remainder of the original warranty period or for [***] after the replacement Products are shipped to BASF, whichever is later.

6.2 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY OR ANY APPLICABLE LAW OR REGULATION, THE FOREGOING IS BASF'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF WARRANTY BY ASPEN WITH RESPECT TO THE PRODUCTS. ASPEN MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE ARE HEREBY EXCLUDED. IMPLIED WARRANTIES THAT MAY BE IMPOSED BY LAW AND CANNOT BE DISCLAIMED ARE LIMITED IN DURATION TO THE LIMITED WARRANTY PERIOD SET FORTH HEREIN. BASF PURCHASES AND ACCEPTS THE PRODUCTS SOLELY ON THE BASIS OF THE LIMITED WARRANTY EXPRESSED HEREIN. UNDER NO CIRCUMSTANCES SHALL ASPEN BE LIABLE BY VIRTUE OF THIS LIMITED WARRANTY OR OTHERWISE FOR ANY SPECIAL, INDIRECT, SECONDARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOSS OF PRODUCTION TIME) TO ANY PERSON OR PROPERTY ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCTS. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY. THE LIABILITY OF ASPEN HEREUNDER FOR ALL CLAIMS SHALL NOT EXCEED THE SUM OF BASF'S PAYMENTS FOR THE PRODUCTS THAT ARE THE SUBJECT OF DISPUTE. EXCEPT IN CONNECTION WITH AN AUTHORIZED SALE, FOR ANY PRODUCTS THAT ARE DIVERTED FROM ASPEN'S INTENDED COUNTRY OF DESTINATION TO ANOTHER COUNTRY OR JURISDICTION, THE WARRANTY IS HEREBY VOIDED.

§7 Force Majeure

7.1 Any and all events and circumstances beyond the reasonable control of the Parties including, but not limited to acts of God, fires, explosions, floods, earthquakes, civil commotions, riots, declared and undeclared wars, labor disputes, strikes, lock-outs, boycotts, picketing, other industrial disturbances, unavoidable break-downs and acts of authorities, military police actions, blockades, embargoes, insurrections, delays or curtailment of sources of supply of materials used in the manufacture of the Products, performance failure or delays of any person other than the Party, all interruptions of business and casualties (collectively, "Force Majeure") release the Party hereto from its respective obligations under or pursuant to this Agreement – in so far as the circumstances prevent the deliveries of Product by ASPEN or the takings or further processing of Product by BASF or BASF's Affiliates – for the duration of such contingencies and to the extent of the effects resulting therefrom.

7.2 If a Force Majeure event occurs, the Party affected shall inform the other Party as soon as practical indicating the expected duration and extent of such contingency. Moreover, the affected Party shall promptly take commercially reasonable efforts to settle such contingencies so that the performance of the obligations under this Agreement can be resumed as soon as possible.

§8 Good Faith

8.1 Both Parties recognise that they cannot anticipate all future technical and economic developments that could affect the rights, obligations and commitments contemplated herein. Therefore, ASPEN and BASF agree to cooperate and work with one another in good faith during the Term, taking into account any and all unanticipated developments and occurrences to minimise any undesired impact on the intent of this Agreement. If during the Term of this Agreement, there shall occur any unanticipated hardship affecting one of the Parties, whether economic or otherwise, [***], the Parties shall work with one another in good faith so as to minimise, to the extent possible, any adverse impact on the affected Party.

§9 Assignment

9.1 It is the common understanding of the Parties that the terms of the Agreement under which Product will be sold and delivered by ASPEN to BASF shall also be applicable to the sale and delivery of Product to BASF's Affiliates and also to the sale and delivery of Product from ASPEN's Affiliates to BASF and BASF Affiliates. Therefore, BASF Affiliates shall be entitled to order Product from ASPEN or ASPEN's Affiliates in their own name and on their own account at the terms laid down in this Agreement. In case BASF and BASF Affiliates have placed orders pursuant to the terms and conditions of this Agreement, the Target Volumes set out in Section 2 shall be fulfilled to the extent of the quantity invoiced to BASF and the respective BASF Affiliates.

9.2 In addition, each of the Parties is entitled to assign rights and obligations under this Contract, in whole or in part, to one of its Affiliates.

9.3 In addition, no consent shall be required to assign this Agreement as a part of a Transaction, provided that any Transaction will be subject to Section 11.6.

§10 Confidentiality

10.1 BASF and ASPEN agree that all non-public and/or proprietary information or samples ("Confidential Information") received or learned from the other Party, in connection with negotiations, performance and compliance of this Agreement will be treated as strictly confidential and each Party (i) shall not disclose Confidential Information of the other Party to third parties, and (ii) shall not use Confidential Information of the other Party for any purpose other than as expressly permitted in this Agreement unless otherwise agreed by the Parties in writing, in each case during the Term and for a period of ten (10) years after the termination or expiration of this Agreement. However, if a Party is required to disclose any Confidential Information of the other Party by a governmental authority pursuant to applicable laws or regulations, including, without limitation, the U.S. Securities and Exchange Commission, the Party required to make disclosure will immediately (if and to the extent allowed by law) (i) inform the other Party of such required disclosure, and (ii) may make such disclosure to the extent required by law, and, to the extent requested by the other Party, shall use commercially reasonable efforts to seek confidential treatment of such Confidential Information if permitted by such laws or regulations under such circumstances. The provisions of this Section 10 shall not apply to (i) disclosures by each Party to its Affiliates and their respective personnel, or (ii) disclosure to a potential purchaser or financing source of each Party, including such purchaser's attorneys and consultants, provided that such persons receiving Confidential Information first agree to maintain the confidentiality of Confidential Information provided under this Agreement, subject to the terms and restrictions contained herein. Each Party is responsible for compliance with this Section 10 by any such persons to whom such Party discloses the other Party's Confidential Information.

10.2 Confidential Information excludes any information which a receiving Party can demonstrate by written evidence: (a) to be in the possession of the receiving Party at the time of disclosure without any restrictions; (b) already available or becomes available to the public through no fault of the receiving Party; (c) received by the receiving Party from a third party having a right to disclose it without restrictions; or (d) developed by the receiving Party without the knowledge or reference to information disclosed pursuant to this Agreement or other agreements between the Parties. The Confidential Information disclosed pursuant to this Agreement shall not be construed to be within the foregoing exclusions merely because such items are embraced by more general publically known information or information in Receiving Party's possession. Additionally, any combination of features shall not be construed within the foregoing exclusions, but only if combination itself and its principle of operation are within the foregoing exclusions.

10.3 BASF acknowledges and agrees that it will acquire no rights to use and/or disclose the Confidential Information of ASPEN by virtue of the utilization of such Confidential Information in the manufacture of Products sold to BASF hereunder.

10.4 Notwithstanding anything to the contrary in this Section 10, the Parties, at a mutually agreed upon time that is no later than three days from the date of execution of this Agreement, shall jointly issue a press release with respect to this Agreement in a form as set forth on Annex 5, and either Party may make subsequent public disclosure of the contents of such press release without further approval of the other Party. Either Party may disclose the existence and general nature of this Agreement, and may include in a public disclosure, without prior delivery to or approval by the other Party, any information which has previously been included in a public disclosure.

§11 Term and Termination

11.1 This Agreement becomes effective on the Effective Date and shall terminate on December 31 st , 2027 (the "Term"). The Parties agree to meet and discuss the potential for a successor arrangement to the Agreement at least [***] prior to the end of the Term.

11.2 In the event the Agreement is not renewed beyond December 31, 2027, ASPEN shall sell and deliver and BASF shall be obliged to purchase and receive under the same terms and conditions as laid out in the Agreement, the following Phase-Out Volumes:

(a) During the first calendar year following the expiration of the Agreement, the Phase-Out Volume shall be equal to [***] of the quantities invoiced by ASPEN to BASF during the final calendar year of the Agreement.

(b) During the second calendar year following the expiration of the Agreement, the Phase-Out Volume shall be equal to [***] of the quantities invoiced by ASPEN to BASF during the last final calendar year of the Agreement.

The terms and conditions of this Agreement shall continue to apply to purchases of Phase-Out Volumes

11.3 If either Party defaults in any of its obligations under this Agreement and, if it is capable of remedy, such default has not been remedied within thirty (30) days after the non-defaulting Party gives written notice thereof, the non-defaulting Party may at its discretion terminate this Agreement by giving written notice should such default be continuing.

11.4 Notwithstanding any other provision of this Agreement, no return or other refund of the Pre-Payment shall be due before the Target Date, absent a showing of fraud on the part of ASPEN.

11.5 The following provisions will survive any expiration or termination of this Agreement: Sections 8, 10, 11, 12.3, 13, 14, 15 and 16

11.6 ASPEN shall provide BASF written notice at least [***] prior to a proposed Transaction (a "Transaction Notice") identifying the proposed acquirer. BASF shall have the right to terminate this Agreement by written notice to ASPEN (the "Transaction Termination Notice") on or prior to the date that is [***] after the date of the Transaction Notice if any of the following is the case:

(a) the proposed acquirer is a competitor of BASF;

(b) the proposed acquirer does not provide reasonable assurance to BASF that this Agreement will in the future be performed in accordance with its terms, specifically with its §5, or

(c) the proposed acquirer is for other material reasons (e.g. financial, political reasons) determined by BASF not to be a reasonably reputable supplier of the Products.

A termination pursuant to a Transaction Termination Notice shall be effective on the date of the Transaction.

11.7 Notwithstanding the foregoing, if specified in the Transaction Termination Notice, BASF may continue to purchase the remainder of its Target Volume for the remainder of the calendar year in which the Transaction Termination Notice is given and the subsequent calendar year, and the terms of this Agreement shall apply to all such sales.

11.8 Upon a termination of this Agreement pursuant to a Transaction Termination Notice, the remaining Pre-Payment Balance shall be due and payable to BASF within 30 days of the date of the Transaction.

§12 Process Optimization

12.1 BASF and ASPEN agree to work together in good faith to identify optimization projects [***] ("Optimization Projects") and [***] as set forth in the Side Agreement. ASPEN may from time to time submit Optimization Project proposals to BASF. BASF will assess such Optimization Project proposals in good faith to develop non-binding Recommended Measures, if any, to meet Optimization Project goals. In addition, BASF, in its sole discretion, may provide further assistance to ASPEN during implementation of Recommended Measures to help promote the likelihood of successful cost reductions. ASPEN, in its sole discretion, may elect to or not elect to implement Recommended Measures. BASF will not incur any liability with respect to ASPEN's use of the Recommended Measures and related assistance.

12.2 If the cost of development of any Recommended Measures is expected to be significant, the Parties will, prior to the undertaking by BASF of any work related to such Recommended

Measures, agree on a scope of work and any reimbursement of BASF to be paid by ASPEN, on a time and materials basis, for the work of BASF related to the Recommended Measures. If the implementation of any Recommended Measures and use thereof would infringe any patent owned or controlled by BASF, BASF shall inform ASPEN and the Parties shall reasonably negotiate and agree on the compensation, if any, due to BASF based on ASPEN's practice of the patent as a part of the Recommended Measures. ASPEN shall have a worldwide, nonexclusive right and license, including the right to grant sublicenses, to practice such patent to the extent required to implement the Recommended Measures. Should either Party believe that work related to the Recommended Measures is likely to lead to patentable developments, the Parties will refer such work to the joint steering committee established under the JDA, and undertake the work related to such Recommended Measures and implement such Recommended Measures only (if at all) as a Project executed under the JDA.

12.3 For such Recommended Measures as ASPEN does implement, ASPEN shall have a nonexclusive, worldwide, royalty free, perpetual right and license, including the right to grant sublicenses in connection with a license of rights in ASPEN's process to which the Recommended Measures relate, to use any intellectual property rights of BASF included in such Recommended Measures in implementing such Recommended Measures in ASPEN's processes. ASPEN shall continue to solely own all rights in its manufacturing and other processes, including as modified by any Recommended Measures.

12.4 Except as provided in Section 12.2, BASF will not include in any Recommended Measures any patented technology or processes other than through a Project executed under the JDA.

§13 Other Terms and Conditions

13.1 Any alterations or amendments to any provision of this Agreement, including amendments to the Annexes hereto, shall only be valid if made in writing by authorized representatives of the Parties.

13.2 In the event that any of the provisions of this Agreement are invalid because they are inconsistent with the applicable law, this shall in no manner affect the validity of the other provisions of this Agreement. The Parties hereto shall be obliged to replace such invalid provisions by new provisions having similar economic effects.

13.3 Neither BASF's nor ASPEN's general or other conditions that may accompany orders or acknowledgements are applicable to any orders for Products placed pursuant to this Agreement.

13.4 Each Party represents and warrants that it has the authorizations required to enter into this Agreement and that entering into this Agreement is not inconsistent with any prior arrangements with or commitments to third parties.

13.5 The terms and conditions contained herein, including the Annexes hereto, constitute the entire agreement between the Parties with respect to the subject matter of this Agreement and shall supersede all prior and contemporaneous negotiations, agreements, statements, communications either oral or written between the Parties hereto with respect to the subject matter hereof. Notwithstanding the foregoing, the Parties agree that confidentiality agreements between them remain in effect according to their terms with respect to obligations of confidentiality and non-use with respect to information exchanged thereunder, and rights of ownership in intellectual property established under the terms of a Joint Development Agreement dated March 1, 2010 between ASPEN and BASF Construction Chemicals GmbH remain in effect. A supply agreement entered into by and between ASPEN and BASF Construction Chemicals GmbH, Trostberg, Germany, a BASF Affiliate, on February 17 th , 2012, along with the amendments thereto, is hereby terminated in its entirety by mutual consent.

§14 Law and Jurisdiction

14.1 This Agreement, including the law and jurisdiction clause and any amendment hereto shall be governed by, interpreted and enforced in accordance with the substantive laws of Switzerland without regard to the principles of conflict of laws and excluding the United Nations Convention on Contracts for International Sale of Goods of 11 April 1980(CISG). Any dispute, controversy or claim, arising out of or in relation to this Agreement, including the validity, invalidity, breach or termination thereof, shall be resolved by binding arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Chambers of Commerce in force on the date when the Notice of Arbitration is submitted in accordance with these Rules. The number of arbitrators shall be one (1). The seat of arbitration shall be Basel, Switzerland. The arbitral proceedings shall be conducted in English. All information involved in the arbitration shall be kept confidential. Notwithstanding the foregoing, the Parties recognize that a Party may suffer immediate, irreparable harm in certain circumstances, including a breach or threatened or anticipated breach of obligations under Section 10; accordingly, such Party is entitled, in addition to any other remedy available at law or in equity, to injunctive relief to specifically enforce the terms of this Agreement in a court of competent jurisdiction.

§15 Export Compliance

15.1 The Parties shall comply with their respective codes of conduct, all applicable laws and regulations, including but not limited to export controls, embargoes, sanctions and similar laws, regulations and requirements.

15.2 BASF acknowledges that the Products are subject to regulation by United States government agencies, which regulate export or diversion of the Products, information about the

Products, and derivatives of the Products to certain countries and certain persons (collectively, "U.S. Export Control Laws"). BASF hereby represents, warrants and agrees that BASF shall abide by, be bound by and strictly comply with all U.S. Export Control Laws as currently in effect and promulgated from time to time hereafter, including but not limited to the provisions of the Export Administration Act of 1979, 50 U.S.C. Appx. §§ 2401 et seq., the Trading with the Enemy Act, 50 U.S.C. § 1 et seq., the Arms Export Control Act, 22 U.S.C. §§ 2778(a) and 2794(7), and the International Emergency Economic Powers Act, 50 U.S.C. § 1701 et seq., and all regulations promulgated from time to time thereunder. ASPEN reserves the right to immediately terminate this Agreement with BASF (without liability of any kind to ASPEN) if, in the opinion of ASPEN's counsel, any action taken by BASF or its customer constitutes a violation of U.S. Export Control Laws or may subject ASPEN or any affiliate of ASPEN to legal liability or loss of benefits under such law.

§16 Indemnification; Limitation of Liability

16.1 ASPEN shall indemnify BASF, and its directors, officers, employees, agents and their successors, against any infringement claims brought by a third party based on such third party's intellectual property only to the extent such claims relate to ASPEN's manufacture of the Products, up to the amount of the Price paid for the Product. ASPEN shall not be liable for any claims related to the use of the Products in any application. ASPEN shall have no liability for any claim of infringement resulting from compliance by ASPEN with BASF's designs, specifications or instructions, or in the event of modification of the Products by BASF. In no event shall ASPEN have any liability for any infringement in excess of the purchase Price of the infringing Products.

16.2 BASF shall indemnify and hold harmless ASPEN, and its directors, officers, employees, agents and their successors against third party claims resulting from BASF's use of Products, whether alone or in combination with other products, including, but not limited to, infringement of intellectual property rights.

16.3 ASPEN's maximum liability for any losses and damages arising out of any cause whatsoever in connection with this Agreement shall in any event not exceed the sum of BASF's payments for the products that are the subject of dispute. ASPEN shall provide to BASF a certificate evidencing its insurance coverage on BASF's reasonable request. The aforesaid limitation of liability does not apply in cases of ASPEN's willful misconduct or gross negligence.

16.4 OTHER THAN WITH RESPECT TO REPAYMENT OF THE PREPAYMENT BALANCE AS PROVIDED HEREUNDER, AND FOR INDEMNIFICATION CLAIMS UNDER THIS SECTION 16, NO PARTY SHALL BE LIABLE TO THE OTHER PARTY UNDER THIS AGREEMENT FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST

PROFITS, OR OTHER INDIRECT LOSS OR DAMAGE ARISING OUT OF THIS AGREEMENT AND/OR THE PERMITTED USE OF ANY INTELLECTUAL PROPERTY OR PROPRIETARY INFORMATION CREATED OR RECEIVED HEREUNDER, OR ARISING OUT OF NEGLIGENCE OR WILLFUL CONDUCT CAUSING PERSONAL INJURY OR TANGIBLE PROPERTY DAMAGE OF A THIRD PARTY OR ANY RESULTING OBLIGATION, WHETHER IN AN ACTION FOR OR ARISING OUT OF BREACH OF CONTRACT, TORT, OR ANY OTHER CAUSE OF ACTION AND WHETHER OR NOT SUCH DAMAGES ARE FORESEEABLE.

16.5 Provisions.

(a) When a reference is made in this Agreement to an "Article," "Section," "Exhibit" or "Schedule," such reference shall be to an Article or Section of, or an Exhibit or Schedule to, this Agreement unless otherwise indicated.

(b) The table of contents and headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

(c) Whenever the words "include," "includes," or "including" are used in this Agreement, such words shall be deemed to be followed by the words "without limitation."

(d) The words "hereof," "herein," and "hereunder" and words of similar import when used in this Agreement refer to this Agreement as a whole and not to any particular provision of this Agreement unless otherwise expressly indicated in the accompanying text.

(e) The use of "or" is not intended to be exclusive unless otherwise expressly indicated in the accompanying text.

(f) The defined terms contained in this Agreement are applicable to the singular as well as the plural forms of such terms. Reference to the masculine gender shall be deemed to also refer to the feminine gender and vice versa.

(g) A reference to documents, instruments or agreements also refers to all addenda, exhibits or schedules thereto.

IN WITNESS WHEREOF, the parties have executed this Supply Agreement as of the dates set forth below.

Aspen Aerogels, Inc.	**BASF SE**	
/s/ Donald R. Young	[***]	[***]
Donald R. Young	[***]	[***]
President & Chief Executive Officer	[***]	[***]
Date: 21 st June, 2016	Date: 13 th June, 2016	Date: 10 th June, 2016

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

List of Annexes:

Annex to the Agreement between BASF and ASPEN

Annex 1 – BASF Markets and Specifications

BASF Markets

Market definitions are aligned to and based on categorization of markets set forth [***] as of [***].

BASF Markets will be limited strictly to those markets specifically identified as approved in the chart below. Any additions or modifications to BASF Markets after the date hereof must be agreed to by both Parties in writing.

1. Construction
   a. Use in [***] is approved.
   b. Use in [***] is prohibited.

2. Transportation
   a. Use in [***] is approved.

3. Industrial
   a. Use in [***] is approved.
   b. Use in [***] is prohibited.

4. Consumer
   a. Use in [***] is approved.
   b. Use in [***] is prohibited.

For purposes of clarity, any use in [***] is prohibited.

Preliminary Specifications

The following preliminary specification is subject to revision or finalization through mutual consent of the Parties as further described in Annex 4.

Spaceloft ® A2 Blanket Specification

[***]	[***]	Values*)
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

[***]

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Annex 2 – Quantities

Total Volume Range

Commencing [***] and ending [***], in an amount not to exceed [***] of Products.

Commencing [***] and ending [***], in an amount not to exceed [***] of Products.

Commencing [***] and ending [***], in an amount not to exceed [***] of Products.

Commencing [***], in an amount not to exceed [***] of Products in any calendar year during the term of the Agreement.

Annex 3 – Safety Stock

Safety Stock Example

Calendar Year:	[***]
Total Volume Range (up to):	[***]
Target Volume:	[***]
Safety Stock Factor:	[***]
[***] Safety Stock	[***]

Annex 4 – Pre-Payment and Security Interest

<u>Pre-Payment</u>

1. BASF will remit to ASPEN by wire transfer in eight equal consecutive quarterly installments a Pre-Payment amount in the aggregate of twenty two million U.S. Dollars ($22,000,000) as set forth in this Annex 4.

2. The obligation of BASF to make the Pre-Payment as set forth above is conditioned upon (i) the security interest as described in this Annex 4 being effective, (ii) ASPEN's board of directors having approved the construction of Plant Two, (iii) ASPEN having received a commitment from a third party lender for a term loan or revolving line of credit of at least $30 million, and (iv) pursuant to Section 1.2 of the Supply Agreement, the Parties having agreed to final specification values for Products reasonably reflecting, as of the Effective Date, Products' current characteristics, ASPEN's current manufacturing capability and the yield levels assumed in arriving at [***] Cost for [***]. Parties acknowledge that an agreement on final values for certain Product characteristics (including shear strength, compressive strength and long and short term water absorption) is not a condition to BASF's obligation to make the Pre-Payment. While the parties anticipate that the obligation of BASF to make the Pre-Payment will commence on October 1, 2016, the obligation to make the Pre-Payment will commence on the later of (a) October 1, 2016, or (b) the first day of the calendar quarter following that in which all of the conditions described in this Section 2 have been satisfied, if such date is later than September 30, 2016.

3. On or before the first day of the calendar quarter in which the first payment of the Pre-Payment amount is due, ASPEN shall provide to BASF, on a confidential basis, the projected date of completion of construction of Plant Two at the time of approval of ASPEN's board of directors. Thereafter, on or before the first day of each calendar quarter in which a portion of the Pre-Payment is due, ASPEN shall provide to BASF a statement of ASPEN's good faith projection of the date of completion of construction of Plant Two along with a summary report of amounts expended on the Plant Two project at that time. Should the projected date of completion of construction encounter delays of three months or more in any material respect, for each month of such delay, BASF's obligation to make its next quarterly payment shall be postponed by a commensurate number of months.

4. After October 1, 2018, on BASF's instruction, ASPEN will credit up to twenty five and three tenths percent (25.3%) of any amounts invoiced by ASPEN for Product sold and delivered to BASF pursuant to this Agreement against the available Pre-Payment Balance, if any.

5. Upon BASF Request pursuant to §5.1, the Pre-Payment Balance, if any, will be refunded by ASPEN by wire transfer to BASF in four equal quarterly installments.

6. The Pre-Payment Balance may be repaid by ASPEN to BASF at any time in whole or in part and for any reason. The Pre-Payment Balance will not bear interest.

