SPIRE Corp
Form 10-Q
November 13, 2014

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

FORM 10-Q

R Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the quarterly period ended September 30, 2014; 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: 0-12742

Spire Corporation
(Exact name of registrant as specified in its charter)

Massachusetts (State or other jurisdiction of incorporation or organization)	04-2457335 (I.R.S. Employer Identification Number)
One Patriots Park, Bedford, Massachusetts (Address of principal executive offices)	01730-2396 (Zip Code)

781-275-6000
(Registrant's telephone number including area code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports); and (2) has been subject to such filing requirements for the past 90 days. Yes R 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 R 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 definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer £	Accelerated filer £	Non-accelerated filer £	Smaller reporting company R

(Do not check if a smaller reporting company)

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

The number of shares of the registrant's common stock outstanding as of November 5, 2014 was 9,207,874.

TABLE OF CONTENTS

PART I. FINANCIAL INFORMATION

Item 1. Unaudited Condensed Consolidated Financial Statements

SPIRE CORPORATION AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share amounts)

	September 30, 2014	December 31, 2013
Assets		
Current assets		
Cash and cash equivalents	$722	$3,986
Restricted cash	188	170
Available-for-sale investments, at quoted market value (cost of zero and $3,142 at September 30, 2014 and December 31, 2013, respectively)	—	3,535
Accounts receivable – trade, net	1,697	1,414
Inventories, net	4,917	3,816
Deferred cost of goods sold	305	849
Deposits on equipment for inventory	247	—
Prepaid expenses and other current assets	506	926
Total current assets	8,582	14,696
Property and equipment, net	780	941
Intangible and other assets, net	371	432
Total assets	$9,733	$16,069
Liabilities and Stockholders' Deficit		
Current liabilities		
Current portion of capital lease obligation	$—	$8
Revolving lines of credit	—	583
Current portion of term loan	779	753
Accounts payable	5,095	2,323
Accrued liabilities	2,117	2,357
Advances on contracts in progress	2,301	1,433
Deferred compensation	—	3,535
Total current liabilities	10,292	10,992
Long-term portion of term loan	4,476	5,064
Other long-term liabilities	837	726
Total long-term liabilities	5,313	5,790
Total liabilities	15,605	16,782
Stockholders' deficit		
Common stock, $0.01 par value; 20,000,000 shares authorized; 9,207,874 shares issued and outstanding on September 30, 2014 and December 31, 2013	93	93
Additional paid-in capital	23,306	23,267
Accumulated deficit	(30,357)	(24,422)
Accumulated other comprehensive income	—	393
Total Spire Corporation stockholders' deficit	(6,958)	(669)
Noncontrolling interest	1,086	(44)
Total stockholders' deficit	(5,872)	(713)

Total liabilities and stockholders' deficit	$9,733	$16,069

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

SPIRE CORPORATION AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Net sales and revenues				
Sales of goods	$1,440	$1,776	$4,479	$4,213
Contract research and service revenues	2,301	2,378	7,193	6,753
Total net sales and revenues	3,741	4,154	11,672	10,966
Cost of sales and revenues				
Cost of goods sold	1,418	1,868	5,262	5,561
Cost of contract research and services	1,002	1,101	3,888	3,482
Total cost of sales and revenues	2,420	2,969	9,150	9,043
Gross margin	1,321	1,185	2,522	1,923
Operating expenses				
Selling, general and administrative expenses	2,197	3,381	7,003	8,466
Internal research and development expenses	5	15	32	38
Total operating expenses	2,202	3,396	7,035	8,504
Loss from operations	(881)	(2,211)	(4,513)	(6,581)
Interest expense, net	(67)	(20)	(212)	(49)
Foreign exchange gain (loss)	2	—	—	(9)
Total other expense, net	(65)	(20)	(212)	(58)
Loss from operations before income tax provision	(946)	(2,231)	(4,725)	(6,639)
Income tax provision	—	(1)	(2)	(3)
Net loss	(946)	(2,232)	(4,727)	(6,642)
Less: Net income (loss) attributable to noncontrolling interest	430	(187)	1,208	(187)
Net loss attributable to common stockholders	$(1,376)	$(2,045)	$(5,935)	$(6,455)
Basic and diluted loss per share	$(0.15)	$(0.22)	$(0.64)	$(0.70)
Weighted average number of common and common equivalent shares outstanding – basic and diluted	9,207,874	9,207,874	9,207,874	9,165,844

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

SPIRE CORPORATION AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Three Months Ended September 30, 2014	Three Months Ended September 30, 2013	Nine Months Ended September 30, 2014	Nine Months Ended September 30, 2013
Comprehensive loss:				
Net loss	(946)	(2,232)	(4,727)	(6,642)
Other comprehensive income:				
Change in fair value of available for sale marketable securities, net of tax	—	(2)	(393)	105
Total comprehensive loss	(946)	(2,234)	(5,120)	(6,537)
Less: Comprehensive income (loss) attributable to noncontrolling interests	430	(187)	1,208	(187)
Comprehensive loss attributable to common stockholders	$(1,376)	$(2,047)	$(6,328)	$(6,350)

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

SPIRE CORPORATION AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Nine Months Ended September 30,	
	2014	2013
Cash flows from operating activities:		
Net loss	$(4,727)	$(6,642)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	375	364
Deferred compensation	(393)	105
Proceeds from the sale of available-for-sale investments	3,931	—
Payment of deferred compensation	(3,931)	—
Share-based compensation	39	88
Provision for accounts receivable reserve	32	18
Provision for inventory reserve	5	191
Changes in assets and liabilities:		
Restricted cash	(18)	(170)
Accounts receivable	(315)	756
Inventories	(1,106)	469
Deferred cost of goods sold	544	93
Deposits, prepaid expenses and other current assets	173	(250)
Accounts payable, accrued liabilities and other liabilities	2,643	1,417
Advances on contracts in progress	868	9
Net cash used in operating activities of continuing operations	(1,880)	(3,552)
Net cash used in operating activities of discontinued operations	—	(150)
Net cash used in operating activities	(1,880)	(3,702)
Cash flows from investing activities:		
Purchase of property and equipment	(121)	(86)
Additions to intangible and other assets	(32)	(44)
Net cash used in investing activities of continuing operations	(153)	(130)
Net cash provided by investing activities of discontinued operations	—	718
Net cash (used in) provided by investing activities	(153)	588
Cash flows from financing activities:		
Principal payments on capital lease obligations	(8)	(10)
Principal borrowings on term loan	—	6,000
Principal payments on term loan	(562)	—
Net payments on revolving lines of credit	(583)	(9)
Member distributions	(78)	—
Net cash (used in) provided by financing activities	(1,231)	5,981
Net (decrease) increase in cash and cash equivalents	(3,264)	2,867
Cash and cash equivalents, beginning of period	3,986	3,030
Cash and cash equivalents, end of period	$722	$5,897

Supplemental disclosures of cash flow information:

Interest paid	$212	$49
Income taxes paid	$5	$1
Supplemental disclosures of non-cash flow information:		
Liabilities settled with common stock	$—	$84
Deemed dividend	$—	$9,540

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

SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

September 30, 2014 and 2013

1. Description of the Business

Spire Corporation ("Spire" or the "Company") and its subsidiaries along with its variable interest entity develop, manufacture and market highly-engineered products and services in two principal business areas: (i) capital equipment for the photovoltaic solar industry and (ii) biomedical, through its variable interest entity, N2 Biomedical LLC ("N2 Bio"), generally bringing to bear expertise in materials technologies, surface science and thin films across both business areas, discussed below. See "Recent Developments" below.

In the photovoltaic solar area, the Company develops, manufactures and markets specialized equipment for the production of terrestrial photovoltaic modules from solar cells. The Company's equipment has been installed in approximately 200 factories in 50 countries. The equipment market is very competitive with major competitors located in the U.S., Japan and Europe. The Company's flagship product is its Spi-Sun simulator which tests module performance. The Company's other product offerings include turn-key module lines and to a lesser extent other individual equipment. To compete the Company offers other services such as training and assistance with module certification. The Company also provides turn-key services to its customers to backward integrate to solar cell manufacturing.

In the biomedical area, through its variable interest entity, N2 Bio, the Company provides value-added surface treatments to manufacturers of orthopedic and other medical devices that enhance the durability, antimicrobial characteristics or other material characteristics of their products; and performs sponsored research programs into practical applications of advanced biomedical technologies. See "Recent Developments" below.

Recent Developments

As previously disclosed, in September 2013, the Company sold its biomedical business (the “Bio Business Unit”) to N2 Bio. The purchase price for the Bio Business Unit was $10.5 million plus the assumption of liabilities of approximately $100 thousand, with $6.0 million paid in cash at closing, a $2.4 million subordinated convertible promissory note (the “N2 Note”), and 310,549 Series A Preferred Units of N2 (the “N2 Units”) valued at approximately $2.1 million. See Note 13 to the unaudited condensed consolidated financial statements.

On October 10, 2014, in order to increase working capital, eliminate significant unpaid rent obligations and substantially reduce future rent obligations, the Company entered into a series of agreements with Roger G. Little, Chairman of the Board of Directors of the Company, and SPI-Trust, a trust of which Mr. Little is the sole trustee and principal beneficiary (the “Transactions”). SPI-Trust is the owner of the building in Bedford, MA in which the Company leases its space. Under the lease prior to the amendment discussed below (the “Bedford Lease”), the Company leased 117 thousand square feet of space at a rate of $16.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building, with annual increases of $0.50 per square foot. The Bedford Lease expires on November 30, 2017.

In connection with the Transactions, the Company entered into the following agreements:

1. A Note Purchase and Assignment Agreement with Mr. Little pursuant to which the Company sold the N2 Note to Mr. Little in exchange for (i) $1.5 million in cash and (ii) the forgiveness of $200 thousand of compensation owed by the Company to Mr. Little. In addition, as part of the transaction, Mr. Little was issued a five-year warrant to purchase

1.0 million shares of common stock of the Company for an exercise price per share of $0.276 (representing 120% of the closing price of the common stock on such date).

2.An Equity Ownership Interest Transfer Agreement with SPI-Trust pursuant to which the Company sold the N2 Units to SPI-Trust in exchange for (i) the forgiveness of approximately $1.9 million in unpaid rent for the period from October 1, 2013 through October 31, 2014 and (ii) the agreement to enter into an amendment to the Bedford Lease, as described below.