7. Should the schedule for construction of Plant Two be delayed by more than six months, the Parties will reasonably re-negotiate dates, prices and volume commitments established in this Agreement to reflect the revised schedule in a manner substantially preserving the intent of the parties as of the Effective Date.

Security Interest

ASPEN and BASF will enter into a collateral agreement to secure ASPEN's obligation to repay the Pre-Payment Balance by the Target Date with the following elements:

1. With respect to ASPEN's manufacturing facility located at 3 Dexter Road, East Providence, Rhode Island USA (the "Rhode Island Plant"):

   - A first priority mortgage in all of the real estate owned by ASPEN which constitutes the Rhode Island Plant; and

   - A first priority security interest in all of the machinery and equipment owned by Aspen which is located at the Rhode Island Plant, subject only to a subordinate security interest in favor of ASPEN's bank and other lenders.

2. With respect to ASPEN's manufacturing facility to be built in Statesboro, Georgia (the "Georgia Plant") and leased from The Development Authority of Bulloch County (the "Authority"):

   - A first priority leasehold mortgage on all of ASPEN's rights under the lease between ASPEN and the Authority by which ASPEN leases the real estate and buildings constituting the Georgia Plant, including a consent from the Authority which would allow BASF to become the lessee under the lease in the event of a default by ASPEN in its obligation to repay the Payment Balance to BASF;

   - A first priority security interest in all of ASPEN's rights under any lease between Aspen and the Authority by which the Authority leases machinery and equipment to ASPEN that is located at the Georgia Plant, including a consent from the Authority which would allow BASF to become the lessee under the lease in the event of a default by ASPEN in its obligation to repay the Payment Balance to BASF; and

   - A first priority security interest in ASPEN's right to exercise an option to purchase from the Authority the real property constituting the Georgia Plant and the machinery and equipment leased from the Authority which is located at the Georgia Plant, including a consent from the Authority which recognizes BASF's rights to exercise the option instead of ASPEN. Upon exercise, the purchase price is a nominal $10.

3. With respect to intellectual property:

   Aspen will grant to its respective Rhode Island and Georgia subsidiaries nonexclusive licenses under Aspen's patents as necessary in order to operate the machinery and equipment that is the subject of BASF's security interest while such machinery and equipment is located at the Rhode Island Plant and Georgia Plant, respectively. Such licenses will be assignable only to a future acquirer of the machinery and equipment at the respective facilities, and will terminate on any removal of the machinery and equipment from those facilities.

4. Following any repayment in full of the Pre-Payment, whether in the form of credits against the purchase price of Product, lump sum payments or otherwise, ASPEN's obligation to maintain the security interest will terminate, and BASF will execute any and all documents reasonably requested by ASPEN releasing all or any part of the security from any lien or encumbrance in favor of BASF.

BASF and Aspen Aerogels Announce Strategic Partnership

Expanded relationship will create new product and market opportunities supported by long-term financing structure

- Supply agreement for Aspen Aerogel's Spaceloft ® A2 insulation product initially targeting the global building materials market
- Partnership supports capacity expansion at Aspen Aerogels' planned Statesboro, GA manufacturing plant
- Joint development agreement for next generation aerogel products to accelerate market expansion

LUDWIGSHAFEN, GERMANY and NORTHBOROUGH, MA, June XX, 2016—BASF SE ("BASF") and Aspen Aerogels, Inc. ("Aspen") (NYSE: ASPN) announced today the expansion of their strategic partnership with the signing of an exclusive supply agreement and a joint development agreement. The agreements are designed to increase market penetration, enhance product profitability and facilitate the development of next generation materials.

As part of the supply agreement, Aspen will commit to the exclusive supply of its Spaceloft ® A2 product for incorporation within BASF's aerogel enhanced Slentex™ wall system for the building materials market. In turn, BASF will invest in the construction of Aspen's new manufacturing plant and BASF will become a base load customer for Aspen's capacity expansion. In addition, BASF will provide technical support to Aspen targeting manufacturing productivity, product cost and profit margins.

Initially, the supply agreement will support BASF's efforts to drive growth in the global building materials market of its Slentex™ wall system incorporating Aspen's patented technology. BASF may also directly sell or incorporate Spaceloft ® A2 into other systems for applications in certain building, transportation, consumer and industrial markets worldwide. The agreement will run through 2027.

"We chose to partner with Aspen because of their superior aerogel technology platform, which we can enhance as partners in various ways," said Raimar Jahn, President of BASF's Performance Materials division. "The new agreements will accelerate adoption of aerogel technology as an eco-efficient insulation material globally."

The Joint Development Agreement establishes a framework to develop new aerogel products and technologies. The agreement will give BASF targeted access to Aspen's world leading technology platform while Aspen will gain access to BASF's technical expertise, sales channels and financial resources. The partnership will both further Aspen's market diversification and growth strategy and support BASF's objective to provide innovative solutions to meet current and future customer needs.

"BASF has played an important role in our development as a company and this next phase of our relationship will support us technically, commercially and financially and will accelerate our diversification into the building materials market," said Don Young, President and CEO of Aspen. "As our track record in the energy infrastructure and subsea markets has demonstrated, our preferred model is to partner with industry leaders to benefit from their technical, commercial, and financial resources. BASF is a world class company dedicated to promoting energy efficiency by delivering next generation products to the global marketplace. For these reasons, BASF is a perfect partner for Aspen Aerogels."

The origin of the partnership dates to 2010 when BASF Venture Capital made an equity investment in Aspen and the two companies began to explore technology development and commercialization opportunities within the building materials market. This work led to the development of Aspen's Spaceloft ® A2 insulation product.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 112,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of more than €70 billion in 2015. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information at www.basf.com .

About Aspen Aerogels, Inc.

Aspen Aerogels is an aerogel technology company that designs, develops and manufactures innovative, high-performance aerogel insulation used primarily in the energy infrastructure and building materials markets where thermal energy efficiency is at a premium and Aspen's products offer unique value. Headquartered in Northborough, Mass., Aspen Aerogels manufactures its Cryogel ® , Pyrogel ® and Spaceloft ® products at its East Providence, R.I. facility.

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Confidential and Proprietary Information of Aspen Aerogels

Side Agreement between
BASF SE and Aspen Aerogels, Inc.

This Side Agreement is made the latest date set forth below (the "Effective Date") by BASF SE, Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany ("BASF") and Aspen Aerogels, Inc., 30 Forbes Road, Building B, Northborough, MA 01532, United States of America ("ASPEN"). BASF and ASPEN are each individually referred to as a "Party" and collectively as the "Parties".

The Parties have entered into a Supply Agreement (the "Supply Agreement") dated as of the Effective Date providing, *inter alia* , for the supply by ASPEN of certain products to BASF. This Side Agreement is the Side Agreement referred to in the Supply Agreement establishing the pricing of Products sold under the Supply Agreement.

Capitalized terms used herein and not otherwise defined have the meanings as defined in the Supply Agreement.

1. Calculation of Price . The Price of Product sold by ASPEN and purchased by BASF or its Affiliates under the Supply Agreement for calendar year [***] will be $[***] per square foot. The price for each successive calendar year will be determined on or before [***] of the previous calendar year by reference to the following cost-plus formula:

Price = [***] Cost [***]

[***] Cost for the calendar year [***] will be $[***] per square foot. [***] Cost for each successive calendar year will be determined on or before [***] of the previous calendar year by ASPEN in good faith and consistent with past practice (adjusted if necessary to reflect [***]). Such [***] Cost will include [***].

[***] for calendar year [***] will be [***]. [***] for each successive calendar year will be calculated by adding [***] of [***] Cost, or subtracting [***] of [***] Cost, [***], to the [***]. However, in no case shall [***] be less than [***].

Notwithstanding the foregoing[***]. However, under no circumstance is Aspen obliged to reveal to BASF directly or BASF entitled to request from Aspen any details about the customers [***]. Section 4.3 of the Supply Agreement shall apply to ASPEN records related to [***].

2. Calculation of [***] Cost . [***] Cost [***] will be the sum of [***] and [***]. For any period, [***] will be determined by ASPEN in good faith and consistent with past practice (adjusted if necessary to reflect [***]).[***] developed by Aspen will be subject to BASF audit rights as set forth in Section 4.3 of the Agreement.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

For purposes of the calculation of [***] Cost:

[***] is [***] based on standard product formulation. [***] will include, without limitation, [***] that are required to manufacture Products that meet the Specifications.

[***] is the [***] to convert the raw materials into saleable Products that meet Specifications. [***] will include [***]. [***] will include the [***] included in [***] by Aspen consistent with past practice and in accordance with U.S. GAAP.

Normalized Full Capacity is the projected sustainable annual output of Products in the normal course of operations for Aspen's manufacturing assets in service at any point in time.

3. Successor Products . The Price of Successor Products (if any) shall be determined at the time the Parties agree to include the supply of such Successor Products under the terms of the Supply Agreement. No product will be deemed a Successor Product unless and until the Parties have agreed on the Price of such Successor Products.

4. Confidential Information . The terms of this Side Agreement will be deemed Confidential Information of ASPEN for purposes of Section 10 of the Supply Agreement.

[signature page follows]

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Agreed and accepted.

Aspen Aerogels, Inc.	**BASF SE**	
/s/ Donald R. Young	[***]	[***]
By:	By:	By:
Donald R. Young	[***]	[***]
President & CEO	[***]	[***]
Date: 21 st June, 2016	Date: 13 th June, 2016	Date: 10 th June, 2016

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

JOINT DEVELOPMENT AGREEMENT

This JOINT DEVELOPMENT AGREEMENT (the "Agreement") is entered into as of the latest date set forth below (the "Effective Date"), by and between Aspen Aerogels, Inc., a Delaware corporation with offices at 30 Forbes Road, Building B, Northborough, MA 01532, U.S.A. ("Aspen"), and BASF SE, a European corporation with offices at Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany ("BASF"). Aspen and BASF are each a "Party" and collectively, the "Parties."

WHEREAS, BASF, among other businesses, conducts research and development activities, holds intellectual property rights, and is a manufacturer and supplier of various chemicals, materials and components and has developed know-how and expertise in the synthesis, development, manufacture, marketing and application of said products.

WHEREAS, Aspen, among other businesses, conducts research and development activities, holds intellectual property rights, and is a manufacturer and supplier of specialty products has developed know-how and expertise in the synthesis, development, manufacture, marketing and application of thermal performance products, including aerogel based products and insulation for industrial settings and building and construction and related composite products.

WHEREAS, contemporaneously with the execution of this Agreement, the Parties have entered into a Supply Agreement setting out the terms of Aspen's supply of its Spaceloft A2 product to BASF.

WHEREAS, BASF and Aspen anticipate and desire to collaborate on the development, manufacture and the separate commercialization of new products and materials.

NOW, THEREFORE, in consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Definitions.

1.1 *Defined Terms* . For purposes of this Agreement, the following capitalized terms shall have the meanings specified in this Section 1.1 unless the context requires otherwise.

"Affiliates" is any company controlling, controlled by, or under common control with a Party, with "control" meaning directly or indirectly owning or controlling at least fifty percent (50%) of such companies voting stock, or possessing the power to direct or cause the direction of its management and policies.

"Aspen Background IP" means (i) any and all Background IP of Aspen or its Affiliates which Aspen specifically identifies in a Project Charter as being contributed to a Project, and (ii) Intellectual Property developed by either Party in connection with Joint Development Activities which is an Improvement of the Aspen Background IP. Aspen Background IP may include (but is not limited to) Intellectual Property related to the composition of Materials or Products and uses thereof.

"Background IP" means the Intellectual Property belonging to a Party which was developed prior to or outside the scope of this Agreement and which is deemed by the Party which owns such Intellectual Property to be relevant to the Joint Development Activities (as defined below), and which is not subject to any restriction on disclosure and use. Unless the Parties expressly agree otherwise, Background IP does not include: [***]. With respect to any Intellectual Property that is owned by a third party and controlled by a Party under the terms of a license or other agreement, the Parties shall only agree to include such Intellectual Property in Background IP to the extent the licensed Party holds the right (other than pursuant to this Agreement) to grant a sublicense to such Intellectual Property as provided herein without violating the terms of any agreement with any third party and without violating any applicable laws. Should the Parties agree to include such Intellectual Property in the Background IP licensed hereunder, such agreement shall be made solely subject to any restrictions on use of such Intellectual Property established in the applicable license agreement which permits such sublicense, and subject to the assumption of the Party sublicensed rights in such Intellectual Property of all obligations, including payment obligations, which the relevant license or other agreement imposes as a result of such Party's use of such Intellectual Property.

"BASF Background IP" means (i) any and all Background IP of BASF or its Affiliates which BASF specifically identifies in a Project Charter as being contributed to a Project, and (ii) Intellectual Property developed by either Party in connection with Joint Development Activities which is an Improvement of the BASF Background IP. BASF Background IP may include (but is not limited to) Intellectual Property related to the composition of Materials or Products and uses thereof.

"Commercialize" or "Commercialization" means any and all activities other than Joint Development Activities with respect to the manufacture, marketing, distribution, importing and exporting, offering for sale, selling, of Products or providing services.

"Commercialization Plan" shall have the meaning set forth in Section 3.8, below.

"Confidential Information" mean this Agreement and the Parties' discussions hereunder, and all information (regardless of form) disclosed by the Disclosing Party to the Receiving Party, including but not limited to Foreground IP disclosed in the course of discussions of a potential Project, provided that: (i) such information, if disclosed in writing, is at the time of disclosure marked as confidential; (ii) such information, if disclosed in any other manner, is at the time of disclosure designated in writing as confidential; or (iii) the nature of the information makes it reasonably clear that the Disclosing Party considers it to be confidential, and the confidential nature of the information is confirmed in writing by the Disclosing Party following such disclosure. Notwithstanding the foregoing, Confidential Information will not include information which (a) is generally known to the public at the time of disclosure by or on behalf of the Disclosing Party or later becomes so generally known through no fault of the Receiving Party; (b) was known to the Receiving Party, or otherwise in its possession, prior to disclosure by the Disclosing Party; (c) is disclosed to the Receiving Party by a third party who did not obtain such information, directly or indirectly, from the Disclosing Party subject to any confidentiality obligation; or (d) is at any time independently developed by the Receiving Party without the use of any Confidential Information of the Disclosing Party. The Party using or disclosing any information with reference to any of these exceptions bears the burden of proof to establish that the relevant exception applies. The Confidential Information disclosed pursuant to this Agreement shall not be construed to be within the foregoing exclusions merely because such items are embraced by more general publically known information or information in Receiving Party's possession. Additionally, any combination of features shall not be construed within the foregoing exclusions, but only the combination itself and its principle of operation are within the foregoing exclusions.

"Disclosing Party" means the Party, or Affiliate of such Party, from time to time disclosing Confidential Information to the Receiving Party or its Affiliates.

"Field of Use" means [***].

"Foreground IP" means any and all Intellectual Property that is conceived or created by the Parties, either solely or jointly, in the performance of the Joint Development Activities, other than Intellectual Property developed by either Party, or the Parties jointly, which is an Improvement of either the Aspen Background IP or the BASF Background IP.

"Improvement" means an improvement, enhancement or modification of Intellectual Property which relates solely to such Intellectual Property and is not severable from or useful other than in connection with such Intellectual Property.

"Intellectual Property" means: (A) patents, patent applications of any kind, patent rights, inventions, discoveries and invention disclosures (whether or not patented or patentable); (B) registered and unregistered trademarks, service marks, trade names, trade dress, logos, packaging design, slogans and Internet domain names, and registrations and applications for registration of any of the foregoing; (C) copyrights in both published and unpublished works, including, without limitation, all compilations, databases and computer programs, manuals and other documentation and all copyright registrations and applications, and all derivatives, translations, adaptations and combinations of the above; (D) all know-how, trade secrets, confidential or proprietary information, research in progress, algorithms, data, designs, processes, formulae, drawings, schematics, blueprints, flow charts, models, strategies, prototypes, techniques, beta testing procedures and beta testing results; and (E) any and all other intellectual property rights and/or proprietary rights relating to any of the foregoing in any jurisdiction throughout the world.

"Joint Development Activities" [***].

"Materials" means physical samples exchanged between the Parties or developed in the course of a Project, except to the extent that the supply of such Materials to the other Party would violate the terms of any agreement with any third party or violate any applicable laws.

"Products" means any product or service developed in the course of a Project.

"Project" means a joint effort of the Parties or their respective Affiliates to develop one or more products or services under the terms of this Agreement and a Project Charter.

“Project Charter” means a separate document substantially in the form set out on Exhibit A pursuant to which the Project is carried out. The Parties acknowledge that Exhibit A attached hereto is for illustration purposes only, and is not to be deemed a Project Charter and does not establish a Project for purposes of this Agreement.

“Receiving Party” means the Party, or an Affiliate of such Party, from time to time receiving Confidential Information from the Disclosing Party or its Affiliates.

“Rights Owner” means [***].

“Statement of Work” means a written description of the Joint Development Activities to be undertaken by the Parties as a part of a Project, and the schedule on which such Joint Development Activities will be performed.

1.2 *Other Definitions* . Other capitalized terms used in this Agreement shall have the meanings respectively ascribed to them herein.

2. Development Program.

2.1 Development Proposals. Either Party may, at any time during the term of this Agreement, propose that the Parties engage in a Project. In making such proposal, the proposing Party will propose to the other party the Joint Development Activities to be under taken by each Party, and an outline of the basic terms it envisions for such Project. Should the Parties have a mutual interest in pursuing such Project, the Parties will enter into discussions with a view toward reaching agreement on the following matters with respect to such Project:

(a) A Statement of Work setting forth the Joint Development Activities to be undertaken by the Parties;

(b) The Background IP, if any, to be contributed by each Party to the Project, and the permitted Field of Use of the Background IP contributed by each Party by the other Party (which may include limitations on the scope of licensed rights in Intellectual Property);

(c) [***];

(d) The resources to be contributed to the Project by each Party;

(e) The time and manner of exchanges of information related to the Joint Development Activities.

(f) The respective rights of the Parties in Foreground IP;

(g) [***];

(h) The compensation payable in connection with the exercise of rights licensed hereunder; and

(i) The development schedule and Project Completion Date.

On agreement of the Parties to each of the foregoing, the Parties will execute a written Project Charter recording their agreement with respect to such Project, and the Project described in such Project Charter will be deemed to have commenced.

2.2 *No Obligation* . The proposal of a Project, or commencement of discussions of the terms of a Project, will not create a legally binding obligation to enter into a Project. Other than obligations of confidentiality and nonuse with respect to Confidential Information disclosed in such proposal or in the course of such discussions, no liability or obligation of any nature is created hereby with respect to a Project prior to the signing and delivery of a Project Charter setting forth all the matters described in Section 2.1. Either Party may decline to consider a proposed Project or unilaterally terminate discussions of the terms of a proposed Project at any time, and the terminating Party will have no liability of any kind to the other Party resulting from such termination.

2.3 *Development Activities* . Subject to the terms and conditions of this Agreement, with respect to any Project, the Parties agree to use commercially reasonable efforts to perform their Joint Development Activities in accordance with the Project Charter and the Statement of Work. No change to the Statement of Work shall be implemented unless and until mutually agreed upon and the corresponding Project Charter is so amended in writing. Each change agreed upon shall be referenced in all appropriate sections of the Project Charter including adjustments, if applicable, to the development schedule, development costs and expenses, if any.

2.4 *Exchanges of Information.* Except as expressly set forth in any Project Charter, each Party will provide the other Party information related to and results of the Joint Development Activities at a time and in a manner reasonably intended to allow the other Party to fully exercise its rights and to perform its obligations hereunder.

2.5 *Standards of Performance. The Parties undertake to:*

(a) perform their obligations under this Joint Development Agreement with that degree of care and professionalism as used in their own development efforts; and

(b) provide trained and appropriately qualified staff for the performance of its obligations under the Joint Development Agreement.

2.6 *No Guarantee of Success* . None of the Parties provides any guarantee or assurance that any Project will be successful or will result in a marketable Product or service .

2.7 *Expenses* . Except as expressly set forth in the Project Charter, each Party will bear its own expenses in connection with the performance of Joint Development Activities in connection with any Project.

2.8 *Materials* . All Materials furnished by one Party to the other Party hereunder are developmental materials and are not to be used except for internal evaluation directly in connection with Joint Development Activities. It is further agreed that a furnishing Party shall not be liable to the other Party for any damages arising out of or resulting from use of any Materials provided to the other Party hereunder.

3. Joint Steering Committee.

3.1 *Joint Steering Committee* . BASF and Aspen shall establish a Joint Steering Committee ("JSC") to oversee the conduct of any Project within 30 days of the Effective Date, by which time each Party shall notify the other Party in writing of its initial representatives on the JSC. The JSC shall have and perform the responsibilities set forth in Section 3.7. Some, but not all, of the responsibilities of the JSC may be delegated to one or more working groups comprised of representatives of the Parties and other employees of the Parties, provided that decisions of the working groups will be made as provided in Section 3.4.

3.2 *Membership* . Each of BASF and Aspen shall designate in writing an equal (not less than two (2) or more than three (3)) number of representatives to the JSC, who shall be senior level personnel. One (1) representative of Aspen shall be designated as the initial chairman (the "Chair") of the JSC. The Chair will be assumed by BASF on the first anniversary of the Effective Date, and the Chair shall alternate between BASF and Aspen on each anniversary of the Effective Date thereafter. Each Party shall have the right at any time to substitute individuals, on a permanent or temporary basis, for any of its previously designated representatives to the JSC by giving written notice to the other Party.

3.3 *Schedule of Meetings; Agenda* . The JSC shall establish a schedule of times for regular meetings, taking into account, without limitation, whether any Project proposals are pending, the planning needs of all Joint Development Activities under any Project and the responsibilities of the JSC. Special meetings of the JSC may be convened by any member upon not less than [***] (or, if such meeting is proposed to be conducted by teleconference, upon not less than [***]) written notice to the other members; provided that (i) notice of any such special meeting may be waived at any time, either before or after such meeting and (ii) attendance of any member at a special meeting shall constitute a valid waiver of notice from such member. Regular and special meetings of the JSC may be held in person at locations mutually agreeable to the JSC members or by teleconference or videoconference. The Chair shall have the responsibility for preparing and circulating to each JSC member an agenda for each JSC meeting not later than one (1) week prior to such meeting.

3.4 *Quorum; Voting; Decisions* . At each JSC meeting, the presence in person of at least one (1) member designated by each Party shall constitute a quorum. All decisions of the JSC shall be made by unanimous vote, with each Party's representatives having collectively one vote. Alternatively, the JSC may act by written consent signed by at least one (1) member designated by each Party. Representatives of each Party or of its Affiliates who are not members of the JSC may attend JSC meetings as non-voting observers.

3.5 *Minutes.* The JSC shall keep minutes in reasonable detail of its meetings that record all decisions and all actions recommended or taken. Drafts of the minutes shall be prepared by the Chair of such meeting and circulated to the members of the JSC within a reasonable time after the meeting, not to exceed [***]. The Chair may delegate responsibility for the preparation and circulation of draft minutes. Each member of the JSC shall have the opportunity to provide comments on the draft minutes. Draft minutes shall be approved, disapproved and revised as soon as practicable. Upon approval, final minutes of each meeting shall be circulated to the members of the JSC by the member with responsibility for drafting the minutes.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

3.6 *Expenses* . BASF and Aspen shall each bear all expenses of their respective JSC representatives related to their participation on the JSC and attendance at JSC meetings.

3.7 Responsibilities . The JSC shall be responsible for overseeing the conduct and progress of Joint Development Activities. Without limiting the generality of the foregoing, the JSC shall have the following responsibilities:

(a) reviewing data, reports or other information submitted to it resulting from the Joint Development Activities from time to time;

(b) determine whether to recommend that the Parties terminate the Project;

(c) approving amendments to the Statement of Work (provided that the JSC shall not have the right to amend in any way the terms of this Agreement or of any Project Charter);

(d) assure that sufficient resources and personnel are assigned to the Joint Development Activities;

(e) establishing guidelines and procedures for allocating personnel to the Joint Development Activities;

(f) monitoring the progress of Joint Development Activities under each Statement of Work and of each Party's activities thereunder;

(g) coordinate patent filings as set forth in Article 9;

(h) coordinate maintenance and enforcement of patents as set forth in Article 10;

(i) attempting to resolve all matters that are in dispute related to such Project;

(j) designate and define the responsibilities of working groups and the patent coordinators; and

(k) making such other decisions as may be delegated to the JSC pursuant to this Agreement or by mutual written agreement of the Parties during the Term.

3.8 *Commercialization* . The primary objective of this Agreement is to jointly develop and to subsequently Commercialize Products for the mutual benefit of the Parties. To the extent not set forth in the corresponding Project Charter, the Parties shall reasonably and in good faith discuss and endeavor to agree on the manner and the business and legal structure in which any Product is to be Commercialized by the Parties, and the respective roles of the Parties with respect to such Commercialization (the "Commercialization Plan"). Unless expressly set forth in the Project Charter, neither Party shall have right to practice any Foreground IP until the Parties have agreed in writing on the Commercialization of a Product, except as set forth in Section 4.2, below. The JSC will facilitate any discussions and negotiations to arrive at a mutually agreeable Commercialization Plan.

3.9 *Dispute Resolution* . The JSC members shall use reasonable efforts to reach agreement on any and all matters. Either Party may provide to the other written notice of a dispute hereunder, together with a summary of the substance of the dispute. Within [***] of receipt of such notice, the JSC members will decide either to attempt to resolve such dispute, or to refer such dispute to the Chief Executive Officer of Aspen and the President of the BASF Performance Materials division for resolution. If the members of the JSC attempt to resolve such dispute but are unable to reach, despite reasonable efforts, agreement on a particular matter cannot be reached by the JSC within [***] after the JSC first meets to consider such matter or such later date as may be mutually acceptable to the Parties, then the matter will be referred to the Chief Executive Officer of Aspen and the President of the BASF Performance Materials division for resolution.

4. Intellectual Property

4.1 *Ownership*

(a) All Background IP owned by a Party prior to execution of this Agreement or developed outside the scope of this Agreement shall be and remain the sole and exclusive property of that Party.

(b) All Intellectual Property that is not Foreground IP generated by one Party during the term of this Agreement shall be the sole and exclusive property of that Party.

(c) Unless agreed otherwise in a Project Charter and subject to Section 3.8, all Foreground IP shall be jointly owned by the Parties.

4.2 *Rights, Licenses*

(a) Subject to the terms and conditions of this Agreement, Aspen hereby grants to BASF a non-exclusive, world-wide, license to practice Aspen Background IP solely for the purpose of performing its duties and obligations related to Joint Development Activities in connection with a Project.

(b) Subject to the terms and conditions of this Agreement, BASF hereby grants to Aspen a non-exclusive, world-wide, license to practice BASF Background IP solely for the purpose of performing its duties and obligations related to Joint Development Activities in connection with a Project.

(c) If either Party notifies the other Party in writing, that it is unwilling to jointly Commercialize a Product with the other Party, the notified Party will have a non-exclusive, worldwide license, including the right to grant sublicenses to its customers for use of the Products, to practice (i) the Foreground IP, and (ii) the Background IP of the notifying Party required to practice the Foreground IP, subject to any Fields of Use restrictions, to make, have made, use and sell Products and to perform services using Products in a manner consistent with the Project Charter. Such license will be effective on the agreement of the Parties on the compensation payable in connection with the exercise of such rights (if such compensation is not stipulated in the Project Charter) or, on the Parties' failure to reach such agreement, the resolution of the terms of such compensation pursuant to Section 4.2(d). Absent the agreement of the Parties on the Commercialization Plan and the resolution of the terms of compensation, neither Party may use the Background IP of the other Party, or the Foreground IP, to develop, make, have made, use or sell any Product or to perform services using Products.

(d) Should the exercise of the grant of rights under Section 4.2(c) be subject to a payment obligation which remains to be negotiated, and the Parties be unable to reach agreement on such payment terms, either Party may declare an impasse to such negotiations, and the matter of the appropriate payment shall be referred to and resolved by binding arbitration through the dispute resolution process established in Exhibit B.

4.3 *Omitted Patents.* Should the development, manufacture, use or sale of a Product or the provision of a service by a Party as contemplated by the Project Charter infringe or necessarily make use of any Background IP of the other Party not listed in the Project Charter, the Parties shall reasonably amend the Project Charter to include such Intellectual Property within the scope of the Background IP licensed under Section 4.2(c), above, except to the extent that the use of such Background IP is expressly excluded by such Project Charter.

4.4 *No Rights in Existing Products* . Except as expressly set forth in a Project Charter, nothing in this Agreement shall grant rights or licenses in any Aspen Background IP, BASF Background IP or other Intellectual Property in any product of a Party or the related manufacturing processes in existence as of the Effective Date of this Agreement.

5. Representations and Warranties.

5.1 *By BASF* . BASF represents, warrants and covenants the following to Aspen:

(a) BASF is duly organized and validly existing under the laws of Germany and has the full right, power and authority to enter into this Agreement and to perform all of its obligations hereunder; and

(b) This Agreement has been duly and validly executed and delivered by BASF and constitutes its valid and legally binding obligation enforceable in accordance with its terms.

(c) To its knowledge, the BASF Background IP does not misappropriate or infringe any third party Intellectual Property rights.

(d) BASF will not incorporate into the Foreground IP any subject matter that infringes or misappropriates any third party copyright or trade secret, or knowingly incorporate any subject matter that infringes any third party patent.

5.2 *By Aspen* . Aspen represents, warrants and covenants the following to BASF:

(a) Aspen is a corporation duly organized and validly existing under the laws of the State of Delaware and has the full right, power and authority to enter into this Agreement and to perform all of its obligations hereunder; and

(b) This Agreement has been duly and validly executed and delivered by Aspen and constitutes its valid and legally binding obligation enforceable in accordance with its terms.

(c) To its knowledge, the Aspen Background IP does not misappropriate or infringe any third party Intellectual Property rights.

(d) Aspen will not incorporate into the Foreground IP any subject matter that infringes or misappropriates any third party copyright or trade secret, or knowingly incorporate any subject matter that infringes any third party patent.

5.3 *Disclaimer of Warranties.*

(a) Except as expressly set forth above, neither Party makes any representation that any Product developed in the course of a Project can be made, used or sold without infringing the intellectual property rights of a third party, and each Party assumes no liability for any such infringement.

(b) EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY PROVIDES ANY WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, AND EACH PARTY HEREBY DISCLAIMS ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

6. Term; Termination.

6.1 *Term* . Unless terminated earlier in accordance with Section 6.2 or 6.3, this Agreement shall remain in effect for the longer of two years or the duration of any Project then in process. The Parties may extend the term of this Agreement by mutual consent.

6.2 *Termination without Cause.*

(a) Either Party may terminate this Agreement for any reason or no reason on ninety (90) days' notice to the other Party, provided that such termination will not terminate any Project then in progress.

(b) Either Party may terminate a Project under this Agreement for any reason or no reason on ninety (90) days' written notice to the other Party.

6.3 *Termination for Cause* . Either party, as applicable, shall have the right, in addition and without prejudice to any other rights or remedies, to terminate this Agreement and any Project then in effect as follows:

(a) for any material breach of this Agreement which is not cured within thirty (30) days of receipt by the party in default of a notice specifying the breach and requesting its cure; or

(b) By either party, effective immediately upon written notice if (a) all or a substantial portion of the assets of the other party are transferred to an assignee for the benefit of creditors to a receiver or to a trustee in bankruptcy; (b) a proceeding is commenced by or against the other party for relief under the bankruptcy or similar laws, and such proceeding is not dismissed within thirty (30) days; (c) the other party is adjudged bankrupt; or (d) the other Party is otherwise prevented from performing its commercially reasonable or material obligations under this Agreement.

6.4 *Survival; Effect of Expiration or Termination* .

(a) On expiration of this Agreement, all rights under Sections 4.2(a) and 4.2(b) shall terminate, except for Projects which have not been terminated, for which the licenses under Sections 4.2(a) and 4.2(b) shall remain in effect for the duration of such Project, and any license granted under Section 4.2(c) shall go into effect or remain in effect.

(b) On termination of this Agreement or any Project by a Party (the "Terminating Party") under Section 6.2(a) or 6.2(b), or termination of a Terminating Party by the other Party (the party not terminating under Section 6.2(a) or (b), or terminating under Section 6.3, being the "Aggrieved Party") under Section 6.3: (i) all rights and licenses granted to the Terminating Party under Sections 4.2(a), 4.2(b) and 4.2(c) shall terminate (except that with respect to termination of a Project under Section 6.2(b), rights and licenses under Sections 4.2(a), 4.2(b) and 4.2(c) relating to Projects which are continuing will remain in effect); (ii) all licenses granted to the Aggrieved Party under Sections 4.2(c) shall remain in effect, subject to any payment obligations associated with such licensed rights; and (iii) the Aggrieved Party may, at its election to be a notified Party under Section 4.2(c), continue with the performance of any Project in process on its own, and shall be entitled to exercise the rights granted to it under Section 4.2(a) or 4.2(b) (as the case may be), to continue such Project and under Section 4.2(c) to engage in Commercialization of products or services comprising Products, subject to any payment obligations associated with such licensed rights.

(c) Articles 3 and 4 and Articles 6 through 13 shall survive the expiration or any termination of this Agreement or Statement of Work hereunder. Article 1 shall survive to the extent necessary to properly interpret or implement the provisions of Articles 6 through 13.

7. Protection of Confidential Information

7.1 *Restrictions of Disclosure and Use.* The Receiving Party shall use Confidential Information only in furtherance of the conduct of a Project and keep it strictly confidential and not (except as explicitly permitted by this Agreement) disclose it to anyone without the prior written consent of the Disclosing Party. The Receiving Party shall restrict access to Confidential

Information to those of the Receiving Party's Affiliates and personnel required to have knowledge thereof for the exercise of right or performance of obligations under this Agreement. The Receiving Party shall procure that the Receiving Party's Affiliates and personnel will act in accordance with the confidentiality and non-use provisions of this Agreement as if each of them were a party hereto. Any non-compliance with any of the provisions of this Agreement by any Receiving Party's Affiliates or personnel shall be deemed a breach of this Agreement by the Receiving Party.

7.2 *No Reproduction or Export in Violation of Law* . The Receiving Party shall not copy, reproduce or reduce to writing any Confidential Information of the Disclosing Party unless and to the extent reasonably required for the Purpose. Without prejudice to the other provisions of this Agreement, the Receiving Party shall not export or re-export any Confidential Information of the Disclosing Party to any person or country to which such export or re-export is prohibited or restricted by applicable law, regulation or any competent government or other authority.

7.3 *Compelled Disclosure* . If the Receiving Party becomes compelled by judicial or administrative process or required by applicable law or any governmental or other authority or by any applicable contract or regulations of any applicable stock exchange to disclose any Confidential Information of the Disclosing Party, the Receiving Party shall promptly notify the Disclosing Party in order for the Disclosing party to seek a protective order or other appropriate remedy and/or waive compliance with the provisions of this Agreement, and the Receiving Party shall co-operate, with the Disclosing Party regarding any action which the Disclosing Party may decide to take to challenge the validity of such requirement or the manner of disclosure.

8. Indemnification

8.1 *Indemnification* . Each Party (the "Indemnifying Party") shall indemnify, defend and hold harmless the other Party, its Affiliates, their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (each, an "Indemnified Party") from and against all costs, fees, damage, loss, liability, expense or judgment (including attorneys' fees and expenses of litigation if assessed against the indemnified Party by a court of competent jurisdiction) (collectively "Losses") incurred by or imposed upon the Indemnified Parties, or any of them, as a direct result of (i) third party claims arising out of the development, manufacture, use or sale of any Product by the Indemnifying Party or any of its Affiliates, sublicensees, distributors or agents, or (ii) the use of the Intellectual Property of the Indemnified Parties by the Indemnifying Party or any of its Affiliates, sublicensees, distributors or agents other than as expressly permitted by this Agreement; in either case except to the extent any Losses result from a material breach of this Agreement by, or the gross negligence or willful misconduct of, an Indemnified Party.

8.2 *Procedure* . An Indemnified Party that intends to claim indemnification under Section 8.1 shall promptly notify the Indemnifying Party of any claim, loss, damage or expense in respect of which the Indemnified Party intends to claim such indemnification reasonably promptly after the Indemnified Party is aware thereof, and the Indemnifying Party shall assume the defense of any related third party action, suit or proceeding with counsel mutually satisfactory to the parties; provided, however, that an Indemnified Party shall have the right to retain its own counsel to participate in such action at its own expense. The Indemnified Party shall not settle or in any way compromise any claim covered by the indemnification provisions of this Section, and the indemnity agreement in this Section shall not apply to amounts paid in settlement of any claim, loss, damage or expense if such settlement is effected without the written consent of the Indemnifying Party, which consent shall not be unreasonably withheld. The Indemnifying Party shall not settle or in any way compromise any claim covered by the indemnification provisions of this Section, and the indemnity agreements in this Section shall not apply to any amounts paid in settlement of any claim, loss, damage or expense if such settlement is effected, without, in both of the foregoing instances, the written agreement and consent of the Indemnified Party, which consent shall not be unreasonably withheld. The failure of an Indemnified Party to deliver notice to the Indemnifying Party within a reasonable time after becoming aware of any such matter, if legally prejudicial to the Indemnifying Party's ability to defend such action, shall relieve the Indemnifying Party of any liability to the Indemnified Party under this Section. The Indemnified Party under this Section and its employees and agents shall cooperate fully with the Indemnifying Party and its legal representatives in the investigation of any matter covered by this indemnification; provided that any out of pocket costs incurred by the Indemnified Party and its employees and agents in order to provide such cooperation shall be reimbursed by the Indemnifying Party promptly upon request by the Indemnified Party. The Indemnifying Party shall additionally be liable to pay the reasonable legal costs and attorneys' fees incurred by the Indemnified Party in establishing a successful claim for indemnity hereunder.

9. Patent Filing, Prosecution and Maintenance.

9.1 *Prosecution Rights* .

(a) [***].

(b) The Parties will, through the JSC, designate which of them shall be the Rights Owner with respect to Foreground IP. The Rights Owner will, acting through patent counsel or agents mutually acceptable to the Parties, shall be responsible for the preparation, filing, prosecution and maintenance of such Patent Rights, with the expense of such preparation, filing, prosecution and maintenance shared by the Parties equally.

(c) At the Rights Owner's request, the other Party shall cooperate with and assist the Rights Owner in all reasonable respects, in connection with the Rights Owner's preparation, filing, prosecution (including review and comments regarding responses to office actions and/or official actions from worldwide patent offices) and maintenance of such Patent Rights.

9.2 *Information and Cooperation* . With respect to Patent Rights which are or could be (as a result of a pending Project) licensed to the other Party under Section 4.2(c) or claiming Foreground IP (the "Licensed Patent(s)"), (a) each Rights Owner shall promptly notify the other Party, through the JSC, of any Patent Rights and discuss with the other Party the filing of any patent application with respect to a Licensed Patent; (b) the Rights Owner shall regularly provide the other Party with copies of all patent applications filed hereunder for any Licensed Patent and other material submissions and correspondence with the patent offices, in sufficient time to allow for review and comment by such Party; and (c) Rights Owner shall provide the other Party and its patent counsel with an opportunity to consult with Rights Owner and its patent counsel regarding the filing and contents of any such application, amendment, submission or response, and the advice and suggestions of such Party and its patent counsel shall be taken into consideration in good faith by Rights Owner and its patent counsel in connection with such filing. Rights Owner shall pursue in good faith all reasonable claims requested by the other Party in the prosecution of any Licensed Patent under this Section 9.2.

9.3 *Abandonment.* If Rights Owner (or, in the case of Patent Rights claiming Foreground IP, either Party) decides to forego prosecution of or cease prosecution on, to abandon or to allow to lapse any Licensed Patent in any country or region, Rights Owner (or the joint owner) shall inform the other Party of such decision promptly and, in any event, so as to provide such Party a reasonable amount of time to meet any applicable deadline to establish or preserve such Licensed Patent in such country or region. Such Party shall have the right to assume responsibility for continuing the prosecution of such Licensed Patent in such country or region and paying any required fees to maintain such Licensed Patent in such country or region or defending such Licensed Patent, all at its sole expense, through patent counsel or agents of its choice. With respect to Foreground IP, the Party transferring responsibility for such Patent Rights shall assign all of its right, title and interest in such Patent Rights to the Party assuming responsibility for such Patent Rights, provided that the party transferring responsibility shall retain a nonexclusive, worldwide license, without the right to grant sublicenses, in such Patent Rights to develop, make, have made, use and sell goods and perform services, subject to any limitations, restrictions or payment obligations as may be provided in a Project Charter. Upon transfer of responsibility for prosecuting, maintaining and defending any of the Licensed Patents to the other Party under this Section 9.3, the Party transferring responsibility for such Licensed Patent shall promptly deliver to such Party copies of all necessary files related to the Licensed Patent with respect to which responsibility has been transferred and shall take all actions and execute all documents reasonably necessary for the other Party to assume such prosecution, maintenance and defense.

10. Third Party Infringement.

10.1 *Notice* . In the event either Party becomes aware of any suspected third party infringement of any Patent Rights (an “Infringement”), that Party shall promptly notify the other Party through the JSC and provide it with all details of such Infringement of which it is aware (each, an “Infringement Notice”). The Parties shall promptly meet to discuss the Infringement and to determine the collective overall strategy for patent enforcement.

10.2 *Right to Enforce* . Unless otherwise determined by the Parties, in the event that an Infringement occurs the Rights Owner shall have the first right and option to address such Infringement by taking reasonable steps, which may include the institution of legal proceedings or other action. All costs, including, without limitation, attorneys’ fees, relating to such legal proceedings or other action shall be borne by [***]. [***].

10.3 *Right to Representation* . Each Party shall have the right to participate and be represented by counsel that it selects, in any legal proceedings or other action instituted under Section 10.2 by the other Party to address the Infringement of a Licensed Patent. [***].

***10.4** Cooperation* . In any action, suit or proceeding instituted under this Article 10, the Parties shall cooperate with and assist each other in all reasonable respects. Upon the reasonable request of the Party instituting such action, suit or proceeding, the other Party shall join such action, suit or proceeding and shall be represented using counsel of its own choice, at the requesting Party's expense.

***10.5** Allocation of Proceeds* . Any amounts recovered by either Party pursuant to actions under this Article 10 with respect to any Infringement, whether by settlement or judgment, shall be allocated in the following order: [***].

***10.6** Defense of Claims* . In the event that any action, suit or proceeding is brought against either Party or any Affiliate of either Party alleging the infringement of the Intellectual Property of a third party by reason of the development or Commercialization of any Product, such Party shall notify the other Party within [***] of the earlier of (i) receipt of service of process in such action, suit or proceeding, or (ii) the date such Party becomes aware that such action, suit or proceeding has been instituted, and the Parties shall meet as soon as possible to discuss the overall strategy for defense of such matter. Each Party shall have the right to defend against actions brought against the Party. [***]. Each Party shall promptly furnish the other Party with a copy of each communication relating to the alleged infringement that is received by such Party including all documents filed in any litigation. [***].

11. Limitations of Liability

EXCEPT WITH RESPECT FOR LIABILITY ARISING UNDER CONFIDENTIALITY AND INDEMNIFICATION OBLIGATIONS UNDER THIS AGREEMENT, NO PARTY SHALL BE LIABLE TO THE OTHER PARTY UNDER THIS AGREEMENT FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR DAMAGES RESULTING FROM THE PERMITTED USE OF ANY INTELLECTUAL PROPERTY OR PROPRIETARY INFORMATION CREATED OR RECEIVED HEREUNDER, INCLUDING BUT NOT LIMITED TO LOST PROFITS, OR OTHER INDIRECT LOSS OR DAMAGE ARISING OUT OF THIS AGREEMENT AND/OR, OR ARISING OUT OF NEGLIGENCE OR WILLFUL CONDUCT CAUSING PERSONAL INJURY OR TANGIBLE PROPERTY DAMAGE OF A THIRD PARTY OR ANY RESULTING OBLIGATION, WHETHER IN AN ACTION FOR OR ARISING OUT OF BREACH OF CONTRACT, TORT, OR ANY OTHER CAUSE OF ACTION AND WHETHER OR NOT SUCH DAMAGES ARE FORESEEABLE.

12. Nonsolicitation. During the term of this Agreement and for a period of twelve (12) months after termination of this Agreement (for any reason or no reason) or a Project, to the extent a Project survives termination of the Agreement, each Party covenants and agrees that it will not, directly or indirectly for itself or on behalf of another entity (a) solicit, recruit, induce, attempt to solicit, recruit or induce any employee of the other Party to leave his or her employment with the such Party; provided that, notwithstanding the foregoing, each Party shall be permitted to engage in general recruitment through advertisements or recruiting through head-hunters, so long as the other Party's employees and personnel are not specifically targeted.

13. General Terms.

13.1 *Entire Agreement* . This Agreement supersedes all prior and contemporaneous agreements, written or oral, between Aspen and BASF relating to the subject matter of this Agreement, provided that the Parties agree that confidentiality agreements between them remain in effect according to their terms with respect to obligations of confidentiality and non-use with respect to information exchanged thereunder, and rights of ownership in intellectual property established under the terms of a Joint Development Agreement dated March 1, 2010 between ASPEN and BASF Construction Chemicals GmbH remain in effect. This Agreement may not be modified, changed or discharged, in whole or in part, except by an agreement in writing signed by the parties hereto.

13.2 *Section Headings* . The headings herein are inserted as a matter of convenience only, and do not define, limit, or describe the scope of this Agreement or the intent of the provisions hereof.

13.3 *Compliance with Laws* . Each party will comply with all applicable laws, regulations and guidelines during the course of performance of this Agreement and any Project.

13.4 *Waiver* . Failure by either party to enforce any provision of this Agreement shall not be deemed a waiver of future enforcement of that or any other provision.

13.5 *Severability* . If for any reason a court of competent jurisdiction finds any provision of this Agreement, or portion thereof, to be unenforceable, that provision of this Agreement shall be enforced to the maximum extent permissible so as to affect the intent of the parties, and the remainder of this Agreement shall continue in full force and effect.

13.6 *Governing Law* . This Agreement shall be governed by and construed and enforced in accordance with the laws of the state of New York, United States of America, other than choice of law rules, applicable to agreements made and to be performed therein. Exclusive jurisdiction of any disputes shall lie in the state and Federal courts located in New York, New York, borough of Manhattan, and each party waives any objection to such venue and irrevocably submits to the jurisdiction of such courts. Notwithstanding the foregoing, the Parties recognize that a Party may suffer immediate, irreparable harm in certain circumstances, including a breach or threatened or anticipated breach of obligations hereunder; accordingly, each Party is entitled, in addition to any other remedy available at law or in equity, to injunctive relief to specifically enforce the terms of this Agreement in a court of competent jurisdiction.

13.7 *Notices.* Notices and other formal communications under this Agreement shall be sent to the contact persons and addresses set forth below or otherwise notified by such Party, and shall be effective (i) if sent by reputable international courier, two days after dispatch, and (ii) if sent by registered mail, on confirmation of receipt, and (iii) if sent by e-mail, on receipt or a response indicating that such transmission was successful.