3.The Third Amendment to Lease Agreement with SPI-Trust pursuant to which the Bedford Lease was amended to, among other things, (i) reduce the leased portion of the premises to 86 thousand square feet of space, effective November 1, 2014, (ii) provide that for the period commencing November 1, 2014 and running through and including July 31, 2015, the Company shall not be required to pay any base rent, (iii) provide that for the period commencing on August 1, 2015 and running through and including January 31, 2016, base rent under the Bedford Lease shall be $5.00 per square foot and (iv) provide that for the period commencing on February 1, 2016 and running through the end of the term (November 30, 2017), base rent under the Bedford Lease shall be $10.00 per square foot. In addition, SPI-Trust can terminate the Bedford Lease upon 6 months' prior written notice, provided that the Bedford Lease cannot be terminated prior to July 31, 2015.

As of the result of the Transactions, and as of the date these Transactions closed, it is expected that the Company will no longer have a variable interest in the variable interest entity, N2 Bio, and, accordingly, the Company will no longer be required to consolidate the assets, liabilities and results of operations of N2 Bio into the Company's financial statements.

Liquidity

Operating results will depend upon revenue growth or decline and product mix, as well as the timing of shipments of higher priced products from the Company's solar equipment line. Export sales, which amounted to 39% and 40% of net sales and revenues for the three and nine months ended September 30, 2014, respectively, and 27% and 31% of net sales and revenues for the three and nine months ended September 30, 2013, respectively, continue to constitute a significant portion of the Company's net sales and revenues.

The Company has incurred losses from operations. Losses from operations were $0.9 million and $4.5 million for the three and nine months ended September 30, 2014, respectively. Losses from operations were $2.2 million and $6.6 million for the three and nine months ended September 30, 2013, respectively. Net cash used in operating activities was $1.9 million for the nine months ended September 30, 2014. Net cash used in operating activities was $3.7 million for the nine months ended September 30, 2013, which includes $150 thousand of cash used in operating activities of discontinued operations. As of September 30, 2014, the Company had unrestricted cash and cash equivalents of $722 thousand compared to $4.0 million as of December 31, 2013. The Company's credit facilities with Silicon Valley Bank expired on April 30, 2014 and were not renewed, and the Company has repaid the outstanding amounts. These factors raise substantial doubt about the Company's ability to continue as a going concern. Our current cash resources, coupled with lack of financing, delays in shipments of certain products, the corresponding delay in receipt of expected revenue from such products, and the imposition of stricter payment terms from certain of our suppliers, have added additional constraints on our liquidity and operations. Accordingly, the Company cannot provide any assurances of its continued operations and liquidity.

The Company continues to explore various alternatives on how to fund future operational losses and working capital needs, including but not limited to sales of equity, bank debt, private lenders, the sale or license of assets and technology, or joint ventures involving cash infusions, as it has done in the past; however, there are no assurances that the Company will be able to sell equity, obtain or access bank debt or alternative financing, sell or license assets or technology or enter into such joint ventures on a timely basis and at appropriate values or on acceptable terms, if at all. The Company has developed several plans including potential strategic alternatives, cost reduction efforts, expanding revenue in other markets and has implemented certain payroll savings plans to offset a decline in business due to global economic conditions. The Company's inability to successfully implement its cost reduction strategies, expand revenue in other markets or to replace its expired credit facilities, could adversely impact the Company's ability to continue as a going concern.

The financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

2. Interim Financial Statements

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted in accordance with such rules and regulations. These unaudited condensed consolidated financial statements should be read in conjunction with the annual audited consolidated financial statements and notes thereto for the year ended December 31, 2013, included in the Company’s Annual Report on Form 10-K filed with the SEC.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements contain all adjustments (consisting of normal recurring adjustments) necessary to fairly present the Company’s financial position as of September 30, 2014 and December 31, 2013 and the results of operations for the three and nine months ended September 30, 2014 and 2013. The results of operations for the three and nine months ended September 30, 2014 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2014. The unaudited condensed consolidated balance sheet as of December 31, 2013 has been derived from audited financial statements as of that date.

Summary of Significant Accounting Policies

With the exception of the Company's revenue recognition policy which has been updated below, the significant accounting policies followed by the Company are set forth in Note 2 to the Company's consolidated financial statements in its Annual Report on Form 10-K for the year ended December 31, 2013, filed with the SEC on March 31, 2014.

Revenue Recognition

The Company derives its revenues from continuing operations from three primary sources: (1) sales of commercial products including, but not limited to, solar energy manufacturing equipment; (2) biomedical and coating technology services; and (3) United States government funded research and development contracts.
The Company generally recognizes product revenue upon shipment of products provided there are no uncertainties regarding customer acceptance, persuasive evidence of an arrangement exists, the sales price is fixed or determinable, and collectability is reasonably assured. These criteria are generally met at the time of shipment when the risk of loss and title passes to the customer.
The Company's OEM (original equipment manufacturer) capital equipment solar energy business builds complex customized machines to order for specific customers. Most orders are sold on a FOB Bedford, Massachusetts (or EX-Works Factory) basis and other orders are sold on a Carriage and Insurance Paid (or CIP), or on rare situations, a Delivery Duty Unpaid (or DDU) basis. It is the Company's policy to recognize revenues for this equipment when title of the product has passed to the customer, provided that customer acceptance is obtained prior to shipment and the equipment is expected to operate the same in the customer's environment as it does in the Company's environment. When an arrangement with the customer includes future obligations or customer acceptance, revenue is recognized when those obligations are met or customer acceptance has been achieved. Typically, the Company is able to separate arrangements with multiple elements into more than one unit of accounting as it relates to the passage of title to goods, training and installation services when no right of return exists. The Company allocates total fees under contract to each element using the relative selling price method and revenue is recognized upon delivery of each element. The Company's management performs extensive analysis to determine the relative selling price of each unit of accounting. The Company allocates revenue in arrangements using its best estimate of selling price if neither vendor-specific objective evidence ("VSOE") nor third-party evidence ("TPE") of selling price exists. The Company determines estimated selling price ("ESP") of each deliverable based on a number of factors, including internal costs, gross margin targets and historical sales of similar units, as well as external factors such as market and competitive conditions.

The Company's biomedical services provides advanced medical device surface treatment processes for performance improvement of orthopedic devices. The Company's coating technology services are provided to both industrial and consumer electronic applications. It is the Company's policy to recognize revenues from these services when services are provided to the customer. See Note 14 to the unaudited condensed consolidated financial statements regarding subsequent events.

The Company recognizes revenues and estimated profits on long-term government contracts on a percent complete basis where the circumstances are such that total profit can be estimated with reasonable accuracy and ultimate realization is reasonably assured. The Company records revenue and profit utilizing the percentage of completion method using a cost-to-cost methodology. A percentage of the contract revenues and estimated profits is determined utilizing the ratio of costs incurred to date to total estimated cost to complete on a contract by contract basis. Profit estimates are revised periodically based upon changes in facts, and any losses on contracts are recognized immediately. Some of the contracts include provisions to withhold a portion of the contract value as retainage until such time as the United States government performs an audit of the cost incurred under the contract. The Company's policy is to take into revenue the full value of the contract, including any retainage, as it performs against the contract since the Company has not experienced any substantial losses as a result of audits performed by the United States government.

New Accounting Pronouncements

In July 2013, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2013-11 ("ASU 2013-11"), Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists. The update requires, unless certain conditions exists, an unrecognized tax benefit, or a portion of an unrecognized tax benefit, to be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, similar tax loss, or a tax credit carryforward. ASU 2013-11 is effective prospectively for reporting periods beginning after December 15, 2013, with early adoption permitted. Retrospective application is permitted. The application of this ASU did not have an impact on the Company's unaudited condensed consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). The guidance in this ASU affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards. The guidance in this ASU supersedes the revenue recognition requirements in Accounting Standards Codification ("ASC") No. 605, Revenue Recognition, and most industry-specific guidance throughout the Industry Topics of the Codification. Additionally, this ASU supersedes some cost guidance included in ASC No. 605-35, Revenue Recognition-Construction-Type and Production-Type Contracts. In addition, the existing requirements for the recognition of a gain or loss on the transfer of nonfinancial assets that are not in a contract with a customer are amended to be consistent with the guidance on recognition and measurement in this ASU. For a public entity, the amendments in this ASU are effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Retrospective application of the amendments in this ASU are required. The new guidance must be adopted using either a full retrospective approach for all periods presented in the period of adoption (with some limited relief provided) or a modified retrospective approach. Early application is not permitted under GAAP. The Company is currently assessing the impact of this ASU on its consolidated financial statements.

In August 2014, the FASB issued ASU No. 2014-15, Presentation of Financial Statements - Going Concern (Subtopic 205-40): Disclosure of Uncertainties About an Entity's Ability to Continue as a Going Concern. The new standard explicitly requires the assessment at interim and annual periods, and provides management with its own disclosure guidance. This ASU is effective for annual reporting periods and interim periods, within those annual periods ending after December 15, 2016. The Company is currently evaluating the impact of adopting ASU No. 2014-15 to determine the impact.

3. Accounts Receivable/Advances on Contracts in Progress

Net accounts receivable, trade and advances on contracts in progress consists of the following:

(in thousands)	September 30, 2014	December 31, 2013
Amounts billed	$1,688	$1,396
Accrued revenue	41	18
Gross accounts receivable - trade	1,729	1,414
Less: Allowance for doubtful accounts	(32)	—
Net accounts receivable - trade	$1,697	$1,414
Advances on contracts in progress	$2,301	$1,433

Accrued revenue represents revenues recognized on contracts for which billings have not been presented to customers as of the balance sheet date.

The Company maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to pay amounts due. The Company actively pursues collection of past due receivables as the circumstances warrant. Customers are contacted to determine the status of payment and senior accounting and operations management are included in these efforts as is deemed necessary. A specific reserve will be established for past due accounts when it is probable that a loss has been incurred and the Company can reasonably estimate the amount of the loss. The Company does not record an allowance for government receivables and invoices backed by letters of credit as collection is reasonably assured. Bad debts are written off against the allowance when identified. There is no dollar threshold for account balance write-offs. While rare, a write-off is only recorded when all efforts to collect the receivable have been exhausted.

Advances on contracts in progress represent billings that have been presented to the customer, as either deposits or progress payments against future shipments, but revenue has not been recognized.

4. Inventories and Deferred Costs of Goods Sold

Inventories, net of $1.0 million of reserves at both September 30, 2014 and December 31, 2013, and deferred cost of goods sold consist of the following at:

(in thousands)	September 30, 2014	December 31, 2013
Raw materials	$1,108	$1,310
Work in process	2,861	2,004
Finished goods	948	502
Net inventory	$4,917	$3,816
Deferred cost of goods sold	$305	$849

Deferred cost of goods sold represents costs of equipment that has shipped to the customer and title has passed but not all revenue recognition criteria have yet been met. The Company defers these costs until the related revenue is recognized.

5. Loss Per Share

The following table provides a reconciliation of the denominators of the Company’s reported basic and diluted loss per share computations for the periods ended:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Weighted average number of common and common equivalent shares outstanding – basic and diluted	9,207,874	9,207,874	9,207,874	9,165,844

For the three and nine months ended September 30, 2014, 5,426 and 16,676 shares of common stock, respectively, and for the three and nine months ended September 30, 2013, 1,152 and 3,708 shares of common stock, respectively, issuable relative to stock options were excluded from the calculation of diluted shares because their inclusion would have been anti-dilutive, due to the Company’s net loss position.

In addition, for the three and nine months ended September 30, 2014, 546,998 shares of common stock, and for the three and nine months ended September 30, 2013, 567,571 shares of common stock, issuable relative to stock options were excluded from the calculation of diluted shares because their inclusion would have been anti-dilutive, due to the Company's net loss position and their exercise prices exceeding the average market price of the stock for the period.

6. Operating Segments and Related Information

The Company's operations are focused on two primary business areas: Spire Solar (comprised of solar equipment and solar research) and Spire Biomedical (comprised of biomedical surface treatments and biophotonics research). Spire Solar and Spire Biomedical operate out of the Company's facility in Bedford, Massachusetts. Each business area is independently managed and has separate financial results that are reviewed by the Board of Directors and Chief Executive Officer and the chief executive officers of each operating division.

On September 18, 2013, the Company completed the sale of the Bio Business Unit to N2 Bio, whereas the Company has a controlling financial interest in N2 Bio and is less than wholly-owned by the Company. N2 Bio qualifies as a variable interest entity and the Company is determined to be the primary beneficiary; therefore assets, liabilities and results of operations of N2 Bio are consolidated into the Company's financial statements. The Bio Business Unit is being reported in our biomedical segment. See Note 13 to the unaudited condensed consolidated financial statements. In addition, see Note 14 to the unaudited condensed consolidated financial statements regarding subsequent events.

The following table presents certain operating division information in accordance with the provisions of ASC 280, Segments Reporting.

(in thousands)	Solar	Biomedical	Consolidated
For the three months ended September 30, 2014			
Net sales and revenues	$1,844	$1,897	3,741
Income (loss) from operations	$(1,480)	$599	(881)
For the three months ended September 30, 2013			
Net sales and revenues	$2,445	$1,709	4,154
Loss from operations	$(1,462)	$(749)	(2,211)
For the nine months ended September 30, 2014			
Net sales and revenues	$6,242	$5,430	$11,672
Income (loss) from operations	$(6,165)	$1,652	$(4,513)
For the nine months ended September 30, 2013			
Net sales and revenues	$5,783	$5,183	$10,966
Loss from operations	$(6,192)	$(389)	$(6,581)

Income (loss) from operations is net sales and revenues less cost of sales, selling, general and administrative expenses and internal research and development, but is not affected by non-operating income (expense) or by income taxes. In calculating income (loss) from operations for individual business units, substantial administrative expenses incurred at the operating level that are common to more than one segment are allocated on a net sales basis. Certain corporate expenses of an operational nature are also allocated to the divisions based on factors including occupancy, employment, and purchasing volume. All intercompany transactions have been eliminated.

The following table shows net sales and revenues by geographic area (based on customer location):

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2014	%	2013	%	2014	%	2013	%
United States	$2,270	61%	$3,042	73%	$6,957	60%	$7,576	69%
Asia	778	21	238	6	2,895	25	1,509	14
Europe/Africa	667	18	874	21	1,585	13	1,664	15
Rest of the world	26	—	—	—	235	2	217	2
	$3,741	100%	$4,154	100%	$11,672	100%	$10,966	100%

Revenues from contracts with United States government agencies for the three months ended September 30, 2014 and 2013 were approximately $42 thousand and $61 thousand or 1% and 1% of total net sales and revenues, respectively.

Revenues from contracts with United States government agencies for the nine months ended September 30, 2014 and 2013 were approximately $244 thousand and $704 thousand or 2% and 6% of total net sales and revenues, respectively.

Revenues from the delivery of solar equipment to one customer accounted for 14% of total net sales and revenues from the delivery of biomedical services to two customers accounted for 22% and 18% of total net sales and revenues for the three months ended September 30, 2014.

Revenues from the delivery of solar equipment to one customer accounted for 18% of total net sales and revenues from the delivery of biomedical services to two customers accounted for 19% and 17% of total net sales and revenues for the nine months ended September 30, 2014. Revenues from the delivery of equipment research and development to one customer accounted for 14% of total net sales and revenues for the nine months ended September 30, 2014.

Revenues from the delivery of solar equipment to one customer accounted for 13%, of total net sales and revenues from the delivery of solar systems to one customer accounted for 15% and revenues from the delivery of biomedical services to one customer accounted for 17% of total net sales and revenues for the three months ended September 30, 2013. Revenues from the delivery of equipment research and development to one customer accounted for 14% of total net sales and revenues for the three months ended September 30, 2013.

Revenues from the delivery of biomedical services to two customers accounted for 20% and 11% of total net sales and revenues for the nine months ended September 30, 2013.

Three customers represented approximately 31%, 24% and 20% respectively, of net accounts receivable, trade at September 30, 2014 and two customers represented approximately 36% and 17% of net accounts receivable, trade at December 31, 2013.

7. Intangible and Other Assets

Patents amounted to $59 thousand and $62 thousand, net of accumulated amortization of $906 thousand and $871 thousand, at September 30, 2014 and December 31, 2013, respectively. Licenses amounted to $51 thousand and $110 thousand, net of accumulated amortization of $97 thousand and $38 thousand, at September 30, 2014 and December 31, 2013, respectively. Patent cost is primarily composed of costs associated with securing and registering patents that the Company has been awarded or that have been submitted to the U.S. Patent and Trademark Office, and the Company believes will be approved. License cost is composed of the cost to acquire rights to the underlying technology or know-how. These costs are capitalized and amortized over their useful lives or terms, using the straight-line method. There are no expected residual values related to these patents.

Amortization expense, relating to patents and licenses, was approximately $31 thousand and $14 thousand for the three months ended September 30, 2014 and 2013, respectively. Amortization expense, relating to patents and licenses, was approximately $94 thousand and $41 thousand for the nine months ended September 30, 2014 and 2013, respectively.

The table below includes future amortization expense for patents and licenses owned by the Company as well as estimated amortization expense related to patents that remain pending at September 30, 2014 of $111 thousand. This estimated expense for patents pending assumes that the patents are issued immediately, and therefore are being amortized over five years on a straight-line basis. Estimated amortization expense for the periods ending December 31, is as follows:

(in thousands)	Amortization Expense
2014 remaining 3 months	$18
2015	51
2016	37
2017	33
2018	34
2019	25
2020 and future	23
	$221

Also included in other assets are refundable deposits made by the Company of approximately $150 thousand and $150 thousand at September 30, 2014 and December 31, 2013, respectively.

8. Available-for-Sale Investments

Available-for-sale investments consist of assets held as part of the Spire Corporation Non-Qualified Deferred Compensation Plan. These investments have been classified as available-for-sale investments and are reported at fair value, with unrealized gains and losses included in accumulated other comprehensive income. The unrealized gain on these marketable securities was zero and $393 thousand as of September 30, 2014 and December 31, 2013, respectively. During the nine months ended September 30, 2014, the Company recorded a realized gain on the sale of available-for-sale investments of $541 thousand. The participant of the deferred compensation plan retired as Chief Executive Officer and President of the Company on December 31, 2013. The participant received deferred compensation payments of approximately $1.2 million in January 2014 and $2.8 million in May 2014, which was funded by the sale of these securities.

9. Fair Value Measurements

The hierarchy established under ASC 820-10, Fair Value Measures and Disclosures ("ASC 820-10") gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). As required by ASC 820-10, the Company's available-for-sale investments are classified within the fair value hierarchy based on the lowest level of input that is significant to the fair value measurement. The three levels of the fair value hierarchy under ASC 820-10, and its applicability to the Company's available-for-sale investments, are described below:

Level 1 - Pricing inputs are quoted prices available in active markets for identical investments as of the reporting date. As required by ASC 820-10, the Company does not adjust the quoted price for these investments, even in situations where the Company holds a large position and a sale could reasonably impact the quoted price.

Level 2 - Pricing inputs are quoted prices for similar investments, or inputs that are observable, either directly or indirectly, for substantially the full term through corroboration with observable market data. Level 2 includes investments valued at quoted prices adjusted for legal or contractual restrictions specific to these investments.

Level 3 - Pricing inputs are unobservable for the investment, that is, inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability. Level 3 includes investments that are supported by little or no market activity.

Valuation Techniques

Fair value is a market-based measure considered from the perspective of a market participant who would buy the asset or assume the liability rather than the Company's own specific measure. All of the Company's fixed income securities are priced using a variety of daily data sources, largely readily-available market data and broker quotes. To validate these prices, the Company compares the fair market values of the Company's fixed income investments using market data from observable and corroborated sources. The Company also performs the fair value calculations for its common stock and mutual fund securities using market data from observable and corroborated sources. In periods of market inactivity, the observability of prices and inputs may be reduced for certain instruments. This condition could cause an instrument to be reclassified from Level 1 to Level 2 or from Level 2 to Level 3. During the nine months ended September 30, 2014, none of the Company's instruments were reclassified between Level 1, Level 2, Level 3 and there have been no changes in valuation techniques. Also, as of September 30, 2014, all investments have been sold and the remaining fair value is zero.