For BASF SE:

[***]
[***]
BASF SE
ZRX/FB- C006
67056 Ludwigshafen
Germany
e-mail: [***]

For Aspen Aerogels, Inc.:

Donald R. Young
President and CEO
30 Forbes Road, Building B
Northborough, MA 01532
U.S.A.
e-mail: [***] with a copy to [***]

13.8 *Assignment* . This Agreement may not be assigned by either party without the prior written consent of the other party, such consent not to be unreasonably withheld or delayed; provided that either Party may convey this Agreement without such consent (i) to a successor in interest of substantially all of the business to which this Agreement relates, whether by assignment, merger, consolidation or otherwise, or (ii) to an Affiliate.

13.9 *Counterparts* . This Agreement may be executed in any number of counterparts, which together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page by facsimile shall be effective as delivery of a manually executed counterpart.

13.10 *Further Assurances* . The parties, without further consideration of any kind, shall each execute and deliver, or cause to be executed and delivered, such other instruments, and take, or cause to be taken, such other action, as shall reasonably be requested by another party hereto to more effectively carry out the terms and provisions of this Agreement.

13.11 *Relationship of the Parties.* Neither party shall represent itself as a partner, joint-venturer, agent, employee or general representative of the other. Each party acknowledges that it shall have no right, power or authority to obligate in any way the other to any contract or other obligation.

13.12 *Rights and Remedies* . All rights and remedies of either party hereunder shall be cumulative and may be exercised singularly or concurrently. The failure of either party, in any one or more instances, to enforce any of the terms of this Agreement shall not be construed as a waiver of future enforcement of that or any other term.

13.13 *Force Majeure* . Neither party shall be held liable or responsible to the other party, nor be deemed to have defaulted under or breached this Agreement, for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party, including but not limited to fire, floods, embargoes, war, acts of war (whether war is declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other party.

13.14 *Provisions* .

(a) When a reference is made in this Agreement to an “Article,” “Section,” “Exhibit” or “Schedule,” such reference shall be to an Article or Section of, or an Exhibit or Schedule to, this Agreement unless otherwise indicated.

(b) The table of contents and headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

(c) Whenever the words “include,” “includes,” or “including” are used in this Agreement, such words shall be deemed to be followed by the words “without limitation.”

(d) The words “hereof,” “herein,” and “hereunder” and words of similar import when used in this Agreement refer to this Agreement as a whole and not to any particular provision of this Agreement unless otherwise expressly indicated in the accompanying text.

(e) The use of “or” is not intended to be exclusive unless otherwise expressly indicated in the accompanying text.

(f) The defined terms contained in this Agreement are applicable to the singular as well as the plural forms of such terms. Reference to the masculine gender shall be deemed to also refer to the feminine gender and vice versa.

(g) A reference to documents, instruments or agreements also refers to all addenda, exhibits or schedules thereto.

[Signature page follows]

IN WITNESS WHEREOF, the parties have executed this Joint Development Agreement as of the dates set forth above.

Aspen Aerogels, Inc.

By: /s/ Donald R. Young
Name: Donald R. Young
Title: President and Chief Executive Officer
Date: 21 st June, 2016

BASF SE

By: [***]
Name: [***]
Title: [***]
Date: 13 th June 2016

By: [***]
Name: [***]
Title: [***]
Date: 09 June 2016

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit A

[NOTE: The following template is provided solely as an example of the form of a Project Charter, and the types of issues to be addressed in a Project Charter. It does not establish a Project, and the Parties acknowledge that any future Project Charter may have terms that vary substantially from the terms set forth below.]

PROJECT CHARTER TEMPLATE

Aspen Aerogels, Inc. (“ASPEN”) and BASF SE (“BASF”) have entered into a Joint Development Agreement effective March , 2016 (the “JDA”). Capitalized terms not otherwise defined herein have the meanings defined in the JDA. The Parties hereby agree to undertake a Project as described in this Project Charter.

[***]

Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Appendix 1

Statement of Work

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit B

DISPUTE RESOLUTION

In the event of the inability of the Parties to resolve any dispute, difference or question regarding [***], then on written notice of such impasse given by one Party to the other (the "Dispute Resolution Notice"), such dispute shall be resolved as follows:

Senior officers of the Parties will meet face-to-face to discuss the dispute, difference, or questions and attempt in good faith to reach a resolution ("Informal Resolution"). If [***] have elapsed after the Dispute Resolution Notice without a resolution, then either Party by notice to the other Party may have the dispute conclusively determined by binding arbitration conducted in the following manner ("Dispute Resolution"):

(a) The Dispute Resolution shall be held in a location mutually agreeable to the Parties, or if no such location can be agreed, in London, England, according to the then-current non-administered arbitration rules of the International Institute for Conflict Prevention and Resolution ("CPR"), except to the extent such rules are inconsistent with this Exhibit B.

(b) The Dispute Resolution will be conducted by one (1) arbitrator who shall be reasonably acceptable to the Parties and who shall be appointed in accordance with CPR rules. If the Parties are unable to select an arbitrator within [***] following the notice from a Party invoking the right to pursue Dispute Resolution, then the arbitrator shall be appointed by CPR in accordance with CPR rules. Any arbitrator chosen hereunder shall have educational training and industry experience sufficient to demonstrate a reasonable level of scientific, financial and industry knowledge relevant to the particular dispute.

(c) Each Party will bear its own attorneys' fees, costs, and expenses for the Informal Resolution and the Dispute Resolution and the fees of the arbitrator shall be borne by the Party [***].

(d) The proceedings and decisions of the arbitrator shall be confidential unless and to the extent they become the subject of a public proceeding (e.g., a law suit or an action to enforce a judgment).

(e) Within [***] after the designation of the arbitrator pursuant to Paragraph (b) above, each Party shall provide to the arbitrator and the other Party its [***] in writing, together with a brief or other written memorandum supporting the merits of its [***]. The Parties and the arbitrator shall meet within [***] thereafter, at which time each Party shall have [***] to argue in support of its [***] (or such other period of time as allowed by the arbitrator). The Parties shall not call any witnesses in support of their arguments. The arbitrator in its sole discretion may request additional briefing on any matters argued in such proceeding within thirty (30) days of such hearing.

(f) Within [***] following the hearing set forth in Paragraph (e) above or the receipt of any additional briefing materials requested by the arbitrator, the arbitrator shall select as the final resolution of the matter under dispute [***]. In making such selection and ruling, the arbitrator shall [***]. If a Party fails to submit to the arbitrator any proposal on [***] in accordance with the terms of Paragraph (e) above, the arbitrator shall [***]. On the selection of the arbitrator of [***] under this Paragraph (f), such [***] shall be deemed the agreement of the parties [***].

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Exhibit 10.4

CABOT PROPERTIES, INC.
INDUSTRIAL REAL ESTATE LEASE
Multi-Tenant Net Form

Landlord: Cabot II – MA1M03, LLC
Tenant: Aspen Aerogels, Inc.
Property Address: 30 Forbes Road, Northborough, Massachusetts

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ARTICLE ONE - BASIC TERMS

The following terms used in this Lease shall have the meanings set forth below.

1.01 Date of Lease:	June 29, 2016
1.02 Landlord (legal entity):	Cabot II – MA1M03, LLC, a Delaware limited liability company
1.03 Tenant (legal entity):	Aspen Aerogels, Inc., a Delaware corporation
1.04 Tenant's Guarantor:	N/A
1.05 Address of Property:	30 Forbes Road, Northborough, Massachusetts
1.06 Property Rentable Area:	Approximately 111,577 rentable square feet
1.07 Premises Rentable Area:	Approximately 51,650 rentable square feet
1.08 Tenant's Initial Pro Rata Share:	46.29%
1.09 Lease Term:	Ten (10) years, beginning on the Lease Commencement Date.
1.10 Lease Commencement Date:	January 1, 2017
1.11 Permitted Uses:	Manufacture of aerogel related products, research and development activities related thereto, and storage and administrative office. Tenant is responsible for obtaining any necessary business licenses or permits.
1.12 Broker(s):	CBRE, Inc. and Newmark Grubb Knight Frank
1.13 Initial Security Deposit:	N/A (See Section 17.16(b))
1.14 Parking Spaces Allocated to Tenant:	135

1.15 Base Rent:

Time Period	Annual Rent p.s.f.	Annual Base Rent	Monthly Base Rent
1/1/17–12/31/17	$ 7.90	$ 408,035.00	$ 34,002.92
1/1/18–12/31/18	$ 8.14	$ 420,431.00	$ 35,035.92
1/1/19–12/31/19	$ 8.38	$ 432,827.00	$ 36,068.92
1/1/20–12/31/20	$ 8.63	$ 445,739.50	$ 37,144.96
1/1/21–12/31/21	$ 8.89	$ 459,168.50	$ 38,264.04
1/1/22–12/31/22	$ 9.16	$ 473,114.00	$ 39,426.17
1/1/23–12/31/23	$ 9.43	$ 487,059.50	$ 40,588.29
1/1/24–12/31/24	$ 9.72	$ 502,038.00	$ 41,836.50
1/1/25–12/31/25	$ 10.01	$ 517,016.50	$ 43,084.71
1/1/26–12/31/26	$ 10.31	$ 532,511.50	$ 44,375.96

1.16 Other Charges Payable by Tenant:	(i) Real Property Taxes (Article Five); (ii) Utilities (Article Six); (iii) Insurance Premiums (Article Seven); (iv) CAM Expenses (Article Eight)
1.17 Address of Landlord for Notices:	c/o Cabot Properties, Inc. One Beacon Street, Suite 1700 Boston, MA 02108 Attn: Asset Management
1.18 Address of Landlord for Rent Payments:	Cabot Industrial Value Fund II Operating Partnership, L.P. P.O. Box 535220 Atlanta, GA 30353-5220
1.19 Address of Tenant for Notices:	30 Forbes Road, Building B Northborough, MA 01532
1.20 Fiscal Year:	January - December
1.21 Mortgagee:	Wells Fargo Bank, National Association

1.22 Exhibits:

Exhibit A - The Property
Exhibit B - The Premises
Exhibit C - Rules & Regulations
Exhibit D – Hazardous Materials
Exhibit E - Summary of Insurance Requirements
Exhibit F – HVAC Units to be Replaced by Tenant

ARTICLE TWO - PREMISES

2.01 Premises. The Premises are described in Exhibit B and are a part of the Property, which is described in Exhibit A. The Property includes all the land, building(s), and all other improvements located on the land including the common areas described in Article Eight.

ARTICLE THREE - LEASE TERM

3.01 Lease of Premises for Lease Term . Landlord leases the Premises to Tenant and Tenant leases the Premises from Landlord for the Lease Term. The Lease Term shall begin on the Lease Commencement Date. This Lease supersedes that certain Multi-Tenant Industrial Net Lease dated for reference as of August 20, 2001, by and between TMT 290 Industrial Park, Inc., Landlord's predecessor-in-interest, as landlord, and Aspen Aerogels, Inc., Tenant's predecessor-in-interest, as tenant, as amended by (i) that certain First Amendment to Lease dated as of March 25, 2004 (the "First Amendment to Original Lease"); (ii) that certain Second Amendment to Lease dated as of November 5, 2009; (iii) that certain Third Amendment to Lease (the dated as of August 19, 2013 and (iv) that certain letter from Tenant dated as of February 24, 2016 (as amended, the "Original Lease") with respect to the Premises. Effective upon the Lease Commencement Date, (a) Tenant's tenancy of the Premises shall be governed by the terms of this Lease, and the Original Lease, which expires by its terms on December 31, 2016, shall be of no further force and effect; (b) Tenant shall be released and discharged from its obligation to maintain the Security Deposit letter of credit pursuant to Paragraph 5.2 of the Original Lease; (c) Tenant shall be released and discharged from its obligation to maintain the Restoration LOC pursuant to Section 5 of the First Amendment to Original Lease, and (d) Landlord shall promptly return both the Security Deposit letter of credit and the Restoration LOC to Tenant.

3.02 Extension . Upon expiration of the Lease Term, Tenant shall have a right to extend this Lease for an additional term of three years ("Extended Term"), provided Tenant provided a notice to exercise such option to Landlord at least six (6) months before the expiration. The rent payable during Extended Term may be increased from the rent for the last Time Period identified in Section 1.16. However, such increase shall be no more than the increase in the last Time Period compared to the prior Time Period in Section 1.16.

3.03 Intentionally Omitted .

3.04 Holding Over . Tenant shall vacate the Premises upon the expiration or earlier termination of this Lease. Tenant shall reimburse Landlord for and indemnify Landlord against all damages, costs, liabilities and expenses, including attorneys' fees, which Landlord shall incur on account of Tenant's delay in so vacating the Premises. If Tenant shall not vacate the Premises upon the expiration or earlier termination of this Lease, the Base Rent shall be increased to 150% of the Base Rent then in effect and Tenant's obligation to pay Additional Rent shall continue, but nothing herein shall limit any of Landlord's rights or Tenant's obligations arising from Tenant's failure to vacate the Premises, including, without limitation, Landlord's right to repossess the Premises and remove Tenant therefrom at any time after the expiration or earlier termination of this Lease and Tenant's obligation to reimburse and indemnify Landlord as provided in the preceding sentence.

ARTICLE FOUR - RENT

4.01 Base Rent . On the first day of each month during the Lease Term, Tenant shall pay to Landlord the Base Rent in lawful money of the United States, in advance and without offset, deduction, or prior demand provided, however, that upon execution of this Lease Tenant shall pay to Landlord the monthly Base Rent payment for the first month of the Lease Term, plus one month's Additional Rent (defined below) as estimated by Landlord. The Base Rent shall be payable at Landlord's address or at such other place or to such other person as Landlord may designate in writing from time to time.

4.02 Additional Rent . All sums payable by Tenant under this Lease other than Base Rent shall be deemed "Additional Rent;" the term "Rent" shall mean Base Rent and Additional Rent. Landlord shall estimate in advance and charge to Tenant the following costs, to be paid with the Base Rent on a monthly basis throughout the Lease Term: (i) all Real Property Taxes for which Tenant is liable under Section 5.01 and 5.02 of the Lease, (ii) all utility costs (if utilities are not separately metered) for which Tenant is liable under Section 6.01 of the Lease, (iii) all insurance premiums for which Tenant is liable under Sections 7.01 and 7.07 of the Lease and (iv) all CAM Expenses for which Tenant is liable under Section 8.04 of the Lease. Collectively, the aforementioned Real Property Taxes, insurance, utility, and CAM Expenses shall be referred to as the "Total Operating Costs". Landlord may adjust its estimates of Total Operating Costs at any time based upon Landlord's experience and reasonable anticipation of costs. Such adjustments shall be effective as of the next Rent payment date after notice to Tenant. Within one hundred twenty (120) days after the end of each Fiscal Year during the Lease Term, Landlord shall deliver to Tenant a statement prepared in accordance with generally accepted accounting principles setting forth, in reasonable detail, the Total Operating Costs paid or incurred by Landlord during the preceding fiscal year and Tenant's Pro Rata Share of such expenses. Tenant may review Landlord's books and records supporting such statement in the office of Landlord, or Landlord's agent, during normal business hours, upon giving Landlord five (5) days advance written notice within sixty (60) days after receipt of such statement, but in no event more often than once in any one year period. Within sixty (60) days after Tenant's receipt of Landlord's statement or thirty (30) days following Tenant's review of Landlord's books and records, there shall be an adjustment between Landlord and Tenant, with payment to or credit given by Landlord (as the case may be) in order that Landlord shall receive the entire amount of Tenant's share of such costs and expenses for such period. Notwithstanding the foregoing, in the event Landlord fails to deliver its statement within two hundred seventy (270) days after the end of each Fiscal Year, Landlord shall have no right to collect an additional payment for the actual amount of Tenant's Pro Rata Share of Total Operating Costs. In addition to its obligation to pay Base Rent and its Pro Rata Share of Total Operating Costs, Tenant is required hereunder to pay directly to suppliers, vendors, carriers, contractors, etc. certain insurance premiums, utility costs, personal property taxes, maintenance and repair costs and other expenses, collectively "Additional Expenses." If Landlord pays for any Additional Expenses in accordance with the terms of this Lease, Tenant's obligation to reimburse such costs shall be an Additional Rent obligation payable in full with the next monthly Rent payment. Unless this Lease provides otherwise, Tenant shall pay all Additional Rent then due with the next monthly installment of Base Rent.

4.03 Late Charge . Tenant hereby acknowledges that late payment by Tenant to Landlord of Rent and other amounts due hereunder will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed on Landlord by the terms of any loan secured by the Property. Accordingly, if any installment of Rent or any other sums due from Tenant shall not be received by Landlord within five (5) days following the due date, Tenant shall pay to Landlord a late charge equal to five percent (5%) of such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. Acceptance of such late charge by Landlord shall in no event constitute a waiver of Tenant's default with respect to such overdue amount, nor prevent Landlord from exercising any of the other rights and remedies granted hereunder. Notwithstanding the foregoing, Tenant shall be entitled, not more than once in any twelve (12) month period, to a notice of non-payment and a five (5) day grace period thereafter before a late charge may be assessed.

4.04 Interest . Any Rent or other amount due to Landlord or any amount due to Tenant pursuant to this Lease, if not paid when due, shall bear interest from the date due until paid at the rate of twelve percent (12%) per annum or, if a higher rate is legally permissible, at the highest rate legally permitted, provided that interest shall not be payable on late charges incurred by Tenant nor on any amounts upon which late charges are paid by Tenant to the extent such interest would cause the total interest to be in excess of that legally permitted. Payment of interest shall not excuse or cure any default hereunder by Tenant.

4.05 Tenant's Pro Rata Share . Tenant's Pro Rata Share shall be calculated by dividing the Premises Rentable Area by the Property Rentable Area, which is leased or held for lease by tenants, as of the date on which the computation shall be made. Tenant's Initial Pro Rata Share is set forth in Section 1.08 and is subject to adjustment based on the aforementioned formula.

4.06 Independent Covenants . Tenant hereby agrees that Tenant's obligation to pay Rent is independent of any obligation of Landlord hereunder and every other covenant in this Lease and shall be made without set-off or reduction whatsoever, except as otherwise expressly provided herein.

ARTICLE FIVE - PROPERTY TAXES

5.01 Real Property Taxes . Tenant shall pay Tenant's Pro Rata Share of Real Property Taxes on the Property payable during the Lease Term. Tenant shall make such payments in accordance with Section 4.02. If Landlord shall receive a refund of any Real Property Taxes with respect to which Tenant shall have paid Tenant's Pro Rata Share, Landlord shall refund to Tenant Tenant's Pro Rata Share of such refund after deducting therefrom the costs and expenses incurred in connection therewith.

5.02 Definition of "Real Property Tax" . "Real Property Tax" shall mean taxes, assessments (special, betterment, or otherwise), levies, fees, rent taxes, excises, impositions, charges, water and sewer rents and charges, and all other government levies and charges, general and special, ordinary and extraordinary, foreseen and unforeseen, which are imposed or levied upon or assessed against the Property or any Rent or other sums payable by any tenants or occupants thereof. Real Property Tax shall include Landlord's costs and expenses of contesting any Real Property Tax but only to the extent that the same does not exceed the actual amount of Real Property Tax saved in contesting the validity or amount of the same. If at any time during the term the present system of ad valorem taxation of real property shall be changed so that in lieu of the whole or any part of the ad valorem tax on real property, or in lieu of increases therein, there shall be assessed on Landlord a capital levy or other tax on the gross rents received with respect to the Property or a federal, state, county, municipal, or other local income, franchise, excise or similar tax, assessment, levy, or charge (distinct from any now in effect) measured by or based, in whole or in part, upon gross rents, then all of such taxes, assessments, levies, or charges, to the extent so measured or based, shall be deemed to be a Real Property Tax.

Notwithstanding anything to the contrary in this Section, if (i) Landlord does not intend to file an application with applicable governmental authorities for reduction of the assessed valuation of the Property and/or the Building (any such application being hereafter called a "Tax Protest"), or (ii) after filing a Tax Protest, Landlord does not intend to commence an action or proceeding in a court of appropriate jurisdiction seeking judicial review of the denial of any Tax Protest (any such action or proceeding being hereafter called a "Tax Proceeding"), then Landlord will notify Tenant of such intention at least fifteen (15) days prior to the latest date on which such a Tax Protest validly may be filed or such a Tax Proceeding validly may be commenced, as the case may be; and Tenant shall have the right to diligently prosecute such a Tax Proceeding, as the case may be, provided and upon the condition that (y) Tenant exercises such right by notice to Landlord given not more than ten (10) days after Landlord has so notified Tenant of Landlord's intention and (z) Tenant's notice is accompanied by a signed statement agreeing that all costs and expenses incurred by Landlord in connection with such Tax Protest or Tax Proceeding shall be paid by Tenant within ten (10) days after demand by Landlord (Landlord agreeing, however, that such costs and expenses shall be reimbursed to Tenant from and to the extent of any refund of Taxes received by Landlord as a result of such Tax Protest or Tax Proceeding). Upon Tenant's request, Landlord shall provide Tenant with a copy of any notice of the assessed valuation of the Property and/or the Building received by Landlord, as well as copies of all tax bills and tax notices received by Landlord, and copies of all papers filed by Landlord in connection with any such Tax Protest or Tax Proceeding.

5.03 Personal Property Taxes . Tenant shall pay directly all taxes charged against trade fixtures, furnishings, equipment, inventory, or any other personal property belonging to Tenant. Tenant shall use its best efforts to have personal property taxed separately from the Property. If any of Tenant's personal property shall be taxed with the Property, Tenant shall pay Landlord the taxes for such personal property within fifteen (15) days after Tenant receives a written statement from Landlord for such personal property taxes.

ARTICLE SIX - UTILITIES

6.01 Utilities . Tenant shall promptly pay, directly to the appropriate supplier, the cost of all natural gas, heat, cooling, energy, light, power, sewer service, telephone, water, refuse disposal and other utilities and services supplied to the Premises, allocable to the period from the time Tenant shall first enter the Premises, throughout the Lease Term and thereafter as long as Tenant shall remain in the Premises (collectively, the "Occupancy Period"), together with any related installation or connection charges or deposits (collectively "Utility Costs"). Landlord shall cause the Premises to be separately metered for all such utilities on or prior to the Lease Commencement Date. Landlord shall not be liable for damages, consequential or otherwise, nor shall there be any rent abatement arising out of any curtailment or interruption whatsoever in utility services. Utilities serving the Common Areas (as defined in Article Eight) exclusively shall be accounted for as described in Article Eight.

Tenant shall install, at its sole cost and expense, any and all telephone, communications and other data lines and equipment to serve the Premises (the " Data Equipment "). Tenant shall be responsible for obtaining and maintaining all approvals, permits and licenses required by any federal, state or local government for installation, maintenance and operation of the Data Equipment and for paying all fees attendant thereto and for complying with all other legal requirements relating to the Data Equipment.

ARTICLE SEVEN - INSURANCE

7.01. Liability Insurance . During the Occupancy Period, Tenant shall maintain in effect Commercial General Liability insurance insuring Tenant against liability for bodily injury, property damage and personal injury at the Premises. Such insurance shall name Landlord, its property manager, any mortgagee, and Cabot Industrial Properties, L.P., as additional insureds. Such insurance shall be for a limit of not less than One Million Dollars ($1,000,000) per occurrence and Two Million Dollars ($2,000,000) annual aggregate. Coverage shall also be included for fire damage (damage to rented premises) for a limit of $300,000 any one fire, medical expense coverage in the amount of $10,000 any one person, and $1,000,000 products/completed operations aggregate. The liability insurance obtained by Tenant under this Section 7.01 and Section 7.04 shall (i) be primary and (ii) insure Tenant's obligations to Landlord under Section 7.09. The amount and coverage of such insurance shall not limit Tenant's liability nor relieve Tenant of any other obligation under this Lease. Landlord may also obtain commercial general liability insurance in an amount and with coverage determined by Landlord insuring Landlord against liability with respect to the Premises and the Property. The policy obtained by Landlord shall not provide primary insurance, shall not be contributory and shall be excess over any insurance maintained by Tenant.