The following table presents the financial instruments related to the Company’s available-for-sale investment carried at fair value on a recurring basis as of December 31, 2013 by ASC 820-10 valuation hierarchy (as defined above).

(in thousands)	Balance as of December 31, 2013	Level 1	Level 2	Level 3
Cash and short term investments	$927	$927	$—	$—
Common Stock				
Basic Materials	14	14	—	—
Consumer Goods	97	97	—	—
Energy	65	65	—	—
Financial	111	111	—	—
Healthcare	104	104	—	—
Industrial Goods	109	109	—	—
Services	21	21	—	—
Technology	557	557	—	—
Transportation	—	—	—	—
Utilities	9	9	—	—
Total Common Stock	1,087	1,087	—	—
Mutual Fund				
Diversified Emerging Markets	193	—	193	—
Precious Metals Fund	—	—	—	—
Foreign Large Blend	287	—	287	—
Foreign Large Growth	175	—	175	—
Large Growth	163	—	163	—
Small Blend Total	189	189	—	—
Global High Yield Income Fund	38	—	38	—
Total Mutual Funds	1,045	189	856	—
Fixed Income				
Domestic	413	—	413	—
International	63	—	63	—
Total Fixed Income	476	—	476	—
Total available for-sale-investments (1)	$3,535	$2,203	$1,332	$—
Percent of total	100 %	62 %	38 %	— %

(1) Changes in the fair value of available-for-sale investments are recorded in accumulated other comprehensive income, a component of stockholders' equity, in the Company's unaudited condensed consolidated balance sheets.

The carrying amounts reflected in the Company's unaudited condensed consolidated balance sheets for cash, accounts receivable - trade, prepaid expenses and other current assets, accounts payable, accrued liabilities, and capital lease obligations approximate fair value due to their short-term nature and classifies the Company valuation techniques use Level 3 inputs. The fair value of the Company's term loan and revolving lines of credit have been estimated by management based on the terms that it believes it could obtain in the current market for debt of the same terms and similar remaining maturities. Due to the short-term nature of the remaining maturities, recent issuances, frequency of amendments to its terms and the variable interest rates, the carrying value of the term loan and revolving lines of credit approximate fair value at September 30, 2014 and December 31, 2013 and the Company's valuation techniques use Level 3 inputs.

10. Notes Payable and Credit Arrangements

Prior to their expiration on April 30, 2014, the Company had two separate credit facilities with Silicon Valley Bank (the “Bank” or “SVB”): (i) a Second Amended and Restated Loan and Security Agreement (as amended, the "Revolving Credit Facility") and (ii) an Amended and Restated Export-Import Bank Loan and Security Agreement (as amended, the "Ex-Im Facility") pursuant to which outstanding amounts under this facility were guaranteed by the Export-Import Bank of the United States (the "EXIM Bank"). The credit facilities provided an aggregate amount of $1.5 million under both facilities, with up to $1.0 million under the Revolving Credit Facility and up to $1.5 million under the Ex-Im Facility. Under the credit facilities, interest on outstanding borrowings accrued at a rate per annum equal to the greater of (i) the prime rate plus 2.5% or (ii) 7.0%. The entire amount owed under the credit facilities was repaid by April 30, 2014.

N2 Bio has two separate agreements under one credit facility with Middlesex Savings Bank ("MSB"): (i) a Secured Term Loan and (ii) a Secured Revolving Demand Note. Under the Secured Term Loan, N2 Bio borrowed $6.0 million on September 18, 2013 to finance the purchase of the Bio Business Unit from the Company. The advance made under the Secured Term Loan will bear interest at a fixed rate of 4.5% per annum in eighty-four (84) consecutive monthly payments starting on October 18, 2013. If not sooner paid, the Secured Term Loan shall be due and payable in full on September 18, 2020. The Secured Revolving Demand Note provides an amount available of up to $1.0 million. Advances made under the Secured Revolving Demand Note will bear interest at MSB's prime rate, as determined, plus 0.5% per annum but in no event shall the interest rate be less than 3.75% per annum. The maturity date of the Secured Revolving Demand Note is May 31, 2015.

N2 Bio's obligations under the credit facility are secured by substantially all of the assets of N2 Bio. Advances under the Secured Revolving Demand Note are limited to 75% of eligible receivables. In addition, until all amounts under the credit facility with MSB are repaid, covenants under the credit facility impose restrictions on the N2 Bio's ability to, among other things, incur additional indebtedness, create or permit liens on the N2 Bio's assets, merge, consolidate or dispose of assets (other than in the ordinary course of business), make dividend and other restricted payments, make certain debt or equity investments, make certain acquisitions, engage in certain transactions with affiliates or change the business conducted by the N2 Bio. Any failure by N2 Bio to comply with the covenants and obligations under the credit facility could result in an event of default, in which case MSB may be entitled to declare all amounts owed to be due and payable immediately.

Advances outstanding under the Revolving Credit Facility were zero and $107 thousand at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the Ex-Im Facility were zero and $38 thousand at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the N2 Bio Secured Term Loan were $5.3 million and $5.8 million at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the N2 Bio Secured Revolving Demand Note were zero and $438 thousand at September 30, 2014 and December 31, 2013, respectively. The interest rate per annum on the N2 Bio Secured Term Loan and Secured Revolving Demand Note on September 30, 2014 was 4.5% and 3.75%, respectively. Availability under the Secured Revolving Demand Note was $669 thousand as of September 30, 2014.

The Company has outstanding letters of credit to secure performance obligations and purchase commitments. Holders of the letters of credit are allowed to draw funds up to the face amount of the letter of credit if the Company does not perform as contractually required. The outstanding letters of credit are secured by restricted cash. Outstanding letters of credit totaled $188 thousand and $170 thousand at September 30, 2014 and December 31, 2013, respectively.

11. Share-Based Compensation

The Company has recognized share-based compensation expense of approximately $39 thousand and $88 thousand for the nine months ended September 30, 2014 and 2013, respectively. The total non-cash, share-based compensation expense included in the unaudited condensed consolidated statements of operations for the periods presented is included in the following expense categories:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2014	2013	2014	2013

Cost of contract research, services	$—	$1	$—	$11
Cost of goods sold	—	—	—	7
Administrative and selling	8	10	39	70
Total share-based compensation	$8	$11	$39	$88

No share-based compensation expense was capitalized during the nine months ended September 30, 2014 and 2013. Compensation expense related to stock options to be charged in future periods amounts to zero at September 30, 2014.

The Company estimates forfeitures at the time of grant and revises, if necessary, in subsequent periods if actual forfeitures differ from those estimates in order to derive the Company's best estimate of awards ultimately expected to vest. Forfeitures represent only the unvested portion of a surrendered option and are typically estimated based on historical experience.

At September 30, 2014, the Company had outstanding options under two option plans: the 1996 Equity Incentive Plan (the "1996 Plan") and the 2007 Stock Equity Plan (the "2007 Plan", together with the 1996 Plan, the "Plans"). Both Plans were approved by stockholders and provided that the Board of Directors may grant options to purchase the Company's common stock to key employees and directors of the Company. Incentive and non-qualified options must be granted at least at the fair market value of the common stock or, in the case of certain optionees, at 110% of such fair market value at the time of grant. The options may be exercised, subject to certain vesting requirements, for periods up to ten years from the date of issue. The 1996 Plan expired with respect to the issuance of new grants as of December 10, 2006. Accordingly, future grants may be made only under the 2007 Plan.

A summary of options outstanding under the Plans as of September 30, 2014 and changes during the nine-month period ended September 30, 2014 is as follows:

	Number of Shares	Weighted-Average Exercise Price	Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Options Outstanding at December 31, 2013	527,246	$ 5.88		
Granted	36,000	$ 0.72		
Exercised	—	$ —		
Cancelled/expired	(16,248)	$ 5.57		
Options outstanding at September 30, 2014	546,998	$ 5.55	4.86	$1
Options vested and exercisable at September 30, 2014	546,998	$ 5.55	4.86	$1
Option vested and expected to vest at September 30, 2014	546,998	$ 5.55	4.86	$—
Options available for future grant at September 30, 2014	450,259			

The aggregate intrinsic value in the table above represents the total intrinsic value, based on the Company's closing stock price of $0.41 as of September 30, 2014, which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of options exercised was approximately zero and zero for the nine months ended September 30, 2014 and 2013, respectively. The total intrinsic value of options expected to vest at September 30, 2014 was zero.

The per-share weighted-average fair value of stock options granted during the three and nine months ended September 30, 2014 was $0.45 and $0.72, respectively, and $0.26 and $0.55 for the three and nine months ended September 30, 2013, respectively, on the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions:

Period	Expected Dividend Yield	Risk-Free Interest Rate	Expected Option Life	Expected Volatility Factor
Three Months Ended September 30, 2014	—	1.63%	5.1 years	101.7%
Nine Months Ended September 30, 2014	—	1.62%	5.1 years	104.6%
	—	1.40%	5.1 years	99.8%

Three Months Ended September 30, 2013				
Nine Months Ended September 30, 2013	—	0.97%	5.1 years	99.8%

The risk free interest rate reflects treasury yields rates over a term that approximates the expected option life. The expected option life is calculated based on historical lives of all options issued under the Plans. The expected volatility factor is determined by measuring the actual stock price volatility over a term equal to the expected useful life of the options granted.

12. Accumulated Other Comprehensive Income

Changes in accumulated other comprehensive income balances by component for the nine months ended September 30, 2014 consisted of the following:

(in thousands)	Unrealized Gains (Losses) on Available for Sale Securities
Balance, December 31, 2013	$ 393
Change in other comprehensive income before reclassification	148
Amounts reclassified from accumulated other comprehensive income	(541)
Net current-period other comprehensive income	(393)
Balance, September 30, 2014	$ —

Reporting reclassifications out of accumulated other comprehensive income for the nine months ended September 30, 2014 consist of the following:

Details about Accumulated Other Comprehensive Income Components	Amount Reclassified from Accumulated Other Comprehensive Income (in thousands)	Affected Line Item in the Statement Where Net Income is Resented
Realized gains (losses) on available-for-sale investments	$ 541	Selling, general and administrative expenses

13. Variable Interest Entity

The Company has interests in N2 Bio which is a variable interest entity ("VIE"). A VIE is an entity that lacks one or more of the following characteristics (i) the total equity investment at risk is sufficient to enable the entity to finance its activities independently and (ii) the equity holders have the power to direct the activities of the entity that most significantly impact its economic performance, the obligation to absorb the losses of the entity and the right to receive the residual returns of the entity. If the Company is the primary beneficiary of a VIE, the Company is required to consolidate it. To determine if the Company is the primary beneficiary, the Company evaluates whether the Company has the power to direct the activities that most significantly impact the VIE's economic performance and the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. The Company's evaluation includes identification of significant activities and an assessment of the Company's ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding, financing and other applicable agreements and circumstances. The Company's assessments of whether the Company is the primary beneficiary of its VIE require significant assumptions and judgments and are reviewed on an ongoing basis based on current facts and circumstances.

On September 18, 2013, the Company, Spire Biomedical, Inc. (the "Subsidiary" and together with the Company, "Spire Bio") entered into an Asset Purchase Agreement (the "Purchase Agreement") with N2 Bio pursuant to which N2 Bio agreed to (i) acquire substantially all of the assets of Spire Bio's biomedical business (the "Bio Business Unit") and (ii) assume and pay certain liabilities related to the purchased assets as set forth in the Purchase Agreement (collectively, the "Transaction"). The Transaction closed on September 18, 2013. The purchase price for the Bio Business Unit was $10.5 million plus the assumption of liabilities of approximately $100 thousand, with $6.0 million paid in cash at closing, a $2.4 million subordinated convertible promissory note, and 310,549 Series A Convertible Preferred Units of N2 Bio valued at approximately $2.1 million ($6.72 per share). The assets and liabilities of the Subsidiary's biomedical business are under common control and were recorded at carryover basis for financial reporting. The difference between the consideration paid and the carrying value of the assets and liabilities acquired by N2 Bio was recorded as a deemed dividend to the Company in the amount of $9.5 million and has been eliminated in consolidation. Mark C. Little was the Chief Executive Officer of the Subsidiary, is a director of the Company and is the Chief Executive Officer of N2 Bio. Mark C. Little is the son of Roger G. Little, Chairman of the Board of Directors of the Company. Roger G. Little is also a member of the Board of Directors of N2 Bio.

On September 18, 2013, N2 Bio entered into a Lease Agreement (the “N2 Bio Bedford Lease”) with SPI-Trust with respect to 27 thousand square feet of space which represents approximately 19% of space in the Bedford, Massachusetts premises. The term of the N2 Bio Bedford Lease commenced on September 18, 2013 and is set to expire on November 30, 2020. The annual rental rate prorated for September 18, 2013 to November 30, 2013 is $16.00 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building. The annual rental rate increases on December 1, 2013 and each anniversary thereafter by $0.50 per square foot.

On September 18, 2013, the Company and N2 Bio entered into a Shared Services Agreement whereby the Company will provide N2 Bio certain services (the "Shared Services") for a period of three years. It is the intent of the parties that the aggregate fees for the Shared Services shall equal approximately $500 thousand during the first year. Following the first anniversary, N2 Bio may terminate any specific Shared Service with 20 days written notice to the Company.

The Company has determined that N2 Bio is a VIE because the equity investment at risk from the majority shareholders of N2 Bio is not sufficient to permit N2 Bio to finance its activities without additional subordinated financial support. As discussed above, N2 Bio is subject to a subordinated convertible promissory note due to the Company. The assets of N2 Bio can only be used to settle the obligations of N2 Bio and there is no recourse to the Company related to the third party obligations of or third party arrangements entered into by N2 Bio. Additionally, Mark Little is the Chief Executive Officer of N2 Bio and also a member the Company's Board of Directors. The Company has also determined that the Company has the obligation to absorb losses and the right to receive benefits from N2 Bio that could potentially be significant to it. Therefore, the Company has determined that N2 Bio is a VIE and that the Company is a primary beneficiary of the VIE and must consolidate the financial condition, results of operations and cash flows of N2 Bio with those of its own. See Note 1 to the unaudited condensed consolidated financial statements regarding recent developments.
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The assets and liabilities from the VIE included in the condensed consolidated balance sheets as of September 30, 2014 and December 31, 2013 are as follows:

(in thousands)	September 30, 2014	December 31, 2013
Assets of VIE		
Current Assets		
Cash and cash equivalents	$445	$131
Accounts receivable trade, net	1,063	899
Due from related parties	—	24
Inventories, net	61	22
Prepaid expenses and other current assets	129	114
Total current assets of VIE	1,698	1,190
Property and equipment, net	282	266
Intangible & other assets, net	78	85
Total assets of VIE	$2,058	$1,541
Liabilities of VIE		
Current liabilities		
Revolving line of credit	$—	$438
Current portion of term loan	779	753
Accounts payable	97	144
Due to related parties	36	—
Accrued liabilities	237	169
Total current liabilities of VIE	1,149	1,504
Long-term portion of term loan	4,476	5,064
Long-term note payable to related party	2,400	2,400
Other long-term liabilities	42	12
Total liabilities of VIE	$8,067	$8,980

14. Subsequent Events

The Company evaluated subsequent events through the date of this filing. Except for the following, there are no additional subsequent events to report:

N2 Bio Transaction

As previously disclosed, in September 2013, the Company sold the Bio Business Unit to N2 Bio. The purchase price for the Bio Business Unit was $10.5 million plus the assumption of liabilities of approximately $100 thousand, with $6.0 million paid in cash at closing, a $2.4 million subordinated convertible promissory note (the “N2 Note”), and 310,549 Series A Preferred Units of N2 (the “N2 Units”) valued at approximately $2.1 million. See Note 13 to the unaudited condensed consolidated financial statements.

On October 10, 2014, in order to increase working capital, eliminate significant unpaid rent obligations and substantially reduce future rent obligations, the Company entered into a series of agreements with Roger G. Little, Chairman of the Board of Directors of the Company, and SPI-Trust, a trust of which Mr. Little is the sole trustee and principal beneficiary (the “Transactions”). SPI-Trust is the owner of the building in Bedford, MA in which the Company leases its space. Under the lease prior to the amendment discussed below (the “Bedford Lease”), the Company leased 117 thousand square feet of space at a rate of $16.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building, with annual increases of $0.50 per square foot. The Bedford Lease expires on November 30, 2017.

In connection with the Transactions, the Company entered into the following agreements:

1.A Note Purchase and Assignment Agreement with Mr. Little pursuant to which the Company sold the N2 Note to Mr. Little in exchange for (i) $1.5 million in cash and (ii) the forgiveness of $200 thousand of compensation owed by the Company to Mr. Little. In addition, as part of the transaction, Mr. Little was issued a five-year warrant to purchase 1.0 million shares of common stock of the Company for an exercise price per share of $0.276 (representing 120% of the closing price of the common stock on such date).

2.An Equity Ownership Interest Transfer Agreement with SPI-Trust pursuant to which the Company sold the N2 Units to SPI-Trust in exchange for (i) the forgiveness of approximately $1.9 million in unpaid rent for the period from October 1, 2013 through October 31, 2014 and (ii) the agreement to enter into an amendment to the Bedford Lease, as described below.

3.The Third Amendment to Lease Agreement with SPI-Trust pursuant to which the Bedford Lease was amended to, among other things, (i) reduce the leased portion of the premises to 86 thousand square feet of space, effective November 1, 2014, (ii) provide that for the period commencing November 1, 2014 and running through and including July 31, 2015, the Company shall not be required to pay any base rent, (iii) provide that for the period commencing on August 1, 2015 and running through and including January 31, 2016, base rent under the Bedford Lease shall be $5.00 per square foot and (iv) provide that for the period commencing on February 1, 2016 and running through the end of the term (November 30, 2017), base rent under the Bedford Lease shall be $10.00 per square foot. In addition, SPI-Trust can terminate the Bedford Lease upon 6 months’ prior written notice, provided that the Bedford Lease cannot be terminated prior to July 31, 2015.

Other

On December 10, 2013, Stifel, Nicolaus & Company, Inc. ("Stifel") filed a complaint against the Company in the United States District Court for the Southern District of New York (the "Court"), alleging breach of contract related to Stifel's activities acting as an investment banker for us. The complaint alleged that the Company owed certain amounts to Stifel. In October 2014, the Company and Stifel reached a settlement whereby the parties agreed to voluntarily dismiss the action with prejudice, and the Company agreed to pay to Stifel a sum with a net present value of $587 thousand, which amount is secured by a security interest in certain collateral. Payments will be made in installments through July 2019. The Court dismissed the matter with prejudice on October 21, 2014.

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

This Management’s Discussion and Analysis of Financial Condition and Results of Operations section and other parts of this Report contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which statements involve risks and uncertainties. These statements relate to our future plans, objectives, expectations and intentions. These statements may be identified by the use of words such as “may”, “could”, “would”, “should”, “will”, “expects”, “anticipates”, “intends”, “plans”, “believes”, “estimates”, and similar expressions. Our actual resul the timing of certain events may differ significantly from the results and timing described in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those factors discussed or referred to in the Annual Report on Form 10-K for the year ended December 31, 2013 and in subsequent periodic reports filed with the Securities and Exchange Commission, including this report. The following discussion and analysis of our financial condition and results of operations should be read in light of those factors and in conjunction with our accompanying Consolidated Financial Statements, including the Notes thereto.

Overview

We and our subsidiaries along with our variable interest entity develop, manufacture and market highly-engineered products and services in two principal business areas: (i) capital equipment for the photovoltaic solar industry and (ii) biomedical, through our variable interest entity, N2 Biomedical LLC ("N2 Bio"), generally bringing to bear expertise in materials technologies, surface science and thin films across both business areas, as discussed below. See "Recent Developments" below.

In the photovoltaic solar area, we develop, manufacture and market specialized equipment for the production of terrestrial photovoltaic modules from solar cells. Our equipment has been installed in approximately 200 factories in 50 countries. The equipment market is very competitive with major competitors located in the U.S., Japan and Europe. Our flagship product is our Spi-Sun simulator which tests module performance. Our other product offerings include turn-key module lines and to a lesser extent other individual equipment. To compete we offer other services such as training and assistance with module certification. We also provide turn-key services to our customers to backward integrate to solar cell manufacturing.