7.02 Worker's Compensation Insurance . During the Occupancy Period, Tenant shall maintain in effect Worker's Compensation Insurance (including Employers' Liability Insurance) in the statutory amount covering all employees of Tenant employed or performing services at the Premises, in order to provide the statutory benefits required by the laws of the state in which the Premises are located. Employer's Liability Insurance in the amount of $500,000 each accident/$500,000 disease-policy limit/$500,000 disease-each employee shall also be maintained.

7.03 Automobile Liability Insurance . During the Occupancy Period, Tenant shall maintain in effect Automobile Liability Insurance, including but not limited to, passenger liability, on all owned, non-owned, and hired vehicles used in connection with the Premises, with a combined single limit per occurrence of not less than One Million Dollars ($1,000,000) for Bodily Injury and Property Damage.

7.04 Umbrella Liability Insurance . The initial amount of such insurance shall be Five Million Dollars ($5,000,000) per occurrence and Five Million Dollars ($5,000,000) annual aggregate and shall be subject to periodic increases based upon inflation, increased liability awards, recommendation of Landlord's professional insurance advisers, and other relevant factors. Such insurance shall name Landlord, its property manager, any mortgagee and Cabot Industrial Properties, L.P., as additional insureds.

At all times when any work is in process in connection with any change or alteration being made by Tenant, Tenant shall require all contractors and subcontractors to maintain the insurance described in Sections 7.01, 7.02, 7.03 and 7.04.

7.05 Personal Property Insurance . During the Occupancy Period, Tenant shall maintain in effect Personal Property Insurance covering leasehold improvements paid for by Tenant and Tenant's personal property and fixtures from time to time in, on, or at the Premises, in an amount not less than 100% of the full replacement cost, without deduction for depreciation, providing protection against events protected under "Special Risk Coverage", as well as against sprinkler damage, vandalism, and malicious mischief. Any proceeds from the Personal Property Insurance shall be used for the repair or replacement of the property damaged or destroyed, unless this Lease is terminated under an applicable provision herein.

7.06 Business Interruption Insurance . During the Occupancy Period, Tenant shall maintain in effect Business Interruption Insurance, providing in the event of damage or destruction of the Premises an amount sufficient to sustain Tenant for a period of not less than one (1) year for: (i) the net profit that would have been realized had Tenant's business continued; and (ii) such fixed charges and expenses as must necessarily continue during a total or partial suspension of business to the extent to which they would have been incurred had no business interruption occurred, including, but not limited to, interest on indebtedness of Tenant, salaries of executives, foremen, and other employees under contract, charges under noncancelable contracts, charges for advertising, legal or other professional services, taxes and rents that may still continue, trade association dues, insurance premiums, and depreciation.

7.07 Landlord's Property and Rental Income Insurance . During the Lease Term, Landlord shall maintain in effect all risk insurance covering loss of or damage to the Property in the amount of its replacement value with such endorsements and deductibles as Landlord shall determine from time to time. Landlord shall have the right to obtain flood, earthquake, and such other insurance as Landlord shall determine from time to time or shall be required by any lender holding a security interest in the Property. Landlord shall not obtain insurance for Tenant's fixtures or equipment or building improvements installed by Tenant. During the Lease Term, Landlord shall also maintain a rental income insurance policy, with loss payable to Landlord, in an amount equal to one (1) year's Base Rent, plus estimated Real Property Taxes, CAM Expenses, Utility Costs and insurance premiums for one (1) year. Tenant shall be liable for the payment of its Pro Rata Share of any deductible amount under Landlord's insurance maintained pursuant to this Article Seven, in an amount not to exceed Twenty-Five Thousand Dollars ($25,000). Tenant will follow reasonable instructions from Landlord, which are necessary to keep any such insurance valid. Any increase in the cost of Landlord's insurance due to Tenant's use or activities at the Premises shall be paid by Tenant to Landlord as Additional Rent hereunder.

Exhibit E attached hereto is a summary of the insurance coverages required by this Article Seven.

7.08 Payment of Insurance Premiums . Landlord shall pay the premiums of the insurance policies maintained by Landlord under Section 7.07 and Section 7.01 (if applicable), and Tenant shall reimburse Landlord for Tenant's Pro Rata Share of such premiums in accordance with Section 4.02. Tenant shall pay directly the premiums of the insurance policies maintained by Tenant under Sections 7.01, 7.02, 7.03, 7.04, 7.05 and 7.06.

7.09 General Insurance Provisions .

7.09 (a) Prior to the earlier of Tenant's entry into the Premises or the Commencement Date and prior to the expiration of any policy, Tenant shall furnish Landlord certificates evidencing that all required insurance is in force and providing that such insurance may not be cancelled or changed without at least thirty (30) days prior written notice to Tenant (unless such cancellation is due to nonpayment of premiums, in which event ten (10) days' prior notice shall be provided). If Tenant shall fail to deliver any certificate or renewal certificate to Landlord required under this Lease within the prescribed time period or if any such policy shall be canceled or modified during the Lease Term without Landlord's consent or without Tenant provided prompt written notice of such cancellation or modification, Landlord may obtain such insurance, in which case Tenant shall reimburse Landlord, as Additional Rent, for the cost of such insurance within ten (10) days after receipt of a statement of the cost of such insurance.

7.09 (b) Tenant shall maintain all insurance required under this Lease with insurers having a Best's Insurance Reports rating of A- X or better.

7.09 (c) Landlord and Tenant, on behalf of themselves and their insurers, each hereby waive any and all rights of recovery against the other, the officers, members, partners, employees, agents, or representatives of the other and the officers, members, partners, employees, agents or representatives of each of the foregoing, for loss of or damage to its property or the property of others under its control, if such loss or damage shall be covered by any insurance policy in force (whether or not described in this Lease) at the time of such loss or damage, or required to be carried under this Article Seven. All property insurance carried by either party shall contain a waiver of subrogation against the other party to the extent such right shall have been waived by the insured party prior to the occurrence of loss or injury.

7.09 (d) Tenant shall comply with all applicable laws and ordinances, all orders and decrees of court and all requirements of other governmental authority and shall not directly or indirectly make any use of the Premises which may thereby be prohibited or be dangerous to person or property or which may jeopardize any insurance coverage, or may increase the cost of insurance or require additional insurance coverage.

7.10 Indemnity . Except for any claims arising from the gross negligence or willful misconduct of Landlord, its agents, employees or contractors, Tenant hereby waives all claims against Landlord, its agents, advisors, employees, members, officers, directors, partners, trustees, beneficiaries and shareholders (each a "Landlord Party") and the agents, advisors, employees, members, officers, directors, partners, trustees, beneficiaries and shareholders of each Landlord Party (collectively "the Indemnitees") for damage to any property or injury to or death of any person in, upon or about the Premises or the Property arising at any time and from any cause, and Tenant shall hold Indemnitees harmless from and defend Indemnitees from and against all claims, liabilities, judgments, demands, causes of action, losses, damages, costs and expenses including reasonable attorney's fees for damage to any property or injury to or death of any person arising in or from (i) the use or occupancy of the Premises by Tenant or persons claiming under Tenant, except such as and to the extent is caused by the negligence or willful misconduct of Landlord, its agents, employees or contractors, or (ii) arising from the negligence or willful misconduct of Tenant, its employees, agents, contractors, or invitees in, upon or about the Property, or (iii) arising out of any breach or default by Tenant under this Lease, and Landlord shall indemnify and hold Tenant harmless from and against any such claims to the extent caused by or arising from the gross negligence or willful misconduct of Landlord or its agents, employees or contractors. The foregoing shall include investigation costs and expenses incurred by Landlord or Tenant in connection with any claim or demand made under this Section. The provisions of this Section 7.10 shall survive the expiration or termination of this Lease with respect to any damage, injury, or death occurring prior to such time.

ARTICLE EIGHT - COMMON AREAS

8.01 Common Areas . As used in this Lease, "Common Areas" shall mean all areas within the Property which are available for the common use of tenants of the Property and which are not leased or held for the exclusive use of Tenant or other tenants, including, but not limited to, mechanical and electrical equipment room, parking areas, driveways, sidewalks, access roads, landscaping, and planted areas. Landlord, from time to time, may change the size, location, nature, and use of any of the Common Areas, convert Common Areas into leasable areas, construct additional parking facilities (including parking structures) in the Common Areas, and increase or decrease Common Area land or facilities. Tenant acknowledges that such activities may result in inconvenience to Tenant. Such activities and changes are permitted if they do not materially affect Tenant's use of the Premises.

8.02 Use of Common Areas . Tenant shall have the non-exclusive right (in common with other tenants and all others to whom Landlord has granted or may grant such rights) to use the Common Areas for the purposes intended, subject to such reasonable rules and regulations ("Rules and Regulations") as Landlord may establish or modify from time to time and as initially set forth in Exhibit C . Tenant shall abide by all such Rules and Regulations and shall use its best efforts to cause others who use the Common Areas with Tenant's express or implied permission to abide by Landlord's Rules and Regulations. At any time, Landlord may close any Common Areas to perform any acts in the Common Areas as, in Landlord's reasonable judgment, are desirable to maintain or improve the Property. Tenant shall not interfere with the rights of Landlord, other tenants, or any other person entitled to use the Common Areas.

8.03 Vehicle Parking . Tenant shall be entitled to use the Parking Spaces Allocated to Tenant without paying any additional Rent. Tenant's parking shall not be reserved and shall be limited to vehicles used for business purposes only, which are no larger than standard size automobiles or pickup utility vehicles. Tenant shall not cause large trucks or other large vehicles to be parked within the Property or on the adjacent public streets except in accordance with the Rules and Regulations. Parking shall be at Tenant's risk and Landlord shall not be responsible for any damage or theft to vehicles parking at the Property. Landlord shall not be responsible for policing the parking areas. Vehicles shall be parked only in striped parking spaces and not in driveways or other locations not specifically designated for parking. Handicapped spaces shall only be used by those legally permitted to use them. Tenant shall not park at any time more vehicles in the parking area than the number of Parking Spaces Allocated to Tenant.

8.04 Common Area Maintenance .

Subject to Articles Eleven and Twelve, Landlord shall maintain the Common Areas in good order, condition, and repair. Common Area Maintenance expenses ("CAM Expenses") are all costs and expenses associated with the operation and maintenance of the Common Areas and the repair and maintenance of the heating, ventilation, air conditioning, plumbing, electrical, utility, and safety systems (to the extent not performed by Tenant), including, but not limited to, the following: gardening and landscaping; snow removal; utility, water and sewage services for the Common Area; maintenance of signs (other than tenants' signs); worker's compensation insurance; personal property taxes; rentals or lease payments paid by Landlord for rented or leased personal property used in the operation or maintenance of the Common Areas; fees for required licenses and permits; routine maintenance and repair of roof membrane, flashings, gutters, downspouts, roof drains, skylights and waterproofing; maintenance of paving (including sweeping, striping, repairing, resurfacing, and repaving); general maintenance; painting; lighting; cleaning; refuse removal; security and similar items; and a property management fee (not to exceed five percent (5%) of the gross rents of the Property for the calendar year). Landlord may cause any or all of such services to be provided by third parties and the cost of such services shall be included in CAM Expenses. With respect to any CAM Expenses which are included for the benefit of the Property and other property, Landlord shall make a reasonable allocation of such cost between the Property and such other property.

CAM Expenses shall not include the following:

(a) the cost of capital repairs and replacements, provided, however, that the annual depreciation (based on the useful life of the item under generally accepted accounting principles) of any such capital repair or replacement to the Common Areas or the heating, ventilating, air-conditioning, plumbing, electrical, utility and safety systems serving the Property shall be included in the CAM Expenses each year during the term of this Lease;

(b) the cost of capital improvements, provided, however, that the annual depreciation (based on the useful life of the item under generally accepted accounting principles) of any capital improvement undertaken to reduce CAM Expenses or made in order to comply with legal requirements shall be included in CAM Expenses each year during the term of this Lease;

(c) cost of permits, licenses and inspection fees incurred by Landlord to prepare, renovate, repaint, or redecorate any space leased to any existing tenant or prospective tenant of the Property;

(d) advertising and promotional expenditures incurred to lease space to new tenants or retain existing tenants;

(e) legal fees and expenses incurred by Landlord to resolve disputes with tenants;

(f) cost of replacement of any items covered under warranty;

(g) cost to correct or any penalty or fine incurred by Landlord due to Landlord's violation of any federal, state or local law or regulation;

(h) the Landlord's general corporate overhead and administrative expenses;

(i) any cost to test, survey, cleanup, contain, abate, remove or otherwise remedy hazardous waste or asbestos containing materials unless they are in or on the Premises due to tenant's negligence or intentional act;

(j) cost of repairs caused by the Landlord's negligence;

(k) interest or penalties for any late payments by Landlord;

(l) costs (including, without limitation, attorneys' fees and disbursements) incurred in connection with any judgment, settlement or arbitration award resulting from any tort liability;

(m) compensation paid to any Property employee to the extent that the same is not fairly allocable to the work or service provided by such employee to the Property;

(n) costs of repairs or replacements incurred by reason of fire or other casualty or caused by the exercise of the right of eminent domain, whether or not insurance proceeds or a condemnation award are recovered or adequate for such purposes (however, deductibles are includable in Direct Expenses);

(o) costs of any heating, ventilating, air conditioning, janitorial or other services provided to other tenants during other than Property business hours;

(p) rent or other charges payable under any ground or underlying lease;

(q) costs of any item which are reimbursable to Landlord by other tenants or third parties other than through operating costs pass-through provisions in the leases of other tenants of the Property (if any);

(r) except for normal office equipment and short-term rentals of machines or equipment, lease payments for rented equipment, the cost of which equipment would constitute a capital expenditure if the equipment were to have been purchased (except to the extent that amortization of any such capital expenditure would be permitted as a Direct Expense pursuant to the Lease);

(s) the cost of furnishing and installing replacement light bulbs and ballasts in any tenant areas of the Property, excluding the Premises;

(t) an amount equal to all amounts received by Landlord through proceeds of insurance to the extent the proceeds are compensation for expenses which (i) previously were included in operating costs hereunder, (ii) are included in operating costs for the comparative year in which the insurance proceeds are received or (iii) will be included as operating costs in a subsequent comparative year;

(u) costs and expenses of governmental licenses and permits, or renewals thereof, unless the same are for governmental licenses or permits normal to the operation or maintenance of the Property;

(v) costs of any work or service performed for any facility or property other than the Property;

(w) any expenses related exclusively to any retail or storage space in, on or about the Property or appurtenant or adjacent thereto;

(x) costs of electrical energy furnished directly to any Premises of other tenants, or to other rentable areas, of the Building, other than costs of electrical energy for the Property's HVAC system;

(y) any expense paid to Landlord or subsidiaries or affiliates of Landlord for goods and/or services in or to any portion of the Building to the extent that such expense exceeds the costs of such goods and/or services rendered by unaffiliated third parties on a competitive basis;

(z) costs related to maintaining Landlord's existence, either as a corporation, partnership, or other entity, or costs incurred by Landlord relative to any debt, which encumbers the property. By example these costs shall include, but not be limited to tax return preparation, filing costs, legal costs;

(aa) audited financial statements if these are required by an agreement between Landlord and another party, which shall include, but not be limited to a lender, partner or ground lessor;

(bb) costs related to events for other tenants of the Property including, but not limited to parties, holiday gifts and tenants welcoming gifts;

(cc) costs arising from Landlord's charitable or political contribution; and,

(dd) costs for reserves of any kind.

8.05 Tenant's Payment of CAM Expenses . Tenant shall pay Tenant's Pro Rata Share of all CAM Expenses in accordance with Section 4.02.

ARTICLE NINE - USE OF PREMISES

9.01 Permitted Uses . Tenant may use the Premises only for the Permitted Uses.

9.02 Manner of Use . Tenant shall not cause or permit the Premises to be used in any way which shall constitute a violation of any law, ordinance, restrictive covenants, or governmental regulation or order, which shall annoy or interfere with the rights of tenants of the Property, or which shall constitute a nuisance or waste. Tenant shall obtain and pay for all permits, including a certificate of occupancy and shall promptly take all actions necessary to comply with all applicable statutes, ordinances, notes, regulations, orders, covenants and requirements regulating the use by Tenant of the Premises, including the Occupational Safety and Health Act.

The parties acknowledge that the Americans With Disabilities Act of 1990 (49 U.S.C. Section 12101 et seq .) and regulations and guidelines promulgated thereunder, as all of the same may be amended from time to time (collectively, the "ADA"), establish requirements under Title III of the ADA ("Title III") pertaining to business operations, accessibility and barrier removal, and that such requirements may be unclear and may or may not apply to the Premises or Property depending on, among other things: (1) whether Tenant's business operations are deemed a "place of public accommodation" or a "commercial facility"; (2) whether compliance with such requirements is "readily achievable" or "technically infeasible"; and (3) whether a given alteration affects a "primary function area" or triggers so-called "path of travel" requirements. The parties acknowledge and agree that Tenant has been provided an opportunity to inspect the Premises and the Property to a degree sufficient to determine whether or not the Premises and the Property, in their condition as of the date hereof, deviate in any manner under the ADA Accessibility guidelines ("ADAAG") or any other requirements under the ADA pertaining to the accessibility of the Premises or Property. Tenant further acknowledges and agrees that, except as may otherwise be specifically provided below, Tenant accepts the Premises and the Property in "as is" condition and agrees that Landlord is making no representation or warranty as to whether the Premises or the Property conform to the requirements of the ADAAG or any other requirements under the ADA. Tenant has prepared or reviewed any plans and specifications for improvements for construction in the Premises and has independently determined that such plans and specifications are in conformance with the ADAAG and other requirements of the ADA. Tenant further acknowledges and agrees that to the extent that Landlord has prepared, reviewed or approved any of Tenant's plans and specifications, such action shall in no event be deemed a representation or warranty that the same comply with the requirements of the ADA. Tenant shall be responsible for the cost of all Title III compliance and costs in connection with the Premises, including structural work, if any, and any leasehold improvements or other work to be performed in the Premises under or in connection with this Lease and shall also be responsible for the cost of any so-called Title III "path of travel" requirements triggered by construction activities or alterations in the Premises. Tenant shall be solely responsible for all other requirements under the ADA relating to Tenant or any affiliates or persons or entities related to Tenant, operations of any of them, or the Premises, including, without limitation, requirements under Title I of the ADA pertaining to Tenant's employees.

9.03 Hazardous Materials . Tenant covenants, represents and warrants that it will not use or store any Hazardous Materials on or about the Premises without obtaining Landlord's prior written consent, which consent shall not be unreasonably withheld. If Tenant wishes to use or store any Hazardous Materials on or about the Premises, prior to doing so, Tenant shall also complete and deliver to Landlord Landlord's form of Hazardous Materials Disclosure Certificate.

Notwithstanding the foregoing paragraph, (a) Tenant may handle, store, use or dispose of products containing small quantities of Hazardous Materials, which products are of a type customarily found in offices and households (such as aerosol cans containing insecticides, toner for copies, paints, paint remover, and the like), provided that Tenant shall handle, store, use and dispose of any such Hazardous Materials in a safe and lawful manner and shall not allow such Hazardous Materials to contaminate the Premises or the environment; and (b) Tenant may handle, store, and use Hazardous Materials, limited to the types, amounts, and use identified on Exhibit D attached hereto and made a part hereof. Tenant hereby certifies to Landlord that the information provided by Tenant pursuant to this Section 9.03 is true, correct, and complete. Tenant covenants to comply with the use restrictions shown on Exhibit D . Tenant's business and operations, and more especially its handling, storage, use and disposal of Hazardous Materials shall at all times comply with all applicable laws pertaining to Hazardous Materials. Tenant shall secure and abide by all permits necessary for Tenant's operations on the Premises. Tenant shall give or post all notices required by all applicable laws pertaining to Hazardous Materials. If Tenant shall at any time knowingly fail to comply with this Section 9.03, Tenant shall immediately notify Landlord in writing of such noncompliance.

Tenant shall provide Landlord with copies of any Material Safety Data Sheets (as required by the Occupational Safety and Health Act) relating to any Hazardous Materials to be used, kept, or stored at or on the Premises in excess of lab quantities, at least 30 days prior to the first use, placement, or storage of such Hazardous Material on the Premises. Landlord shall have 10 days following delivery of such Material Safety Data Sheets to approve or forbid, in its sole discretion subject to the exceptions set forth in clauses (a) and (b) in the immediately preceding paragraph, such use, placement, or storage of a Hazardous Material on the Premises.

Tenant shall not store hazardous wastes on the Premises in excess of any period required by the Massachusetts Department of Environmental Protection or other applicable governmental agency; "hazardous waste" has the meaning given to it by the Resource Conservation and Recovery Act of 1976, as amended. The foregoing restriction shall in no way impair or limit the Tenant's ability to store the Hazardous Materials listed on Exhibit D on the Premises for any length of time during the Term in compliance with all laws and regulations. Tenant shall not install any underground storage tanks on the Premises. Tenant shall not dispose of any Hazardous Material, hazardous waste, or solid waste on the Premises. Tenant shall maintain the storage containers or "storage tanks" installed by Tenant under the Original Lease for those Hazardous Materials listed on Exhibit D in compliance with all applicable statutes, codes, and ordinances. In performing any alterations of the Premises permitted by the Lease, Tenant shall not install any Hazardous Material in the Premises without the specific written consent of the Landlord.

As used in this Lease, the term "Hazardous Material" shall mean any flammable items, explosives, radioactive materials, oil, hazardous or toxic substances, material or waste or related materials, including any substances defined as or included in the definition of "hazardous substances", "hazardous wastes", "hazardous materials" or "toxic substances" now or subsequently regulated under any applicable federal, state or local laws or regulations, including without limitation petroleum-based products, paints, solvents, lead, cyanide, DDT, printing inks, acids, pesticides, ammonia compounds and other chemical products, asbestos, PCBs and similar compounds, and including any different products and materials which are subsequently found to have adverse effects on the environment or the health and safety of persons. Tenant shall not cause or permit any Hazardous Material to be generated, produced, brought upon, used, stored, treated or disposed of in or about the Property by Tenant, its agents, employees, contractors, sublessees or invitees without (a) the prior written consent of Landlord, and (b) complying with all applicable Federal, State and Local laws or ordinances pertaining to the transportation, storage, use or disposal of such Hazardous Materials, including but not limited to obtaining proper permits. Landlord shall be entitled to take into account such other factors or facts as Landlord may reasonably determine to be relevant in determining whether to grant or withhold consent to Tenant's proposed activity with respect to Hazardous Material. In no event, however, shall Landlord be required to consent to the installation or use of any storage tanks on the Property.

If Tenant's transportation, storage, use or disposal of Hazardous Materials on the Premises results in the contamination of the soil or surface or ground water or loss or damage to person(s) or property, then Tenant agrees to: (a) notify Landlord immediately of any contamination, claim of contamination, loss or damage, (b) after consultation with the Landlord, clean up the contamination in full compliance with all applicable statutes, regulations and standards and (c) indemnify, defend and hold Landlord harmless from and against any claims, suits, causes of action, costs and fees, including attorney's fees and costs, arising from or connected with any such contamination, claim of contamination, loss or damage. Tenant agrees to fully cooperate with Landlord and provide such documents, affidavits and information as may be requested by Landlord (i) to comply with any environmental law, (ii) to comply with the request of any lender, purchaser or tenant, and/or (iii) for any other reason deemed necessary by Landlord in its sole discretion. Tenant shall notify Landlord promptly in the event of any spill or other release of any Hazardous Material at, in, on, under or about the Premises which is required to be reported to a governmental authority under any environmental law, will promptly forward to Landlord copies of any notices received by Tenant relating to alleged violations of any environmental law and will promptly pay when due any fine or assessment against Landlord, Tenant or the Premises relating to any violation of an environmental law during the term of this Lease. If a lien is filed against the Premises by any governmental authority resulting from the need to expend or the actual expending of monies arising from an act or omission, whether intentional or unintentional, of Tenant, its agents, employees or invitees, or for which Tenant is responsible, resulting in the releasing, spilling, leaking, leaching, pumping, emitting, pouring, emptying or dumping of any Hazardous Material into the waters or onto land located within or without the State where the Premises is located, then Tenant shall, within thirty (30) days from the date that Tenant is first given notice that such lien has been placed against the Premises (or within such shorter period of time as may be specified by Landlord if such governmental authority has commenced steps to cause the Premises to be sold pursuant to such lien) either (i) pay the claim and remove the lien, or (ii) furnish a cash deposit, bond, or such other security with respect thereto as is satisfactory in all respects to Landlord and is sufficient to effect a complete discharge of such lien on the Premises. Landlord shall have the right, but not the obligation, without in any way limiting Landlord's other rights and remedies under this Lease, to enter upon the Premises, or to take such other actions as it deems necessary or advisable, to investigate, clean up, remove or remediate any Hazardous Materials or contamination by Hazardous Materials present on, in, at, under or emanating from the Premises or the Property in violation of Tenant's obligations under this Lease or under any laws regulating Hazardous Materials. Notwithstanding any other provision of this Lease, Landlord shall have the right, at its election, in its own name or as Tenant's agent, to negotiate, defend, approve and appeal, at Tenant's expense, any action taken or order issued by any governmental agency or authority with any governmental agency or authority against Tenant, Landlord or the Premises or Property relating to any Hazardous Materials or under any related law or the occurrence of any event or existence of any condition that would cause a breach of any of the covenants set forth in this Section 9.03. Prior to or promptly after the expiration or termination of this Lease, Landlord may require a reasonable environmental audit of the Premises by a qualified environmental consultant. Tenant shall pay the reasonable costs of such an environmental audit and shall, at its sole cost and expense, take all reasonable actions pursuant to such audit to remediate any unacceptable environmental conditions resulting from Tenant's use of the Premises. The provisions of this Section 9.03 shall survive the expiration or earlier termination of this Lease.

9.04 Signs and Auctions . Tenant shall not place any signs on the Property without Landlord's prior written consent. Tenant shall not conduct or permit any auctions or sheriff's sales at the Property.

9.05 Landlord's Access . Landlord or its agents may enter the Premises at all reasonable times to show the Premises to potential buyers, investors or tenants or other parties; to do any other act or to inspect and conduct tests in order to monitor Tenant's compliance with all applicable environmental laws and all laws governing the presence and use of Hazardous Material; or for any other purpose Landlord deems necessary. Landlord shall give Tenant at least twenty-four (24) hours' prior notice (which may be oral) of such entry, except in the case of an emergency, in which event Landlord shall make reasonable efforts to notify Tenant. Landlord may place customary "For Sale" or "For Lease" signs on the Premises.

ARTICLE TEN - CONDITION AND MAINTENANCE OF PREMISES

10.01 Existing Conditions . Tenant shall accept the Property and the Premises in their "as is" condition as of the execution of the Lease, subject to all recorded matters, laws, ordinances, and governmental regulations and orders. Except as provided herein, Tenant acknowledges that neither Landlord nor any agent of Landlord has made any representation as to the condition of the Property or the suitability of the Property for Tenant's intended use. Tenant represents and warrants that Tenant has made its own inspection of and inquiry regarding the condition of the Property and is not relying on any representations of Landlord or any Broker with respect thereto.

10.02 Exemption of Landlord from Liability .

10.02 (a) Damage to Tenant's Property . Tenant shall insure its personal property under an all risk full replacement cost property insurance policy as provided in Section 7.05. Except for Landlord's gross negligence or willful misconduct, Landlord shall not be liable for any damage or injury to the person, business (or any loss of income therefrom), goods, wares, merchandise or other property of Tenant, Tenant's employees, invitees, customers or any other person or about the Property, whether such damage or injury is caused by or results from: (a) fire, steam, electricity, water, gas or rain; (b) the breakage, leakage, obstruction or other defects of pipes, sprinklers, wires, appliances, plumbing, air conditioning or lighting fixtures or any other cause; (c) conditions arising in or about Property, or from other sources or places; or (d) any act or omission of any other tenant of the Property. Tenant shall give Landlord prompt notice upon the occurrence of any accident or casualty at the Premises. Landlord shall not be liable for any such damage or injury even though the cause of or the means of repairing such damage or injury are not accessible to Tenant. The provisions of this Section 10.02 shall not, however, exempt Landlord from liability for Landlord's gross negligence or willful misconduct.

10.02 (b) Theft or Burglary. Tenant expressly acknowledges that whether or not Landlord, from time to time, elects to provide security services, Landlord has not, nor will Landlord be deemed to have, warranted the efficiency of any security personnel, service, procedures or equipment and Landlord is not liable in any manner for the failure of any of the foregoing to prevent, control or apprehend anyone suspected of theft, personal injury, property damage or any criminal conduct in, on or around the Property. Tenant shall be responsible for repairs of damage and restoration of the Premises, personal property or equipment servicing the Premises following any such act. All property of Tenant kept or stored on the Property shall be so kept or stored at the risk of Tenant only.

10.03 Landlord's Obligations . Subject to the provisions of Article Eleven (Damage or Destruction) and Article Twelve (Condemnation), and except for damage caused by any act or omission of Tenant, or Tenant's employees, agents, contractors or invitees, Landlord shall keep the foundation, roof, building systems (other than the heating, ventilating and air conditioning system), structural supports and exterior walls of the improvements on the Property in good order, condition and repair. However, Landlord shall not be obligated to maintain or repair windows, doors, plate glass or the surfaces of walls. Tenant shall promptly report in writing to Landlord any defective condition known to it which Landlord is required to repair. Tenant hereby waives the benefit of any present or future law which provides Tenant the right to repair the Premises or Property at Landlord's expense or to terminate this Lease because of the condition of the Property or Premises. Notwithstanding the foregoing, Landlord shall also be obligated to provide the following services: (1) to plow snow and treat ice on sidewalks, roadways and loading areas, (2) to maintain and clean all outdoor facilities including, without limitation, to maintain all lawns, landscaping, and repave and restripe the parking lot when reasonably necessary and to install, maintain or replace when necessary the outdoor lighting systems for the parking areas, (3) to maintain common area lights in good working order and condition, (4) to cause the boiler system providing baseboard heat to the Premises to be cleaned and maintained regularly, and (5) to the extent Landlord's responsibility as set forth in this Lease, maintain and repair the Property as necessary to comply with all applicable government requirements, provided Tenant notifies Landlord of any such requirements that the Tenant is aware of and that the applicable governmental authority requires such maintenance or repair. The cost of performance of Landlord's obligations under this paragraph shall be included in CAM Expenses as provided in Section 8.04.

10.04 Tenant's Obligations .

10.04 (a) Repair and Maintenance . Except as provided in Section 10.03, Article Eleven (Damage or Destruction) and Article Twelve (Condemnation), Tenant shall keep all portions of the Premises, including, without limitation, plumbing, restrooms, lighting, man doors, dock doors, levelers, shelters, seals and bumpers (if any), windows, floors, fire/life safety systems, air rotation equipment and electrical items, in a clean and orderly condition and good repair. Tenant shall arrange and pay for its own janitorial service, trash removal, security system, telecommunication systems, and any and all other services that Tenant desires. Tenant shall enter into a preventative maintenance contract with a reputable HVAC service company, such contract and contractor to be approved by Landlord, to provide for routine maintenance of the HVAC systems serving the Premises. If any portion of the Premises or any system or equipment in the Premises which Tenant shall be obligated to repair cannot be fully repaired or restored, Tenant shall promptly replace such portion of the Premises or system or equipment, regardless of whether the benefit of such replacement extends beyond the Lease Term; but if the benefit or useful life of such replacement extends beyond the Lease Term, Tenant shall only be responsible for the portion attributable to the remaining portion of the Lease Term. Landlord shall have the right, upon reasonable advance written notice to Tenant, to undertake the responsibility for maintenance of the heating and air conditioning system at Tenant's expense if Tenant has failed to maintain such system as required by this Lease. Landlord shall, at Tenant's expense, repair any damage to the portions of the Property Landlord shall be required to maintain caused by Tenant's acts or omissions. There are nine (9) HVAC units that serve the Premises. Notwithstanding the foregoing, Tenant shall, at its sole cost and expense, be responsible for the repair and/or replacement of the two (2) HVAC units that serve the lab of the Premises and the replacement of the four (4) other HVAC units that serve the Premises and are identified as Tenant's responsibility in Exhibit F . As to the remaining three (3) HVAC units, if such units need to be replaced during the Lease Term, but the benefit of such replacement extends beyond the Lease Term, Tenant shall only be responsible for the pro rata portion of the cost attributable to the remaining portion of the Lease Term.

10.04 (b) Tenant's Expense. Tenant shall fulfill all of Tenant's obligations under this Section 10.04 at Tenant's sole expense. If Tenant shall fail to maintain, repair or replace the Premises as required by this Section 10.04, Landlord may, upon ten (10) days' prior notice to Tenant (except that no notice shall be required in the case of an emergency), enter the Premises and perform such maintenance or repair (including replacement, as needed) on behalf of Tenant. In such case, Tenant shall reimburse Landlord for all costs reasonably incurred in performing such maintenance, repair or replacement immediately upon demand.

10.05 Alterations, Additions, and Improvements.

10.05 (a) Tenant's Work. Tenant shall not make any installations, alterations, additions, or improvements in or to the Premises, including, without limitation, any apertures in the walls, partitions, ceilings or floors, without on each occasion obtaining the prior written consent of Landlord. Any such work so approved by Landlord shall be performed only in accordance with plans and specifications therefor approved by Landlord. Notwithstanding the foregoing, Landlord's consent shall not be required (but prior written notice to Landlord shall be required) with respect to de minimis alterations which (i) are not structural in nature, (ii) are not visible from the exterior of the building of which the Premises are a part, (iii) do not affect or require modification of the building's electrical, mechanical, plumbing, HVAC or other systems, and (iv) do not cost more than $25,000 in aggregate in any calendar year. Tenant shall procure at Tenant's sole expense all necessary permits and licenses before undertaking any work on the Premises and shall perform all such work in a good and workmanlike manner employing materials of good quality and so as to conform with all applicable zoning, building, fire, health and other codes, regulations, ordinances and laws and with all applicable insurance requirements. If requested by Landlord, Tenant shall furnish to Landlord prior to commencement of any such work a bond or other security acceptable to Landlord assuring that any work by Tenant will be completed in accordance with the approved plans and specifications and that all subcontractors will be paid. Tenant shall employ for such work only contractors approved by Landlord and shall require all contractors employed by Tenant to carry worker's compensation insurance in accordance with statutory requirements and commercial general liability insurance covering such contractors on or about the Premises with a combined single limit not less than $3,000,000 and shall submit certificates evidencing such coverage to Landlord prior to the commencement of such work. Tenant shall indemnify and hold harmless Landlord from all injury, loss, claims or damage to any person or property occasioned by or growing out of such work. Landlord may inspect the work of Tenant at reasonable times and given notice of observed defects. Upon completion of any such work, Tenant shall provide Landlord with "as built" plans, copies of all construction contracts and proof of payment for all labor and materials.

10.05 (b) No Liens. Tenant shall pay when due all claims for labor and material furnished to the Premises and shall give Landlord at least twenty (20) days' prior written notice of the commencement of any work on the Premises, regardless of whether Landlord's consent to such work is required. Landlord may record and post notices of non-responsibility on the Premises. Tenant shall at all times keep the Property free from liens claims of liens arising out of work performed, material furnished, or obligations incurred due to the actions of Tenant or Tenant's permittees or the failure of Tenant to comply with any law, rule, regulation, or ordinance. If any such lien does attach against the Premises, the building of which the Premises are a part, or the Property, and Tenant does not discharge the lien or post statutorily acceptable bond, which under law would prevent foreclosure execution under the lien, within ten (10) days after Tenant shall receive written notice of the filing thereof, such event shall be a default by Tenant under this Lease and, in addition to Landlord's other rights and remedies, Landlord may take any action necessary or appropriate to discharge the lien, all such costs and expenses to be immediately reimbursed by Tenant to Landlord.

10.05 (c) Notwithstanding anything in this Section 10 to the contrary, provided Tenant is not then in default of any of the terms, conditions, and covenants of the Lease, Landlord shall contribute up to $800,000.00 (the “Allowance”) toward the cost of the following improvement work to the Premises to be performed by Tenant (the “Improvements”) in accordance with the terms and provisions of this Lease: (i) improvement of the front entrance to the Premises; (ii) installation of a new loading dock and shipping/receiving area; (iii) renovation of the existing bathroom cores; and (iv) installation of new HVAC and VAV controls. Prior to commencing the Improvements, Tenant shall submit to Landlord, for Landlord’s approval, plans and budget for said improvements that specifically detail the amounts of the Allowance that are being allocated toward the different portions of the Improvements (collectively, the “Plans”). In addition to the Allowance, Landlord will also provide up to $400,000.00 toward the cost of other improvements to be performed by Tenant (the “Additional Improvements”) at Tenant’s discretion, but which improvements shall specifically not include data cabling or similar wiring work, and shall be performed in accordance with terms and provisions of this Lease (the “Additional Allowance”). Upon Tenant’s presentation to Landlord, no later than the December 31, 2017, of customary documentation supporting the charges for completion of the Improvements and/or the Additional Improvements, which documentation is of a scope and detail sufficient to satisfy a commercial construction lender operating in the market area in which the Property is located and which shall include copies of paid invoices from Tenant’s contractor and lien waivers, as well as documentation evidencing the nature of the applicable improvements, Landlord shall reimburse Tenant for the cost of the completed Improvements and/or Additional Improvements, up to the amount of the Allowance or Additional Allowance, as applicable. Tenant may submit monthly invoices for costs already paid and Landlord shall reimburse Tenant within thirty (30) days of receipt of such invoices and any required documentation. Tenant shall not be entitled to a credit for any portion of the Allowance or Additional Allowance not used. All costs of any Tenant Improvements in excess of the Allowance and/or the Additional Allowance, as applicable, shall be borne by Tenant.

10.06 Condition upon Termination . Upon the expiration or termination of this Lease, Tenant shall surrender the Premises to Landlord broom clean and in the condition which Tenant shall have been required to maintain the Premises under this Lease with the heating, ventilation, air-conditioning, plumbing, electrical systems, lighting, man doors, dock doors, levelers, shelters, seals and bumpers (if any), windows, floors, fire/life safety systems, air rotation equipment and electrical items serving the Premises in operating condition, and all chemistry laboratories certified as clean by a mutually agreeable certified industrial hygienist. Tenant shall not be obligated to repair any damage which Landlord is required to repair under Article Eleven (Damage or Destruction). Notwithstanding anything in this Section 10.06 to the contrary, Landlord may require Tenant to remove any alterations, additions or improvements made by Tenant during the Lease Term without Landlord’s consent, including, without limitation, the Data Equipment, prior to the expiration of the Lease and to restore the Premises to their condition prior to such alterations, additions, or improvements, all at Tenant’s expense. With respect to any such alterations, additions or improvements which require Landlord’s approval, at the time of such approval Landlord shall specify if Tenant shall not be required to remove the same, and such items shall become Landlord’s property and shall be surrendered to Landlord upon the expiration or earlier termination of the Lease, except that Tenant may remove any of Tenant’s machinery or equipment which can be removed without damage to the Property. Tenant shall repair, at Tenant’s expense, any damage to the Property caused by the removal of any such machinery or equipment. In no event, however, shall Tenant remove any of the following materials or equipment (which shall be deemed Landlord’s property), without Landlord’s prior written consent; unless the same shall have been installed by Tenant at its expense: any power wiring or wiring panels; lighting or lighting fixtures; wall coverings; drapes, blinds or other window coverings; carpets or other floor coverings; heaters, air conditioners or any other heating or air conditioning equipment; fencing or security gates; or other similar building operating equipment. Tenant and Landlord shall, at least ninety (90) days before the last day of the Lease Term, arrange to meet for a joint inspection of the Premises to determine Tenant’s final repair and restoration obligations.

ARTICLE ELEVEN - DAMAGE OR DESTRUCTION

11.01 Damage to Premises .

11.01 (a) If the Premises shall be destroyed or rendered untenantable, either wholly or in part, by fire or other casualty ("Casualty"), Tenant shall immediately notify Landlord in writing upon the occurrence of such Casualty. In the event of any Casualty, Landlord may elect either to (i) repair the damage caused by such casualty as soon as reasonably possible, in which case this Lease shall remain in full force and effect, or (ii) terminate this Lease as of the date the casualty occurred. Landlord shall notify Tenant within thirty (30) days after receipt of notice of the occurrence of the casualty whether Landlord elects to repair the damage or terminate this Lease. If Landlord shall elect to repair the damage, Tenant shall pay Landlord the portion of the "deductible amount" (if any) under Landlord's insurance allocable to the damage to the Premises and, if the damage shall have been due to an act or omission of Tenant, or Tenant's employees, agents, contractors or invitees, the difference between the actual cost of repair and any insurance proceeds received by Landlord.

11.01 (b) If the casualty to the Premises shall occur during the last six (6) months of the Lease Term and the damage shall be estimated by Landlord to require more than thirty (30) days to repair, either Landlord or Tenant may elect to terminate this Lease as of the date the casualty shall have occurred, regardless of the sufficiency of any insurance proceeds. The party electing to terminate this Lease shall give written notification to the other party of such election within ten (10) days after Tenant's notice to Landlord of the occurrence of the casualty.

11.01 (c) In the event Landlord elects to repair any damage caused by a Casualty, and should Landlord fail to complete such repairs within one hundred eighty (180) days after the occurrence of the Casualty, Tenant may at its option and as its sole remedy terminate this Lease by delivering written notice to Landlord, within fifteen (15) days after the expiration of said period of time, whereupon the Lease shall end on the date of such notice or such later date fixed in such notice as if the date of such notice was the date originally fixed in this Lease for the expiration of the Term; provided, however, that if construction is delayed because of changes, deletions or additions in construction requested by Tenant, strikes, lockouts, casualties, Acts of God, war, material or labor shortages, government regulation or control or other causes beyond the reasonable control of Landlord, the period for restoration, repair or rebuilding shall be extended for the amount of time Landlord is so delayed.

11.02 Temporary Reduction of Rent . If the Property shall be destroyed or damaged by casualty and Landlord shall determine to repair or restore the Property pursuant to the provisions of this Article Eleven, any Rent payable during the period of such damage, repair and/or restoration shall be reduced according to the degree, if any, to which Tenant's use of the Premises shall be impaired. Such reduction shall not exceed the sum of one year's payment of Base Rent, insurance premiums and Real Property Taxes. Except for such possible reduction in Base Rent, insurance premiums and Real Property Taxes, Tenant shall not be entitled to any compensation, reduction or reimbursement from Landlord as a result of any damage, destruction, repair, or restoration of the Property.

ARTICLE TWELVE - CONDEMNATION

12.01 Condemnation . If more than twenty percent (20%) of the floor area of the Premises or more than twenty-five percent (25%) of the parking on the Property shall be taken by eminent domain either Landlord or Tenant may terminate this Lease as of the date the condemning authority takes title or possession, by delivering notice to the other within ten (10) days after receipt of written notice of such taking (or in the absence of such notice, within ten (10) days after the condemning authority shall take title or possession). If neither Landlord nor Tenant shall terminate this Lease, this Lease shall remain in effect as to the portion of the Premises not taken, except that the Base Rent shall be reduced in proportion to the reduction in the floor area of the Premises. If this Lease shall be terminated, any condemnation award or payment shall be distributed to the Landlord. Tenant shall have no claim against Landlord for the value of the unexpired lease term or otherwise.

ARTICLE THIRTEEN - ASSIGNMENT AND SUBLETTING

13.01 Landlord's Consent Required . No portion of the Premises or of Tenant's interest in this Lease shall be acquired by any other person or entity, whether by sale, assignment, mortgage, sublease, transfer, operation of law, or act of Tenant, without Landlord's prior written consent, except as provided in Section 13.02 below. Landlord shall have the right to grant or withhold its consent as provided in Section 13.04 below. Any attempted transfer without consent that remains in place for five (5) days after written notice from Landlord objecting to same, shall be void and shall constitute a non curable breach of this Lease.

13.02 No Release of Tenant . No assignment or transfer shall release Tenant or change Tenant's primary liability to pay the Rent and to perform all other obligations of Tenant under this Lease. Landlord's acceptance of Rent from any other person shall not be a waiver of any provision of this Article Thirteen. Consent to one transfer shall not be deemed a consent to any subsequent transfer or a waiver of the obligation to obtain consent on subsequent occasions. If Tenant's assignee or transferee shall default under this Lease, Landlord may proceed directly against Tenant without pursuing remedies against the assignee or transferee. Landlord may consent to subsequent assignments or modifications of this Lease by Tenant's transferee without notifying Tenant or obtaining its consent, and such action shall not release Tenant from any of its obligations or liabilities under this Lease as so assigned or modified.

13.03 INTENTIONALLY OMITTED.

13.04 Landlord's Consent . Tenant's request for consent under Section 13.01 shall set forth the details of the proposed sublease, assignment or transfer, including the name, business and financial condition of the prospective transferee, financial details of the proposed transaction (e.g., the term of and the rent and security deposit payable under any proposed assignment or sublease), and any other information Landlord reasonably deems relevant. Landlord shall not unreasonably withhold, condition or delay its consent to any proposed sublease or assignment. Notwithstanding, the foregoing, Landlord's refusal to grant consent shall not be unreasonable if the proposed assignee or sublessee is an entity: (a) whose net worth and financial condition, in Landlord's reasonable judgment, does not meet the credit standards applied by Landlord for other tenants under leases with comparable terms (b) with which Landlord is already in negotiation as evidenced by the issuance of a written proposal; (c) is already an occupant of the Property unless Landlord is unable to provide the amount of space required by such occupant; (d) is a governmental agency; (e) is incompatible with the character of occupancy of the Property; or (f) would subject the Premises to a use which would: (i) involve excessive wear upon the Premises; (ii) violate any exclusive right granted to another tenant of the property; (iii) require any addition to or modification of the Premises or the Property in order to comply with building code or other governmental requirements. If Tenant shall assign or sublease, the following shall apply: Tenant shall pay to Landlord as Additional Rent fifty (50%) percent of the Proceeds (defined below) on such transaction (such amount being Landlord's share) as and when received by Tenant, unless Landlord shall give notice to Tenant and the assignee or subtenant that Landlord's Share shall be paid by the assignee or subtenant to Landlord directly. Proceeds shall mean (a) all rent and all fees and other consideration paid for or in respect of the assignment or sublease, including fees under any collateral agreements less (b) the rent and other sums payable under this Lease (in the case of a sublease of less than all of the Premises, allocable to the subleased premises) and all costs and expenses directly incurred by Tenant in connection with the execution and performance of such assignment or sublease for reasonable real estate broker's commissions and reasonable costs of renovation or construction of tenant improvements required under such assignment or sublease. Tenant shall be entitled to recover such reasonable costs and expenses before Tenant shall be obligated to pay Landlord's Share to Landlord. Tenant shall provide Landlord a written statement certifying all amounts to be paid from any assignment or sublease of the Premises within thirty (30) days after the transaction shall be signed and from time to time thereafter on Landlord's request, and Landlord may inspect Tenant's books and records to verify the accuracy of such statement. On written request, Tenant shall promptly furnish to Landlord copies of all the transaction documentation, all of which shall be certified by Tenant to be complete, true and correct. Tenant shall promptly reimburse Landlord for all legal costs and expenses incurred by Landlord in connection with a request for a sublease or assignment of this Lease.