In the biomedical area, through our variable interest entity, N2 Bio, we provide value-added surface treatments to manufacturers of orthopedic and other medical devices that enhance the durability, antimicrobial characteristics or other material characteristics of their products, and perform sponsored research programs into practical applications of advanced biomedical technologies. See "Recent Developments" below.

Recent Developments

As previously disclosed, in September 2013, we sold our biomedical business (the “Bio Business Unit”) to N2 Bio. The purchase price for the Bio Business Unit was $10.5 million plus the assumption of liabilities of approximately $100 thousand, with $6.0 million paid in cash at closing, a $2.4 million subordinated convertible promissory note (the “N2 Note”), and 310,549 Series A Preferred Units of N2 (the “N2 Units”) valued at approximately $2.1 million. See Note 13 to the unaudited condensed consolidated financial statements.

On October 10, 2014, in order to increase working capital, eliminate significant unpaid rent obligations and substantially reduce future rent obligations, we entered into a series of agreements with Roger G. Little, our Chairman of the Board of Directors, and SPI-Trust, a trust of which Mr. Little is the sole trustee and principal beneficiary (the “Transactions”). SPI-Trust is the owner of the building in Bedford, MA in which we lease our space. Under the lease prior to the amendment discussed below (the “Bedford Lease”), we leased 117 thousand square feet of space at a rate of

$16.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building, with annual increases of $0.50 per square foot. The Bedford Lease expires on November 30, 2017.

In connection with the Transactions, we entered into the following agreements:

1.A Note Purchase and Assignment Agreement with Mr. Little pursuant to which we sold the N2 Note to Mr. Little in exchange for (i) $1.5 million in cash and (ii) the forgiveness of $200 thousand of compensation owed by us to Mr. Little. In addition, as part of the transaction, Mr. Little was issued a five-year warrant to purchase 1.0 million shares of our common stock for an exercise price per share of $0.276 (representing 120% of the closing price of the common stock on such date).

2.An Equity Ownership Interest Transfer Agreement with SPI-Trust pursuant to which we sold the N2 Units to SPI-Trust in exchange for (i) the forgiveness of approximately $1.9 million in unpaid rent for the period from October 1, 2013 through October 31, 2014 and (ii) the agreement to enter into an amendment to the Bedford Lease, as described below.

3.The Third Amendment to Lease Agreement with SPI-Trust pursuant to which the Bedford Lease was amended to, among other things, (i) reduce the leased portion of the premises to 86 thousand square feet of space, effective November 1, 2014, (ii) provide that for the period commencing November 1, 2014 and running through and including July 31, 2015, we shall not be required to pay any base rent, (iii) provide that for the period commencing on August 1, 2015 and running through and including January 31, 2016, base rent under the Bedford Lease shall be $5.00 per square foot and (iv) provide that for the period commencing on February 1, 2016 and running through the end of the term (November 30, 2017), base rent under the Bedford Lease shall be $10.00 per square foot. In addition, SPI-Trust can terminate the Bedford Lease upon 6 months' prior written notice, provided that the Bedford Lease cannot be terminated prior to July 31, 2015.

As of the result of the Transactions, and as of the date these Transactions closed, it is expected that we will no longer have a variable interest in the variable interest entity, N2 Bio, and, accordingly, we will no longer be required to consolidate the assets, liabilities and results of operations of N2 Bio into our financial statements.

Results of Operations

Operating results will depend upon revenue growth or decline and product mix, as well as the timing of shipments of higher priced products from our solar equipment line. Export sales, which amounted to 40% and 31% of net sales and revenues for the nine months ended September 30, 2014 and 2013, respectively, continue to constitute a significant portion of our net sales and revenues.

The following table sets forth certain items as a percentage of net sales and revenues for the periods presented:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2014		2013		2014		2013	
Net sales and revenues	100	%	100	%	100	%	100	%
Cost of sales and revenues	(65	)	(72	)	(79	)	(83	)
Gross margin	35		28		21		17	
Selling, general and administrative expenses	(59	)	(81	)	(60	)	(77	)
Operating loss from continuing operations	(24	)	(53	)	(39	)	(60	)
Other expense, net	(1	)	(1	)	(2	)	—	
Net loss	(25	)	(54	)	(41	)	(60	)
Less: Net income (loss) attributable to noncontrolling interest	12		(3	)	10		(1	)
Net loss attributable to common stockholders	(37	)%	(51	)%	(51	)%	(59	)%

Overall

Our total net sales and revenues for the nine months ended September 30, 2014 were $11.7 million as compared to $11.0 million for the nine months ended September 30, 2013, which represents an increase of $706 thousand or 6%. The increase was primarily attributable to a $458 thousand increase in solar revenue along with a $248 thousand increase in biomedical revenue.

Solar Business Unit

Sales in our solar business unit increased 8% during the nine months ended September 30, 2014 to $6.2 million as compared to $5.8 million for the nine months ended September 30, 2013. The increase in solar business unit revenue is primarily the result of an increase in solar module equipment revenue of $863 thousand and an increase in equipment research and development revenue of $577 thousand, partially offset by a decrease in solar systems revenue of $629 thousand and solar research and development revenue of $384 thousand. Lower government incentives in the photovoltaic market and the world-wide oversupply of photovoltaic modules relative to market demand has led to precipitously declining prices in the photovoltaic market. The oversupply has also resulted in reduced demand for photovoltaic manufacturing equipment that will not improve until the module supply/demand imbalance is rectified via the growing photovoltaic systems market. Our Solar Business Unit has been negatively impacted by this reduction in demand.

Biomedical Business Unit

Revenues from the biomedical business increased 5% during the nine months ended September 30, 2014 to $5.4 million as compared to $5.2 million for the nine months ended September 30, 2013. The increase was primarily attributable to an increase in revenue from the orthopedics coating services of $353 thousand, partially offset by a decrease in revenue from our research and development contracts of $106 thousand.

Three and Nine Months Ended September 30, 2014 Compared to Three and Nine Months Ended September 30, 2013

Net Sales and Revenues

The following table categorizes our net sales and revenues for the periods presented:

	Three Months Ended September 30,		Decrease	
(in thousands)	2014	2013	$	%
Sales of goods	$1,440	$1,776	$(336)	(19)%
Contract research and services revenues	2,301	2,378	(77)	(3)%
Net sales and revenues	$3,741	$4,154	$(413)	(10)%

The 19% decrease in sales of goods for the three months ended September 30, 2014 as compared to the three months ended September 30, 2013 was primarily due to a decrease of $625 thousand in solar systems revenue, partially offset by an increase of $237 thousand in solar module manufacturing equipment revenue. The decrease in solar systems revenue of 100% in 2014 as compared to 2013 was primarily due to the completion of two solar system projects in 2013. The increase in solar module manufacturing equipment revenue of 21% in 2014 as compared to 2013 was primarily due to an increase in individual module equipment units delivered in 2014. Lower government incentives in the photovoltaic market and the world-wide oversupply of photovoltaic modules relative to market demand has led to precipitously declining prices in the photovoltaic market. The oversupply has also resulted in reduced demand for photovoltaic manufacturing equipment that will not improve until the module supply/demand imbalance is rectified via the growing photovoltaic systems market. Our Solar Business Unit has been negatively impacted by this reduction in demand.

The 3% decrease in contract research and services revenues for the three months ended September 30, 2014 as compared to the three months ended September 30, 2013 is primarily attributable to a decrease of $270 thousand in research and development revenue, partially offset by an increase of $194 thousand in biomedical service revenue. The decrease in research and development revenue of 40% in 2014 as compared to 2013 was primarily due to the completion of projects in 2013 that were not replaced in 2014. Revenues from our biomedical services increased 5% in 2014 as compared to 2013 as a result of an increase in revenue from a large customer in 2014.

The following table categorizes our net sales and revenues for the periods presented:

	Nine Months Ended September 30,		Increase	
(in thousands)	2014	2013	$	%
Sales of goods	$4,479	$4,213	$266	6%
Contract research and services revenues	7,193	6,753	440	7%
Net sales and revenues	$11,672	$10,966	$706	6%

The 6% increase in sales of goods for the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013 was primarily due to an increase of $863 thousand in solar module manufacturing equipment revenue, partially offset by a decrease of $629 thousand in solar systems revenue. The increase in solar module manufacturing equipment sales of 25% in 2014 as compared to 2013 was primarily due to an increase in individual module equipment units delivered in 2014. The decrease in solar systems revenue of 100% in 2014 as compared to 2013 was primarily due to the completion of two solar system projects in 2013. Lower government incentives in the photovoltaic market and the world-wide oversupply of photovoltaic modules relative to market demand has led to precipitously declining prices in the photovoltaic market. The oversupply has also resulted in reduced demand for photovoltaic manufacturing equipment that will not improve until the module supply/demand imbalance is rectified via the growing photovoltaic systems market. Our Solar Business Unit has been negatively impacted by this reduction in demand.

The 7% increase in contract research and services revenues for the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013 is primarily attributable to an increase of $353 thousand in biomedical service revenue and an increase of $87 thousand in research and development revenue. Revenues from our biomedical services increased 7% in 2014 as compared to 2013 as a result of an increase in revenue from a large customer in 2014. The increase in research and development revenue of 5% in 2014 as compared to 2013 was primarily due to the completion of a large project in 2014.

Cost of Sales and Revenues

The following table categorizes our cost of sales and revenues for the periods presented, stated in dollars and as a percentage of related sales and revenues:

	Three Months Ended September 30,						Decrease		
(in thousands)	2014	%		2013	%		$	%	
Cost of goods sold	$1,418	98	%	$1,868	105	%	$(450	) (24	)%
Cost of contract research and services	1,002	44	%	1,101	46	%	(99	) (9	)%
Net cost of sales and revenues	$2,420	65	%	$2,969	71	%	$(549	) (18	)%

Cost of goods sold decreased 24% for the three months ended September 30, 2014 as compared to the three months ended September 30, 2013, primarily due to a decrease of $500 thousand, in costs related to solar systems, partially offset by an increase of $88 thousand, in costs related to solar materials. The decrease in solar system costs of 99% in 2014 as compared to 2013 was primarily due to the completion of two solar system projects in 2013. The increase in solar material costs in 2014 as compared to 2013 was primarily due to an increase in individual module equipment units delivered in 2014. As a percentage of sales, cost of goods sold decreased to 98% of sales of goods in 2014 as compared to 105% of sales of goods in 2013. This decrease in the percentage of sales in 2014 is due primarily the delivery of higher margin solar module manufacturing equipment in 2014.