13.05 Affiliate Transfers . Notwithstanding the foregoing provisions of this Article to the contrary, Tenant shall be permitted to assign this Lease, or sublet all or a portion of the Premises, to an Affiliate of Tenant without the prior consent of Landlord, if all of the following conditions are first satisfied:

(a) Tenant shall not then be in default under this Lease;

(b) a fully executed copy of such assignment or sublease, the assumption of this Lease by the assignee or acceptance of the sublease by the sublessee, and such other information regarding the assignment or sublease as Landlord may reasonably request, shall have been delivered to Landlord;

(c) the Premises shall continue to be operated solely for the Permitted Uses or other use acceptable to Landlord in its sole discretion;

(d) any guarantor of this Lease reaffirms that its Guaranty remains in full force and effect; and

(e) Tenant shall pay all costs reasonably incurred by Landlord in connection with such assignment or subletting, including without limitation attorneys' fees.

Tenant acknowledges (and, at Landlord's request, at the time of such assignment or subletting shall confirm) that in each instance Tenant shall remain liable for performance of the terms and conditions of the Lease despite such assignment or subletting. As used herein the term "Affiliate" shall mean an entity which (i) directly or indirectly controls Tenant or (ii) is under the direct or indirect control of Tenant or (iii) is under common direct or indirect control with Tenant, (iv) is the successor in interest to Tenant by way of merger or consolidation, or by sale of all of the stock of Tenant or of all of the assets of Tenant, so long as the net worth of the surviving or successor entity following such transaction is at least as much as the net worth of Tenant immediately preceding the transaction or at the Lease Commencement Date, whichever is higher. Control shall mean ownership of fifty-one percent (51%) or more of the voting securities or rights of the controlled entity.

ARTICLE FOURTEEN - DEFAULTS AND REMEDIES

14.01 Covenants and Conditions . Tenant's performance of each of Tenant's obligations under this Lease is a condition as well as a covenant. Tenant's right to continue in possession of the Premises is conditioned upon such performance. Time is of the essence in the performance by Tenant of all covenants and conditions.

14.02 Defaults . Each of the following shall be an event of default under this Lease:

14.02 (a) Tenant shall abandon the Premises;

14.02 (b) Tenant shall fail to pay Rent or any other sum payable under this Lease when due and such failure continues for five (5) days after written notice from Landlord of such failure;

14.02 (c) Tenant shall fail to perform any of Tenant's other material obligations under this Lease and such failure shall continue for a period of thirty (30) days after notice from Landlord; provided that if more than thirty (30) days shall be required to complete such performance, Tenant shall not be in default if Tenant shall commence such performance within the thirty (30) day period and shall thereafter diligently pursue its completion.

14.02 (d) (i) Tenant shall make a general assignment or general arrangement for the benefit of creditors; (ii) a petition for adjudication of bankruptcy or for reorganization or rearrangement shall be filed by or against Tenant and shall not be dismissed within sixty (60) days; (iii) a trustee or receiver shall be appointed to take possession of substantially all of Tenant's assets located at the Premises or Tenant's interest in this Lease and possession shall be subjected to attachment, execution or other judicial seizure which shall not be discharged within sixty (60) days. If a court of competent jurisdiction shall determine that any of the acts described in this subsection (d) is not a default under this Lease, and a trustee shall be appointed to take possession (or if Tenant shall remain a debtor in possession) and such trustee or Tenant shall assign, sublease, or transfer Tenant's interest hereunder, then Landlord shall receive, as Additional Rent, the excess, if any, of the rent (or any other consideration) paid in connection with such assignment, transfer or sublease over the rent payable by Tenant under this Lease.

14.03 Remedies . On the occurrence of an event of default by Tenant, Landlord may, at any time thereafter, with or without notice or demand (except as provided in Section 14.02) and without limiting Landlord in the exercise of any right or remedy which Landlord may have:

14.03 (a) Terminate this Lease by written notice to Tenant or by entry, at Landlord's option. Tenant shall then immediately quit and surrender the Premises to Landlord, but Tenant shall remain liable as hereinafter provided. Following termination, without prejudice to other remedies Landlord may have by reason of Tenant's default or of such termination, Landlord may (i) peaceably reenter the Premises upon voluntary surrender by Tenant or remove Tenant therefrom and any other persons occupying the Premises, using such legal proceedings as may be available; (ii) repossess the Premises or relet the Premises or any part thereof for such term (which may be for a term extending beyond the Lease Term), at such rental and upon such other terms and conditions as Landlord in Landlord's sole discretion shall determine, with the right to make alterations and repairs to the Premises; and (iii) remove all personal property therefrom. Following termination, Landlord shall have all the rights and remedies of a landlord provided at law and in equity. The amount of damages Tenant shall pay to Landlord following termination shall include all Rent unpaid up to the termination of this Lease, costs and expenses incurred by Landlord due to such Event of Default and, in addition, Tenant shall pay to Landlord as damages, at the election of Landlord (if Landlord shall elect subsection (y) below, it may cease such election at any time), either (x) the discounted present value (at the then Federal Reserve Bank discount rate) of the aggregate Rent and other charges due during the period commencing with such termination and ending on the expiration date of this Lease, or (y) amounts equal to the Rent and other charges which would have been payable by Tenant had this Lease or Tenant's right to possession not been so terminated, payable upon the due dates therefor specified herein following such termination and until the expiration date of this Lease, provided, however, that if Landlord shall re-let the Premises during such period, Landlord shall credit Tenant with the net rents received by Landlord from such re-letting, such net rents to be determined by first deducting from the gross rents as and when received by Landlord from such re-letting the expenses incurred or paid by Landlord in terminating this Lease, and the expenses of re-letting, including, without limitation, altering and preparing the Premises for new tenants, brokers' commissions, legal fees and all other similar and dissimilar expenses properly chargeable against the Premises and the rental therefrom, it being understood that any such reletting may be for a period equal to or shorter or longer than the remaining Lease Term; and provided, further, that (i) in no event shall Tenant be entitled to receive any excess of such net rents over the sums payable by Tenant to Landlord hereunder and (ii) in no event shall Tenant be entitled in any suit for the collection of damages pursuant to this subsection (y) to a credit in respect of any net rents from a re-letting except to the extent that such net rents are actually received by Landlord prior to the commencement of such suit. If the Premises or any part thereof should be re-let in combination with other space, then proper apportionment on a square foot area basis shall be made of the rent received from such re-letting and of the expenses of re-letting. In calculating the Rent and other charges under subsection (x) above, there shall be included, in addition to the Rent other considerations agreed to be paid or performed by Tenant, on the assumption that all such considerations would have remained constant (except as herein otherwise provided) for the balance of the full Term hereby granted. Landlord may, but need not, re-let the Premises or any part thereof for such rent and on such terms as it shall determine (including the right to re-let the Premises for a greater or lesser term than the Lease Term, the right to re-let the Premises as part of a larger area and the right to change the character or use made of the Premises). Suit or suits for the recovery of such damages, or any installments thereof, may be brought by Landlord from time to time at its election, and nothing contained herein shall be deemed to require Landlord to postpone suit until the date when the Term of this Lease would have expired if it had not been terminated hereunder. In lieu of any other damages or indemnity and in lieu of full recovery by Landlord of all sums payable under the foregoing provisions of this Section 14.03 (a), Landlord may, by notice to Tenant, at any time after this Lease shall be terminated under this Article Fourteen or shall be otherwise terminated for breach of any obligation of Tenant and before such full recovery, elect to recover, and Tenant shall thereupon pay, as liquidated damages, an amount equal to the aggregate of the Base Rent and Additional Rent due for the twelve (12) months ended immediately prior to such termination plus the amount of Base Rent and Additional Rent of any kind accrued and unpaid at the time of termination.

14.03 (b) Maintain Tenant's right to possession, in which case this Lease shall continue in effect whether or not Tenant has abandoned the Premises. In such event, Landlord shall be entitled to enforce all of Landlord's rights and remedies under this Lease, including the right to recover the rent as it becomes due.

14.03 (c) Pursue any other remedy now or hereafter available to Landlord under the laws or judicial decisions of the state in which the Property is located.

14.04 Repayment of "Free" Rent . If this Lease provides for a postponement of any Base Rent or Additional Rent, a period of "free" Rent, reduced Rent, early occupancy, or other Rent concession, such postponed Rent, "free" Rent, reduced Rent or other Rent concession shall be referred to herein as the "Abated Rent". Tenant shall be credited with having paid all of the Abated Rent on the expiration of the Lease Term only if Tenant has fully, faithfully, and punctually performed all of Tenant's obligations hereunder, including the payment of all Rent (other than the Abated Rent) and all other monetary obligations and the surrender of the Premises in the physical condition required by this Lease. Tenant acknowledges that its right to receive credit for the Abated Rent is absolutely conditioned upon Tenant's full, faithful and punctual performance of its obligations under this Lease. If an event of default shall occur, the Abated Rent shall immediately become due and payable in full and this Lease shall be enforced as if there were no such Rent abatement or other Rent concession. In such case Abated Rent shall be calculated based on the full initial rent payable under this Lease.

14.05 Automatic Termination; Damages . Notwithstanding any other term or provision hereof to the contrary, this Lease shall terminate on the occurrence of any act which affirms the Landlord's intention to terminate the Lease as provided in Section 14.03 hereof, including the filing of an unlawful detainer action against Tenant. On any termination, Landlord's damages for default shall include all costs and fees, including reasonable attorneys' fees that Landlord shall incur in connection with the filing, commencement, pursuing and/or defending of any action in any bankruptcy court or other court with respect to the Lease, the obtaining of relief from any stay in bankruptcy restraining any action to evict Tenant, or the pursuing of any action with respect to Landlord's right to possession of the Premises. All such damages suffered (apart from Base Rent and other Rent payable hereunder) shall constitute pecuniary damages which shall be reimbursed to Landlord prior to assumption of the Lease by Tenant or any successor to Tenant in any bankruptcy or other proceedings.

14.06 Cumulative Remedies . Except as otherwise expressly provided herein, any and all rights and remedies which Landlord may have under this Lease and at law and equity shall be cumulative and shall not be deemed inconsistent with each other, and any two or more of all such rights and remedies may be exercised at the same time to the greatest extent permitted by law.

ARTICLE FIFTEEN - PROTECTION OF LENDERS

15.01 Subordination . Subject to the finalization of the non-disturbance agreement described below, this Lease shall be subordinate to any ground lease, deed of trust or mortgage encumbering the Property as of the date of this Lease or later placed against the Property or any portion thereof, any advances made on the security thereof and any renewals, modifications, consolidations, replacements or extensions thereof, whenever made or recorded. Landlord shall request from any mortgagee a commercially reasonable non-disturbance agreement in favor of Tenant. Landlord and Tenant shall work together in good faith with such mortgagee to obtain such non-disturbance agreement. Tenant shall cooperate with Landlord and any lender which shall acquire a security interest in the Property or the Lease. Tenant shall execute such further documents and assurances as such lender may require, provided that Tenant's obligations under this Lease shall not be increased in any material way (the performance of ministerial acts shall not be deemed material), and Tenant shall not be deprived of its rights under this Lease. If any ground lessor, beneficiary or mortgagee elects to have this Lease prior to the lien of its ground lease, deed of trust or mortgage and gives written notice thereof to Tenant, this Lease shall be deemed prior to such ground lease, deed of trust or mortgage whether this Lease is dated prior or subsequent to the date of said ground lease, deed of trust or mortgage or the date of recording thereof.

15.02 Attornment . If Landlord's interest in the Property is acquired by any ground lessor, beneficiary under a deed of trust, mortgagee, or purchaser at a foreclosure sale, Tenant shall attorn to the transferee of or successor to Landlord's interest in the Property and recognize such transferee or successor as Landlord under this Lease. Tenant waives the protection of any statute or rule of law which shall give Tenant any right to terminate this Lease or surrender possession of the Premises upon the transfer of Landlord's interest. From and after any such attornment, mortgagee or any such transferee shall not be: (a) liable for any act or omission of any prior landlord (including Landlord); or (b) liable for or incur any obligation with respect to the construction of the Property or any improvements of the Property except as set forth in this lease; or (c) subject to any offsets or defenses which Tenant might have against any prior landlord (including Landlord); or (d) bound by any rent or additional rent which Tenant might have paid more than one month in advance to any prior landlord (including Landlord); or (e) bound by any amendment or modification of the Lease, or any consent to any assignment or sublease, made without the mortgagee's prior written consent if such consent is required under the applicable loan documents; or (f) responsible for the return of any security deposit not actually received by such mortgagee; or (g) liable for any obligation with respect to any breach of warranties or representations made by any prior landlord (including Landlord), or its agents or representatives, of any nature under the lease or otherwise; or (h) liable for consequential damages.

15.03 Signing of Documents . Tenant shall sign and deliver any instrument or documents necessary or appropriate to evidence any such attornment or subordination or agreement to do so.

15.04 Estoppel Certificates . Within ten (10) days after Landlord's request, Tenant shall execute, acknowledge and deliver to Landlord a written statement certifying: (i) that none of the terms or provisions of this Lease have been changed (or if they have been changed, stating how they have been changed); (ii) that this Lease has not been canceled or terminated; (iii) the last date of payment of the Base Rent and other charges and the time period covered by such payment; (iv) that Landlord is not in default under this Lease (or if Landlord is claimed to be in default, setting forth such default in reasonable detail); and (v) such other information with respect to Tenant or this Lease as Landlord may reasonably request or which any prospective purchaser or encumbrancer of the Property may require. Landlord may deliver any such statement by Tenant to any prospective purchaser or encumbrancer of the Property, and such purchaser or encumbrancer may rely conclusively upon such statement as true and correct. If Tenant shall not deliver such statement to Landlord within such ten (10) day period, Landlord, and any prospective purchaser or encumbrancer, may conclusively presume and rely upon the following facts: (i) that the terms and provisions of this Lease have not been changed except as otherwise represented by Landlord; (ii) that this Lease has not been canceled or terminated except as otherwise represented by Landlord; (iii) that not more than one month's Base Rent or other charges have been paid in advance; and (iv) that Landlord is not in default under this Lease. In such event, Tenant shall be estopped from denying the truth of such facts.

15.05 Tenant's Financial Condition . At any time that Tenant is no longer a publicly traded company with publically available financial statements, within ten (10) days after request from Landlord, Tenant shall deliver to Landlord Tenant's audited financial statements for the latest available two (2) fiscal years (the latest year ending no more than six (6) months prior to Landlord's request). Such financial statements shall be delivered to Landlord's mortgagees and lenders and prospective mortgagees, lenders and purchasers. Tenant represents and warrants to Landlord that each such financial statement shall be true and accurate as of the date of such statement. Landlord shall ensure that all such financial statements are treated as confidential and used only for the purposes set forth in this Lease.

ARTICLE SIXTEEN - LEGAL COSTS

16.01 Legal Proceedings . If Tenant be in breach or default of a material obligation under this Lease, Tenant shall reimburse Landlord upon demand for any costs or expenses that Landlord shall incur in connection with any breach or default of Tenant, as provided in this Section. Such costs shall include legal fees and costs incurred for the negotiation of a settlement, enforcement of rights or otherwise.

16.02 Landlord's Consent . Tenant shall pay Landlord's reasonable fees and expenses, including, without limitation, legal, engineering and other consultants' fees and expenses, incurred in connection with Tenant's request for Landlord's consent under Article Thirteen (Assignment and Subletting) or in connection with any other act by Tenant which requires Landlord's consent or approval under this Lease.

ARTICLE SEVENTEEN - MISCELLANEOUS PROVISIONS

17.01 Non-Discrimination . Tenant agrees that it will not permit any discrimination against, or segregation of, any person or group of persons on the basis of race, color, sex, creed, national origin or ancestry in the leasing, subleasing, transferring, occupancy, tenure or use of the Premises or any portion thereof.

17.02 Landlord’s Liability; Certain Duties .

17.02 (a) Bind and Inure; Limitation of Landlord’s Liability . The obligations of this Lease shall run with the land, and this Lease shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. No owner of the Property shall be liable under this Lease except for breaches of Landlord’s obligations occurring while owner of the Property. The obligations of Landlord shall be binding upon the assets of Landlord which comprise the Property but not upon other assets of Landlord. No individual partner, trustee, stockholder, officer, member, director, employee, advisor or beneficiary of Landlord or any partner, trustee, stockholder, officer, member, director, employee, advisor or beneficiary of any of the foregoing, shall be personally liable under this Lease and Tenant shall look solely to Landlord’s interest in the Property in pursuit of its remedies upon an event of default hereunder, and the general assets of Landlord, its partners, trustees, stockholders, members, officers, employees, advisors or beneficiaries, and the partners, trustees, stockholders, members, officers, employees, advisors or beneficiaries of any of the foregoing, shall not be subject to levy, execution or other enforcement procedure for the satisfaction of the remedies of Tenant.

17.02 (b) Notice . Tenant shall give written notice of any failure by Landlord to perform any of its obligations under this Lease to Landlord and to any ground lessor, mortgagee or beneficiary under any deed of trust encumbering the Property whose name and address shall have been furnished to Tenant. Landlord shall not be in default under this Lease unless Landlord (or such ground lessor, mortgagee or beneficiary) shall fail to cure such non-performance within thirty (30) days after receipt of Tenant’s notice. However, if such non-performance shall reasonably require more than thirty (30) days to cure, Landlord shall not be in default if such cure shall be commenced within such thirty (30) day period and thereafter diligently pursued to completion. Tenant acknowledges that it has been advised, that as of the date hereof, the mortgagee is as referenced in Article One – Basic Terms.

17.03 Severability . A determination by a court of competent jurisdiction that any provision of this Lease or any part thereof is illegal or unenforceable shall not cancel or invalidate the remainder of such provision of this Lease, which shall remain in full force and effect.

17.04 Interpretation . The captions of the Articles or Sections of this Lease are not a part of the terms or provisions of this Lease. Whenever required by the context of this Lease, the singular shall include the plural and the plural shall include the singular. The masculine, feminine and neuter genders shall each include the other, in any provision relating to the conduct, acts or omissions of Tenant, the term “Tenant” shall include Tenant’s agents, employees, contractors, invitees, successors or others using the Premises with Tenant’s expressed or implied permission. This Lease shall not, and nothing contained herein, shall create a partnership or other joint venture between Landlord and Tenant.

17.05 Incorporation of Prior Agreements; Modifications . This Lease is the only agreement between the parties pertaining to the lease of the Premises and no other agreements shall be effective. All amendments to this Lease shall be in writing and signed by all parties. Any other attempted amendment shall be void.

17.06 Notices . All notices, requests and other communications required or permitted under this Lease shall be in writing and shall be personally delivered or sent by facsimile with confirmation of delivery and a hard copy to follow by mail or by certified mail, return receipt requested, postage prepaid or by a national overnight delivery service which maintains delivery records. Notices to Tenant shall be delivered to Tenant’s Address for Notices. Notices to Landlord shall be delivered to Landlord’s Address for Notices. All notices shall be effective upon delivery (or refusal to accept delivery). Either party may change its notice address upon written notice to the other party.

17.07 Waivers . All waivers shall be in writing and signed by the waiving party. Landlord's failure to enforce any provision of this Lease or its acceptance of Rent shall not be a waiver and shall not prevent Landlord from enforcing that provision or any other provision of this Lease in the future. No statement on a payment check from Tenant or in a letter accompanying a payment check shall be binding on Landlord. Landlord may, with or without notice to Tenant, negotiate such check without being bound by to the conditions of such statement.

17.08 No Recordation . Tenant shall not record this Lease. Either Landlord or Tenant may require that a notice, short form or memorandum of this Lease executed by both parties be recorded. The party requiring such recording shall pay all transfer taxes and recording fees.

17.09 Binding Effect; Choice of Law . This Lease shall bind any party who shall legally acquire any rights or interest in this Lease from Landlord or Tenant, provided that Landlord shall have no obligation to Tenant's successor unless the rights or interests of Tenant's successor are acquired in accordance with the terms of this Lease. The laws of the state in which the Property is located shall govern this Lease.

17.10 Corporate Authority; Partnership Authority . If Tenant is a corporation, each person signing this Lease on behalf of Tenant represents and warrants that (s)he has full authority to do so and that this Lease binds the corporation. Within thirty (30) days after this Lease is signed, Tenant shall deliver to Landlord a certified copy of a resolution of Tenant's Board of Directors authorizing the execution of this Lease or other evidence of such authority reasonably acceptable to Landlord. If Tenant is a partnership or limited liability company, each person or entity signing this Lease for Tenant represents and warrants that he or it is a general partner of the partnership or a manager or managing member of the company, that he or it has full authority to sign for the partnership or the company and that this Lease binds the partnership or company and all general partners of the partnership or the company and its members. Within thirty (30) days after this Lease is signed, Tenant shall deliver to Landlord a copy of Tenant's recorded statement of partnership or certificate of limited partnership or certificate of formation or organization.

17.11 Joint and Several Liability . All parties signing this Lease as Tenant shall be jointly and severally liable for all obligations of Tenant.

17.12 Force Majeure . If Landlord cannot perform any of its obligations due to events beyond Landlord's reasonable control, the time provided for performing such obligations shall be extended by a period of time equal to the duration of such events. Events beyond Landlord's reasonable control include, but are not limited to, acts of God, war, civil commotion, labor disputes, strikes, fire, flood or other casualty, shortages of labor or material, government regulation or restriction and weather conditions.

17.13 Execution of Lease . This Lease may be executed in counterparts and, when all counterpart documents are executed, the counterparts shall constitute a single binding instrument. Landlord's delivery of this Lease to Tenant shall not be deemed to be an offer to lease and shall not be binding upon either party until executed and delivered by both parties.

17.14 Survival . All representations and warranties of Landlord and Tenant, and all obligation of Tenant to pay Additional Rent hereunder, shall survive the termination of this Lease.

17.15 Examination of Lease . Submission of this Lease to Tenant shall not constitute an option to lease, and this Lease shall not be effective until execution and delivery by both Landlord and Tenant.

17.16 Security Deposit .

17.16 (a) Upon the execution of this Lease, Tenant shall deposit with Landlord the Security Deposit. Landlord may, at its option, apply all or part of the Security Deposit to any unpaid Rent or other charges due from Tenant, cure any other defaults of Tenant, or compensate Landlord for any loss or damage which Landlord may suffer due to Tenant's default. If Landlord shall so use any part of the Security Deposit, Tenant shall restore the Security Deposit to its full amount within ten (10) days after Landlord's request. No interest shall be paid on the Security Deposit, no trust relationship is created herein between Landlord and Tenant with respect to the Security Deposit, and the Security Deposit may be commingled with other funds of Landlord. Upon expiration or termination of this Lease not resulting from Tenant's default and after Tenant shall have vacated the Premises in the manner required by this Lease, Landlord shall pay to Tenant any balance of the Security Deposit not applied pursuant to this Section 17.16.

17.16 (b) Notwithstanding Section 17.16(a), Tenant shall not be required to deposit the Security Deposit with Landlord so long as Tenant is the publicly traded company traded on the New York Stock Exchange ("NYSE") under the ticker symbol "ASPN." If at any point during the Lease Term Tenant ceases to be publicly traded on the NYSE under the ticker symbol "ASPN," then Tenant shall promptly deposit the Security Deposit with Landlord, in an amount equal to four (4) months' then current Monthly Base Rent, and such Security Deposit shall thereafter be held by Landlord in accordance with the terms of Section 17.16(a) hereof.

17.16 (c) In the event that Tenant is required to deposit the Security Deposit with Landlord pursuant to Section 17.16(b) hereof, the Security Deposit may be, at Tenant's option, in the form of a letter of credit consistent with the terms of this Section 17.16(c). Upon occurrence of an Event of Default under this Lease, Landlord, in addition to all other rights and remedies provided under the Lease, shall have the right to draw down the full balance of the letter of credit, retain the proceeds and/or apply said proceeds as provided in Section 17.16(a). The following terms and conditions shall govern the letter of credit:

(i) Provided that Tenant is not then in default, the amount of the letter of credit may be reduced (or a replacement letter of credit may be issued in such lesser amount) as follows:

(A) The letter of credit amount may be reduced to three (3) months' then current Base Rent when Tenant has achieved $10,000,000 in revenue and a 10% net operating margin, and has sustained same for a twelve (12) consecutive month period.

(B) The letter of credit amount may be reduced to one (1) months' then current Base Rent when Tenant has achieved $50,000,000 in revenue and a 10% net operating margin, and has sustained same for a twelve (12) consecutive month period.

(C) If Tenant requests a reduction in the letter of credit amount per the foregoing, it must present audited financial statements confirming that the above requirements have been satisfied.

(ii) The letter of credit shall be in favor of Landlord, shall be issued by a commercial bank reasonably acceptable to Landlord having a Standard & Poors rating of "A" or better, shall comply with all of the terms and conditions of this Section 17.16(c) and shall otherwise be in form reasonably acceptable to Landlord. The initial letter of credit shall have an expiration date not earlier than eighteen (18) months after the date of issuance of such letter of credit.

(iii) The letter of credit or any replacement letter of credit shall be irrevocable for the term thereof and shall automatically renew on a year to year basis until a period ending not earlier than three (3) months after the expiration date of the Lease Term ("End Date") without any action whatsoever on the part of Landlord; provided that the issuing bank shall have the right not to renew the letter of credit by giving written notice to Landlord not less than sixty (60) days prior to the expiration of the then current term of the letter of credit that it does not intend to renew the letter of credit. Tenant understands that the election by the issuing bank not to renew the letter of credit shall not, in any event, diminish the obligation of Tenant to maintain such an irrevocable letter of credit in favor of Landlord through such date.

(iv) Landlord, or its then managing agent, shall have the right from time to time to make one or more draws on the letter of credit at any time that an Event of Default has occurred. Funds may be drawn down on the letter of credit upon presentation to the issuing bank of Landlord's (or Landlord's then managing agent's) certificate stating as follows:

> "The Landlord is entitled to draw on this Credit pursuant to that certain Lease dated for reference , 2016, between CABOT II – MA1M03, LLC, Landlord, and ASPEN AEROGELS, INC., Tenant, as amended from time to time."

(v) It is understood that if Landlord or its managing agent be a corporation, partnership or other entity, then such statement shall be signed by an officer (if a corporation), a general partner (if a partnership), or any authorized party (if another entity). Tenant acknowledges and agrees (and the letter of credit shall so state) that the letter of credit shall be honored by the issuing bank without inquiry as to the truth of the statements set forth in such draw request and regardless of whether the Tenant disputes the content of such statement.

(vi) In the event of a transfer of Landlord's interest in the Premises, Landlord shall have the right to transfer the letter of credit to the transferee and thereupon the Landlord shall, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of said letter of credit to a new landlord. The letter of credit must specifically provide that it is transferable by Landlord.

(vii) Without limiting the generality of the foregoing, if the letter of credit expires earlier than the End Date, or the issuing bank notifies Landlord that it shall not renew the letter of credit, Landlord shall accept a renewal thereof or substitute letter credit (such renewal or substitute letter of credit to be in effect not later than thirty (30) days prior to the expiration thereof), irrevocable and automatically renewable as above provided to the End Date upon the same terms as the expiring letter of credit or upon such other terms as may be acceptable to Landlord. However, if (i) the letter of credit is not timely renewed, or (ii) a substitute letter of credit, complying with all of the terms and conditions of this Section 17.16(c) is not timely received, Landlord may present such letter of credit to the issuing bank, and the entire sum so obtained shall be paid to Landlord, to be held by Landlord until Tenant would otherwise be entitled to the return of the letter of credit and to be retained as a Security Deposit under Section 17.16(a). So long as no Event of Default occurs, the amount so retained by Landlord will be reduced as set forth in Section 17.16(c)(i) above, with the final balance to be released when Tenant is entitled to the return of its Security Deposit.

17.17 Limitation of Warranties . Landlord and Tenant expressly agree that there are and shall be no implied warranties of merchantability, habitability, suitability, fitness for a particular purpose or of any other kind arising out of this Lease, and there are no warranties which extend beyond those expressly set forth in this Lease. Without limiting the generality of the foregoing, Tenant expressly acknowledges that Landlord has made no warranties or representations concerning any hazardous materials or other environmental matters affecting any part of the Property and Landlord hereby expressly disclaims and Tenant waives any express or implied warranties with respect to any such matters.

17.18 No Other Brokers . Tenant represents and warrants to Landlord that the Brokers are the only agents, brokers, finders or other parties with whom Tenant has dealt who may be entitled to any commission or fee with respect to this Lease or the Premises or the Property. Tenant agrees to indemnify and hold Landlord harmless from any claim, demand, cost or liability, including, without limitation, attorneys' fees and expenses, asserted by any party other than the Brokers based upon dealings of that party with Tenant. The Brokers will be compensated in accordance with the terms of a separate agreement.

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IN WITNESS WHEREOF, the undersigned Landlord and Tenant have caused this Lease to be duly executed by their duly authorized representatives as of the date first above written.

LANDLORD:

CABOT II – MA1M03, LLC

By: Cabot II Secured Pool I, LLC
a Delaware limited liability company,
its sole member

By: Cabot Industrial Value Fund II Operating
Partnership, L.P.,
a Delaware limited partnership,
its sole member

By: /s/ Neil S. Raymond Jr
Name: Neil S. Raymond Jr
Title: Vice President, Asset Management

TENANT:

ASPEN AEROGELS, INC.

By: /s/ Donald R. Young
Name: Donald R. Young
Title: President, Chief Executive Officer

EXHIBIT A - THE PROPERTY

Lot 325B – 30 Forbes Road :

Being the parcel numbered 30 Forbes Road located on the westerly side of Forbes Road, and the southerly side of Lot 322A, as said Lot 325B is shown on a plan dated March 17, 1984, entitled "Plan of Land in Northborough, Mass. Hi Tech Realty Limited Partnership" drawn by MacCarthy & Sullivan Engineering Inc. recorded in Plan Book 526, as Plan 81 (the "Hi-Tech Plan"). Also being shown on a plan dated January 29, 1982 and recorded in Plan Book 495, as Plan 29.

EXHIBIT B - THE PREMISES

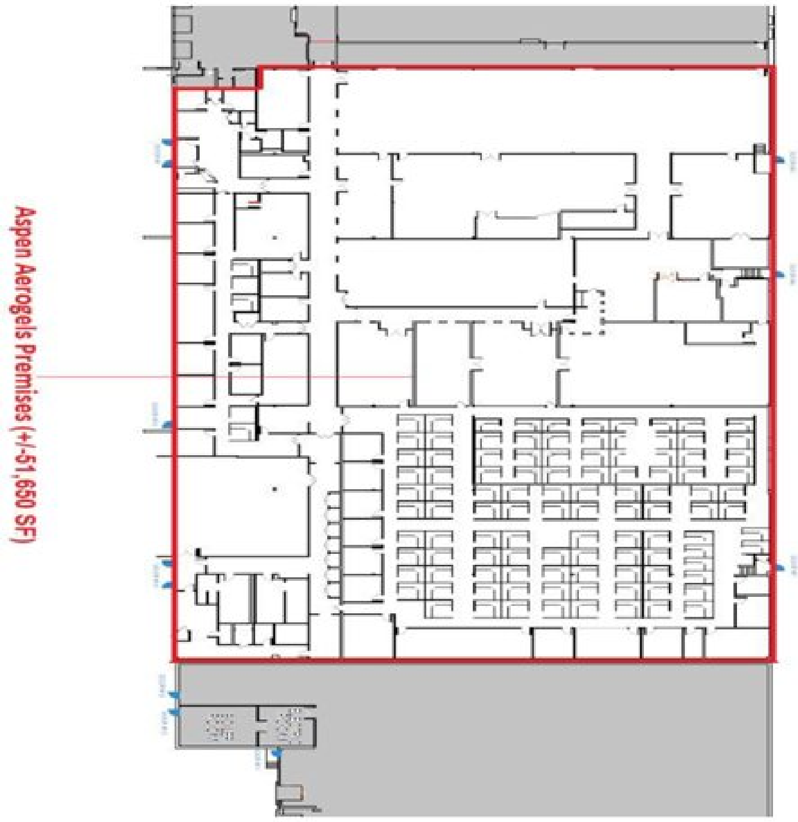

EXHIBIT C - RULES AND REGULATIONS

1. No advertisements, pictures or signs of any sort shall be displayed outside the Premises without the prior written consent of Landlord. Landlord shall have the right to remove any such unapproved item without notice and at Tenant's expense.

2. All window coverings and window films or coatings installed by Tenant and visible from outside of the building require the prior written approval of Landlord. Except for dock shelters and seals as may be expressly permitted by Landlord, no awnings or other projections shall be attached to the outside walls of the building.

3. Tenant shall not use, keep or permit to be used or kept any foul or noxious gas or substance on, in or around the Premises unless approved by Landlord. Tenant shall not use, keep or permit to be used or kept any flammable or combustible materials without proper governmental permits and approvals.

4. Tenant shall not use, keep or permit to be used or kept food or other edible materials in or around the Premises in such a manner as to attract rodents, vermin or other pests. Tenant shall not permit cooking in or about the Premises other than in microwave ovens.

5. Tenant shall not use or permit the use of the Premises for lodging or sleeping, for public assembly, or for any illegal or immoral purpose.

6. Tenant shall not use the general parking or loading areas for the purposes of cleaning or maintaining motor vehicles.

7. Tenant shall park motor vehicles only in those general parking areas as designated by Landlord except for active loading and unloading. Tenant shall not unreasonably interfere with traffic flow within the business park, public streets or loading areas of other tenants.

8. Storage of propane tanks, whether interior or exterior, shall be in secure and protected storage enclosures approved by the local fire department and, if exterior, shall be located in areas specifically designated by Landlord. Safety equipment, including eye wash stations and approved neutralizing agents, shall be provided in areas used for the maintenance and charging of lead-acid batteries. Tenant shall protect electrical panels and building mechanical equipment from damage from forklift trucks.

9. Tenant shall not disturb, solicit or canvas any occupant of the Property or business park and shall cooperate to prevent same.

10. Except for service and maintenance of Tenant's equipment, no person shall go on the roof of the Property without Landlord's permission.

11. No animals (other than fish and seeing-eye dogs) or birds of any kind may be brought into or kept in or about the Premises.

12. Machinery, equipment and apparatus belonging to Tenant which cause noise or vibration that may be transmitted to the structure of the building of which the Premises are a part to such a degree as to be objectionable to Landlord or other tenants or to cause harm to the building shall be placed and maintained by Tenant, at Tenant's expense, on vibration eliminators or other devices sufficient to eliminate the transmission of such noise and vibration. Tenant shall cease using any such machinery which causes objectionable noise and vibration which cannot be sufficiently mitigated.

13. All goods, including material used to store goods, delivered to the Premises of Tenant shall be immediately moved into the Premises and shall not be left in parking or exterior loading areas overnight.

14. Tractor trailers must be parked in a way to prevent damage to the asphalt paving surfaces. No parking or storing of such trailers will be permitted in the auto parking areas of the business park, on streets adjacent thereto or loading areas of other tenants.

15. Forklifts which operate on asphalt paving areas shall not have solid rubber tires and shall use only tires that do not damage the asphalt.

16. Tenant shall be responsible for the safe storage and removal of all pallets. Pallets shall not be stored outside the Premises unless it's behind screened enclosures at locations approved by the Landlord.

17. Tenant shall be responsible for the storage and removal of all trash and refuse. All such trash and refuse shall be contained in suitable receptacles stored behind screened enclosures at locations approved by Landlord. Landlord reserves the right to remove, at Tenant's expense and without further notice, any trash or refuse left elsewhere outside of the Premises or in the industrial park.

18. Tenant shall not store or permit the storage or placement of goods or merchandise in or around the common areas surrounding the Premises. No displays or sales of merchandise shall be allowed in the parking lots or other common areas.

19. Tenant shall appoint an Emergency Coordinator who shall be responsible for assuring notification of the local fire department in the event of an emergency. If fire safety or sprinkler equipment is located within the Premises, Tenant shall not store or permit the storage or placement of goods or merchandise in or around fire safety or sprinkler equipment.

NSR Landlord

DRY Tenant

EXHIBIT D – HAZARDOUS MATERIALS

Chemicals	(gallons)
Tetraethylorthosilicate (or partially hydrolyzed oligomers thereof) or similar	5,000
Waterglass (NA Silicate)	8,500
Ethanol, Denatured ethanol or similar	17,300
NH4OH conc. (ammonia)	55
Alcoblak 300A or similar	110
2-propanol or similar	2,500
THF, Hexane or similar	250
Methyltriethoxysilane, PDMS or similar	500
HCL	960
Hexamethyldisilazane (HMDS), Hexamethyldisiloxane (HMDSO) or similar	500
Carbon Dioxide	4 metric tons

Also Various Standard Laboratory Chemicals

Alcohols	Standard Lab Quantities
Acids	Standard Lab Quantities
Chemicals	Standard Lab Quantities
Bases	Standard Lab Quantities
Alkoxides	Standard Lab Quantities
Chlorides	Standard Lab Quantities
Silanes	Standard Lab Quantities
Compressed gases (e.g. nitrogen, oxygen, air etc.)	Standard Lab Quantities

Note: All materials and the quantities thereof are subject to Tenant’s obtaining any required federal, state and/or local approvals and compliance with all applicable statutes, regulations, codes and ordinances.

EXHIBIT E - SUMMARY OF INSURANCE REQUIREMENTS

(For summary information purposes only. The applicable provisions of this Lease shall be controlling as to specific obligations.)

Location:		
Street, Suite #:	30 Forbes Road	
City, State, Zip Code:	Northborough, MA 01532	
Certificate Holder:		
	Cabot II – MA1M03, LLC c/o EBIX BPO PO Box 12012-21 Helmet, CA 92546-8010	
Additional Insureds:		
	Cabot II – MA1M03, LLC Cabot Industrial Value Fund II Operating Partnership, L.P. Cabot Properties, Inc.	***Landlord Entity***
	CB Richard Ellis – NE Partners	***Property Manager***
	Wells Fargo Banks, N.A.	***Mortgagee***
Coverage:	**$ Limits**	
Commercial General Liability	$1,000,000 each occurrence $2,000,000 annual aggregate	
Worker's Compensation Insurance	Statutory Amount	
Employers' Liability Insurance	$500,000 each accident/ $500,000 each employee – disease/ $500,000 policy limit - disease	
Automobile Liability Insurance	$1,000,000 combined single limit	
Umbrella Liability Insurance	$5,000,000 each occurrence/ $5,000,000 annual aggregate excess of General Liability, Employer's Liability & Automobile Liability	
Personal Property Insurance	100% of Replacement Cost; Coverage extends to additions, improvements & alterations	
Business Interruption Insurance	1 year of net profit plus fixed expenses	
Notice of Cancellation	30 Days	
Tenant Contact for Insurance Matters:	(After Lease Commencement Date)	
Street		
City, State, Zip Code		
Attn:		
Tel. No.		

EXHIBIT F – HVAC UNITS THAT TENANT HAS RESPONSIBILITY TO REPAIR

Tenant is responsible for the HVAC units associated with the Premises (i.e. Building B)

Exhibit 10.5

ASPEN AEROGELS, INC.

NON-EMPLOYEE DIRECTOR COMPENSATION POLICY*

The Board of Directors of Aspen Aerogels, Inc. (the " Company ") has approved the following Non-Employee Director Compensation Policy (this " Policy ") which establishes compensation to be paid to non-employee directors of the Company to provide an inducement to obtain and retain the services of qualified persons to serve as members of the Company's Board of Directors.

Applicable Persons

This Policy shall apply to each director of the Company who is not an employee of, or consultant to, the Company or any Affiliate (each, an " Outside Director "). " Affiliate " shall mean a corporation which is a direct or indirect parent or subsidiary of the Company, as determined pursuant to Section 424 of the Internal Revenue Code of 1986, as amended.

Equity Grants

All equity grant amounts set forth herein shall be subject to automatic adjustment in the event of any stock split or other recapitalization affecting the Company's common stock.

Annual Restricted Stock Grants

Commencing in calendar year 2015, each Outside Director shall be granted (i) restricted shares of the Company's common stock (the " Annual Stock Grant ") equal in value to $51,000 under the Company's 2014 Employee, Director and Consultant Equity Incentive Plan or such plan in effect on the date of grant (the " Stock Plan ") and (ii) stock options to purchase shares of the Company's common stock (the " Annual Option Grant ," and together with the Annual Stock Grant, the " Annual Equity Grant ") equal in value to $34,000 under the Stock Plan each year on or about the time of the annual meeting of the Board of Directors following the Company's annual meeting of stockholders; provided that if there has been no annual meeting of stockholders held by the first day of the third fiscal quarter, each Outside Director will still receive any Annual Equity Grant provided for under this Policy on the first day of the third fiscal quarter of such year. The number of shares of common stock to be granted to each Outside Director as his or her Annual Stock Grant shall be calculated using the fair market value of the Company's common stock as of the grant date, which shall be deemed to be the closing price on such date of the Company's common stock on a national securities exchange. The number of shares of common stock subject to the Annual Option Grant to be granted to each Outside Director as his or her Annual Option Grant shall be calculated using the fair value of the dollar

* This revised Non-Employee Director Compensation Policy replaces and supersedes the Company's prior Non-Employee Director Compensation Policy, and became effective on June 17, 2015 and was ratified by the Board of Directors on August 3, 2016.

amount of the Annual Option Grant computed in accordance with FASB ASC Topic 718. For any new Outside Director joining the Board of Directors after the date of the Annual Equity Grant, such new Outside Director shall receive equity grants on the first day of his or her service on the Board of Directors equal to the pro rata share of that year's (i) Annual Stock Grant calculated by multiplying the number of days of such year that the such new director will serve by the quotient of $51,000 divided by 365 and (ii) Annual Option Grant calculated by multiplying the number of days of such year that the such new director will serve by the quotient of $34,000 divided by 365 and in each case calculating the number of shares using the methodology set forth above for Annual Equity Grants but calculated using the closing stock price and other values on such new Outside Director's first day of service on the Board of Directors.

Terms for All Equity Awards

Unless otherwise specified by the Board of Directors or the Compensation and Leadership Development Committee (the " Compensation Committee ") at the time of grant, all equity awards granted under this Policy shall (i) vest on the earlier of (a) one year from the date of the grant with respect to an Annual Equity Grant or (b) the day prior to the annual meeting for the fiscal year following the date of grant, subject to the Outside Director's continued service on the Board of Directors, (ii) each stock option shall terminate ten years from the date of grant of such stock option, and (iii) each equity award shall be granted under the Company's standard form of agreement unless on or prior to the date of grant the Board of Directors or the Compensation Committee shall determine that other terms or conditions shall be applicable prior to the grant of such equity award.

Such restricted stock and stock options shall become fully vested immediately prior to a Change of Control. "Change of Control" means the occurrence of any of the following events: (i)Any "Person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the " Exchange Act ")) becomes the "Beneficial Owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing 50% or more of the total voting power represented by the Company's then outstanding voting securities (excluding for this purpose any such voting securities held by the Company or its affiliates or by any employee benefit plan of the Company) pursuant to a transaction or a series of related transactions; or (ii)(a) a merger or consolidation of the Company whether or not approved by the Board of Directors, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or the parent of such corporation) more than 50% of the total voting power represented by the voting securities of the Company or such surviving entity or parent of such corporation, as the case may be, outstanding immediately after such merger or consolidation; or (b) the sale or disposition by the Company of all or substantially all of the Company's assets in a transaction requiring stockholder approval.

Cash Fees

Annual Cash Payments

The following annual cash fees shall be paid to the Outside Directors serving on the Board of Directors and the Audit Committee, Compensation Committee and Nominating and Governance Committee, as applicable.

Board of Directors or Committee of Board of Directors	Annual Retainer Amount for Chair *(in lieu of the annual retainer amount for a member)*	Annual Retainer Amount for Member
Board of Directors	$ 65,000	$ 35,000
Audit Committee	$ 15,000	$ 7,500
Compensation Committee	$ 10,000	$ 5,000
Nominating and Governance Committee	$ 8,000	$ 4,000

If the Company holds more than 12 board meetings in a calendar year, each Outside Director will receive a fee of $1,500 for each additional board meeting attended in person and a fee of $1,000 for each additional board meeting attended by telephone or by other means of communication. If the Company holds more than 12 meetings of the Audit Committee in a calendar year, each member of such committee will receive a fee of $1,500 for each additional committee meeting attended in person and a fee of $1,000 for each additional committee meeting attended by telephone or by other means of communication. If the Company holds more than 8 meetings of either of the Compensation Committee or the Nominating and Governance Committee in a calendar year, each member of such committee will receive a fee of $1,500 for each additional committee meeting attended in person and a fee of $1,000 for each additional committee meeting attended by telephone or by other means of communication.

Payment Terms for All Cash Fees

Cash payments payable to Outside Directors shall be paid quarterly in arrears as of the last day of each fiscal quarter.

Following an Outside Director's first election or appointment to the Board of Directors, such Outside Director shall receive his or her cash compensation pro rated beginning on the date he or she was initially appointed or elected. If an Outside Director dies, resigns or is removed during any quarter, he or she shall be entitled to a cash payment on a pro rated basis through his or her last day of service.

Expenses

Upon presentation of documentation of such expenses reasonably satisfactory to the Company, each Outside Director shall be reimbursed for his or her reasonable out-of-pocket business expenses incurred in connection with attending meetings of the Board of Directors and Committees thereof or in connection with other business related to the Board of Directors.

Amendments

The Nominating and Governance Committee or the Board of Directors shall review this Policy from time to time to assess whether any amendments in the type and amount of compensation provided herein should be adjusted in order to fulfill the objectives of this Policy.

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Donald R. Young, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aspen Aerogels, 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(s) 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(s) 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/ Donald R. Young

Donald R. Young
President and Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, John F. Fairbanks, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aspen Aerogels, 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(s) 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(s) 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/ John F. Fairbanks

John F. Fairbanks
Vice President, Chief Financial Officer and Treasurer (principal financial officer and principal accounting officer)

Exhibit 32

CERTIFICATIONS UNDER SECTION 906

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Aspen Aerogels, Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 5, 2016	/s/ Donald R. Young
	Donald R. Young President and Chief Executive Officer (principal executive officer)
Dated: August 5, 2016	/s/ John F. Fairbanks
	John F. Fairbanks Vice President, Chief Financial Officer and Treasurer (principal financial officer and principal accounting officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.