Cost of contract research and services decreased 9% for the three months ended September 30, 2014 as compared to the three months ended September 30, 2013, primarily due to a decrease of $166 thousand in costs related to research and development services, partially offset by an increase of $67 thousand in costs related to biomedical services. The decrease in research and development services costs of 66% in 2014 as compared to 2013 was primarily due to a reduction of active projects being worked on in 2014. The increase in biomedical service costs of 8% in 2014 as compared to 2013 was primarily due to an increase in associated revenue. Cost of contract research and services as a percentage of related revenue decreased to 44% of related revenues in 2014 from 46% in 2013. This decrease in the percentage of sales in 2014 is primarily due to higher margin biomedical services provided in 2014.

Cost of sales and revenues also includes approximately zero and $1 thousand of share-based compensation for the three months ended September 30, 2014 and 2013, respectively.

The following table categorizes our cost of sales and revenues for the periods presented, stated in dollars and as a percentage of related sales and revenues:

	Nine Months Ended September 30,						Increase (Decrease)		
(in thousands)	2014	%		2013	%		$	%	
Cost of goods sold	$5,262	117	%	$5,561	132	%	$(299	) (5	)%
Cost of contract research and services	3,888	54	%	3,482	52	%	406	12	%
Net cost of sales and revenues	$9,150	78	%	$9,043	82	%	$107	1	%

Cost of goods sold decreased 5% for the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013, primarily due to a decrease of $619 thousand in costs related to solar systems, partially offset by an increase of $221 thousand in costs related to solar module equipment. The decrease in solar system costs of 99% in 2014 as compared to 2013 was primarily due to the completion of two solar system projects in 2013. The increase in solar module equipment costs of 5% in 2014 as compared to 2013 was primarily due to an increase in individual module equipment units delivered in 2014. As a percentage of sales, cost of goods sold decreased to 117% of sales of goods in 2014 as compared to 132% of sales of goods in 2013. This decrease in the percentage of sales in 2014 is due primarily to the delivery of higher margin solar module manufacturing equipment in 2014.

Cost of contract research and services increased 12% for the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013, primarily due to an increase of $403 thousand in costs related to research and development services. The increase in research and development services costs of 50% in 2014 as compared to

2013 was primarily due to the completion of a large project in 2014. Cost of contract research and services as a percentage of related revenue increased to 54% of related revenues in 2014 from 52% in 2013. This increase in the percentage of sales in 2014 is primarily due to lower margin from the completion of a large research and development project in the first quarter of 2014.

Cost of sales and revenues also includes approximately zero and $18 thousand of share-based compensation for the nine months ended September 30, 2014 and 2013, respectively.

Operating Expenses

The following table categorizes our operating expenses for the periods presented, stated in dollars and as a percentage of total sales and revenues:

	Three Months Ended September 30,				Decrease	
(in thousands)	2014	%	2013	%	$	%
Selling, general and administrative	$2,197	59 %	$3,381	81 %	$(1,184)	(35)%
Internal research and development	5	— %	15	— %	(10)	(67)%
Operating expenses	$2,202	59 %	$3,396	82 %	$(1,194)	(35)%

Selling, General and Administrative Expenses

Selling, general and administrative expense decreased 35% in the three months ended September 30, 2014 as compared to the three months ended September 30, 2013, primarily as a result of nonrecurring transaction related costs of $824 thousand associated with the N2 Biomedical transaction in the third quarter of 2013. Selling, general and administrative expense decreased to 59% of sales and revenues in 2014 as compared to 81% in 2013. The decrease was primarily due to the nonrecurring transaction related costs associated with the N2 Biomedical transaction in the third quarter of 2013.

Selling, general and administrative expenses include approximately $8 thousand and $10 thousand of share-based compensation for the three months ended September 30, 2014 and 2013, respectively.

Internal Research and Development

Internal research and development expense decreased 67% in the three months ended September 30, 2014 as compared to the three months ended September 30, 2013, primarily as a result of slightly lower levels of research and development spent in the solar group. As a percentage of sales and revenue, internal research and development expenses remained constant in 2014 when compared to 2013.

The following table categorizes our operating expenses for the periods presented, stated in dollars and as a percentage of total sales and revenues:

	Nine Months Ended September 30,				Decrease	
(in thousands)	2014	%	2013	%	$	%
Selling, general and administrative	$7,003	60 %	$8,466	77 %	$(1,463)	(17)%
Internal research and development	32	— %	38	— %	(6)	(16)%
Operating expenses	$7,035	60 %	$8,504	78 %	$(1,469)	(17)%

Selling, General and Administrative Expenses

Selling, general and administrative expense decreased 17% in the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013, primarily as a result of nonrecurring transaction related costs of $824 thousand associated with the N2 Biomedical transaction in the third quarter of 2013 and as a result of an increased benefit of approximately $498 thousand related to the change in value, including realized gains, of the deferred compensation plan. In addition there was a decrease in employee related expenses of approximately $345thousand due to a reduction in workforce. These amounts were partially offset by an increase in legal costs of approximately $733 thousand, which includes costs related to a settlement in dispute in the first quarter of 2014.

Income of approximately $393 thousand was realized related to the change in value of the deferred compensation plan and realized gains on the sale of available-for-sale investments for the nine months ended September 30, 2014. Selling, general and administrative expense decreased to 60% of sales and revenues in 2014 as compared to 77% in 2013. The decrease was primarily due to the nonrecurring transaction related costs associated with the N2 Biomedical transaction in the third quarter of 2013 along with the decreased expenses related to the deferred compensation plan.

Selling, general and administrative expenses include approximately $39 thousand and $70 thousand of share-based compensation for the nine months ended September 30, 2014 and 2013, respectively.

Internal Research and Development

Internal research and development expense decreased 16% in the nine months ended September 30, 2014 as compared to the nine months ended September 30, 2013, primarily as a result of slightly lower levels of research and development spent in the solar group. As a percentage of sales and revenue, internal research and development expenses remained constant in 2014 when compared to 2013.

Other Expense, Net

We incurred interest expense, net of $67 thousand and $20 thousand for the three months ended September 30, 2014 and 2013, respectively. The increase in interest expense is due to increased debt related to the term note with Middlesex Savings Bank retained in the third quarter of 2013. We had nominal currency exchange gains and losses during the three months ended September 30, 2014 and 2013, respectively.

We incurred interest expense, net of $212 thousand and $49 thousand for the nine months ended September 30, 2014 and 2013, respectively. The increase in interest expense is due to increased debt related to the term note with Middlesex Savings Bank retained in the third quarter of 2013. We had nominal currency exchange gains and losses during the nine months ended September 30, 2014 and 2013, respectively.

Income Taxes

We recorded a state income tax provision of zero and $1 thousand during the three months ended September 30, 2014 and 2013, respectively. We recorded a state income tax provision of $2 thousand and $3 thousand during the nine months ended September 30, 2014 and 2013, respectively. Gross federal net operating loss carryforwards were approximately $13.9 million as of December 31, 2013 and expire at various times through 2033. We have a full valuation allowance recorded against the net deferred tax assets at September 30, 2014 due to uncertainty regarding realization of these assets in the future.

Net Loss

We reported net loss of $0.9 million and $2.2 million for the three months ended September 30, 2014 and 2013, respectively. Net loss decreased approximately $1.3 million, primarily due to a $1.2 million decrease in operating expenses and improved margin in solar module manufacturing equipment and biomedical services of $267 thousand and $127 thousand, respectively, partially offset by decreased margin in solar systems and research and development services of $125 thousand and $105 thousand, respectively, and a $47 thousand increase in interest expense, net.

We reported net loss of $4.7 million and $6.6 million for the nine months ended September 30, 2014 and 2013, respectively. Net loss decreased approximately $1.9 million, primarily due to a $1.5 million decrease in operating expenses and improved margin in solar module manufacturing equipment and biomedical services of $642 thousand and $351 thousand, respectively, partially offset by decreased margin in research and development services of $315 thousand and a $163 thousand increase in interest expense, net.

Net Income (Loss) Attributable to Noncontrolling Interest

We reported a net income attributable to noncontrolling interest of $430 thousand and net loss attributable to noncontrolling interest of 187 thousand for three months ended September 30, 2014 and 2013, respectively. We reported a net income attributable to noncontrolling interest of $1,208 thousand and net loss attributable to noncontrolling interest of $187 thousand for nine months ended September 30, 2014 and 2013, respectively. Net income attributable to noncontrolling interest represents 80.1% of N2 Bio's net income for the three and nine months ended September 30, 2014.

Net Loss Attributable to Common Stockholders

We reported net loss attributable to common stockholders of $1.4 million and $2.0 million for the three months ended September 30, 2014 and 2013, respectively. Net loss attributable to common stockholders decreased approximately $668 thousand, primarily due to a $1.2 million decrease in operating expenses and improved margin in solar module manufacturing equipment and biomedical services of $267 thousand and $127 thousand, respectively, partially offset by decreased margin in solar systems and research and development services of $125 thousand and $105 thousand, respectively, a reduction in net income attributable to noncontrolling interest of $617 thousand and a $47 thousand increase in interest expense, net.

We reported net loss attributable to common stockholders of $5.9 million and $6.5 million for the nine months ended September 30, 2014 and 2013, respectively. Net loss attributable to common stockholders decreased approximately $520 thousand, primarily due to a $1.5 million decrease in operating expenses and improved margin in solar module manufacturing equipment and biomedical services of $642 thousand and $351 thousand, respectively, partially offset by decreased margin in research and development services of $315, a reduction in net income attributable to noncontrolling interest of $1.4 million and a $47 thousand increase in interest expense, net.

Liquidity and Capital Resources

(in thousands)	September 30, 2014	December 31, 2013	Decrease $	%
Cash and cash equivalents	$722	$3,986	$(3,264)	(82)%
Working capital (deficit)	$(1,710)	$3,704	$(5,414)	(146)%

Cash and cash equivalents decreased due to cash used in operating and financing activities and to a lesser extent cash used in investing activities. The overall decrease in working capital is due to a decrease in current assets, primarily cash, available-for-sale investments, deferred cost of goods sold and prepaid expenses and other current assets along with an increase in accounts payable and advances on contracts in progress, partially offset by an increase in inventories, accounts receivable trade and a decrease in deferred compensation and revolving lines of credit. We have historically funded our operating cash requirements using operating cash flow, proceeds from the sale and licensing of technology and assets and proceeds from the sale of equity securities.

There are no material commitments by us for capital expenditures. At September 30, 2014, our accumulated deficit was approximately $30.4 million, compared to accumulated deficit of approximately $24.4 million as of December 31, 2013.

Operating results will depend upon revenue growth or decline and product mix, as well as the timing of shipments of higher priced products from our solar equipment line and delivery of research and development services. Export sales, which amounted to 40% and 31% of net sales and revenues for the nine months ended September 30, 2014 and 2013, respectively, continue to constitute a significant portion of our net sales and revenues.

Net cash used in operating activities was $1.9 million for the nine months ended September 30, 2014, which includes proceeds of $3.9 million from the sale of available-for-sale investments, offset by deferred compensation payments of $3.9 million. Net cash used in operating activities was $3.7 million for the nine months ended September 30, 2013, which includes $150 thousand of cash used in operating activities of discontinued operations. As of September 30, 2014, we had unrestricted cash and cash equivalents of $722 thousand compared to $4.0 million as of December 31, 2013.

The Revolving Credit Facility and the Ex-Im Facility with Silicon Valley Bank expired on April 30, 2014 and will not be renewed. As a result of our cash resources, our operating loss and cash used in operating activities, as well as the expiration of our credit facilities, among other things, in our Annual Report on Form 10-K for the year ended December 31, 2013, our independent registered public accounting firm expressed a substantial doubt about our ability to continue as a going concern in their report on our consolidated financial statements dated March 31, 2014. Our current cash resources, coupled with lack of financing, delays in shipments of certain products, the corresponding delay in receipt of expected revenue from such products, and the imposition of stricter payment terms from certain of our suppliers, have added additional constraints on our liquidity and operations. Accordingly, we cannot provide any assurances of our continued operations and liquidity.

We continue to explore various alternatives on how to fund future operational losses or working capital needs, including but not limited to sales of equity, bank debt, private lenders, the sale or license of assets and technology, or joint ventures involving cash infusions, as we have done in the past; however, there are no assurances that we will be able to sell equity, obtain or access bank debt or alternative financing, sell or license assets or technology or enter into such joint ventures on a timely basis and at appropriate values or on acceptable terms, if at all. We have developed several plans including potential strategic alternatives, cost reduction efforts, expand revenue in other solar markets and we have implemented certain payroll savings plans to offset a decline in business due to global economic conditions. Our inability to successfully implement our cost reduction strategies, expand revenue in other solar markets or to replace our expired credit facilities, could adversely impact our ability to continue as a going concern.

The financial statements do not include any adjustments that might be necessary if we are unable to continue as a going concern.

Loan Agreements

Prior to their expiration on April 30, 2014, we had two separate credit facilities with Silicon Valley Bank (the “Bank” or “SVB”): (i) a Second Amended and Restated Loan and Security Agreement (as amended, the “Revolving Credit Facility”) and

(ii) an Amended and Restated Export-Import Bank Loan and Security Agreement (as amended, the "Ex-Im Facility") pursuant to which outstanding amounts under this facility are guaranteed by the Export-Import Bank of the United States (the "EXIM Bank"). The credit facilities provided an aggregate amount of $1.5 million under both facilities, with up to $1 million under the Revolving Credit Facility and up to $1.5 million under the Ex-Im Facility. Under the credit facilities, interest on outstanding borrowings accrued at a rate per annum equal to the greater of (i) the prime rate plus 2.5% or (ii) 7.0%. The entire amount owed under the credit facilities was repaid by April, 30, 2014.

N2 Bio has two separate agreements under one credit facility with Middlesex Savings Bank ("MSB"): (i) a Secured Term Loan and (ii) a Secured Revolving Demand Note. Under the Secured Term Loan, N2 Bio borrowed $6.0 million on September 18, 2013 to finance the purchase of the Bio Business Unit from the Company. The advance made under the Secured Term Loan will bear interest at a fixed rate of 4.5% per annum in eighty-four (84) consecutive monthly payments starting on October 18, 2013. If not sooner paid, the Secured Term Loan shall be due and payable in full on September 18, 2020. The Secured Revolving Demand Note provides an amount available of up to $1.0 million. Advances made under the Secured Revolving Demand Note will bear interest at MSB's prime rate, as determined, plus 0.5% per annum but in no event shall the interest rate be less than 3.75% per annum. The maturity date of the Secured Revolving Demand Note is May 31, 2015.

N2 Bio's obligations under the credit facility, is secured by substantially all of the assets of N2 Bio. Advances under the Secured Revolving Demand Note are limited to 75% of eligible receivables. In addition, until all amounts under the credit facility with MSB are repaid, covenants under the credit facility impose restrictions on the N2 Bio's ability to, among other things, incur additional indebtedness, create or permit liens on the N2 Bio's assets, merge, consolidate or dispose of assets (other than in the ordinary course of business), make dividend and other restricted payments, make certain debt or equity investments, make certain acquisitions, engage in certain transactions with affiliates or change the business conducted by the N2 Bio. Any failure by N2 Bio to comply with the covenants and obligations under the credit facility could result in an event of default, in which case MSB may be entitled to declare all amounts owed to be due and payable immediately.

Advances outstanding under the Revolving Credit Facility were zero and $107 thousand at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the Ex-Im Facility were zero and $38 thousand at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the N2 Bio Secured Term Loan were $5.3 million and $5.8 million at September 30, 2014 and December 31, 2013, respectively. Advances outstanding under the N2 Bio Secured Revolving Demand Note were zero and $438 thousand at September 30, 2014 and December 31, 2013, respectively. The interest rate per annum on the N2 Bio Secured Term Loan and Secured Revolving Demand Note on September 30, 2014 was 4.5% and 3.75%, respectively. Availability under the N2 Bio Secured Revolving Demand Note was $669 thousand as of September 30, 2014.

Net Cash Used in Operating Activities

Net cash used in operating activities was $1.9 million for the nine months ended September 30, 2014, which includes proceeds of $3.9 million from the sale of available-for-sale investments, offset by deferred compensation payments of $3.9 million. Net cash used in operating activities was $3.7 million for the nine months ended September 30, 2013, which includes $150 thousand of cash used in operating activities of discontinued operations. As of September 30, 2014, we had unrestricted cash and cash equivalents of $722 thousand compared to $4.0 million as of December 31, 2013.

Foreign Currency Fluctuation

We sell almost exclusively in U.S. dollars, generally against an irrevocable non-transferable confirmed letter of credit through a major United States bank. Accordingly, we are not directly affected by foreign exchange fluctuations on our current sales orders. However, fluctuations in foreign exchange rates do have an effect on our customers' access to U.S. dollars and on the pricing competition on certain pieces of equipment that we sell in selected markets. We bear the risk of any currency fluctuations that may be associated with these commitments. We attempt to hedge known transactions when possible to minimize foreign exchange risk. We had no hedging activity during the first nine months of 2014 and 2013. Foreign exchange loss included in other expense, net, was nominal during the three and nine months ended September 30, 2014 and 2013.

Related Party Transactions

On November 30, 2007, we entered into a new Lease Agreement (the "Bedford Lease") with SPI-Trust, a trust of which Roger G. Little, Chairman of the Board of the Company, is the sole trustee and principal beneficiary, with respect to 144,230 square feet of space comprising the entire building in which we have occupied space since December 1, 1985. The term of the Bedford Lease commenced on December 1, 2007 and was originally set to expire on November 30, 2012. The annual rental rate for the first year of the Bedford Lease was $12.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building. The annual rental rate increased on each anniversary by $0.75 per square foot.

On September 17, 2010, we entered into the First Amendment to Lease Agreement with SPI-Trust to amend the Bedford Lease. The term of the Bedford Lease was extended for an additional five (5) years to expire on November 30, 2017. The annual rental rate for the first year of the extended term (December 1, 2012 through November 30, 2013) is $16.00 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building. After the first year of the extended term of the Bedford Lease, the annual rental rate increases on each anniversary by $0.50 per square foot. We have the right to further extend the term of the Bedford Lease for an additional five (5) year period. If we exercise this right to further extend the term of the Bedford Lease, the annual rental rate for the first year of the further extended term will be the greater of: (a) the rental rate in effect immediately preceding the commencement of the extended term; or (b) the market rate at such time, and on each anniversary of the commencement of the extended term the rental rate will increase by $0.50 per square foot. Additionally, SPI-Trust agreed to reimburse us up to $50 thousand for all costs incurred by us in connection with any alterations or improvements to the premises or repairs or replacements to the heating and air conditioning systems.

On September 18, 2013, we entered into the Second Amendment to Lease Agreement with SPI-Trust to amend the Bedford Lease. The leased portion of the premises and annual base rent in Bedford, Massachusetts was reduced by approximately 19%. All other material terms and conditions related to the lease remain unchanged as of such date. We believe that the terms of the Bedford Lease, as amended, are commercially reasonable. Rent expense under the Bedford Lease was $390 thousand and $578 thousand for the three months ended September 30, 2014 and 2013, respectively, and $1.2 million and $1.7 million for the nine months ended September 30, 2014 and 2013, respectively.

On September 18, 2013, N2 Bio entered into a Lease Agreement (the “N2 Bio Bedford Lease”) with SPI-Trust with respect to 27 thousand square feet of space in the premises in Bedford, Massachusetts. The term of the N2 Bio Bedford Lease commenced on September 18, 2013 and is set to expire on November 30, 2020. The annual rental rate prorated for September 18, 2013 to November 30, 2013 is $16.00 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building. The annual rental rate increases on December 1, 2013 and each anniversary thereafter by $0.50 per square foot. We believe that the terms of the N2 Bio Bedford Lease are commercially reasonable. Rent expense under the N2 Bio Bedford Lease was $121 thousand and $14 thousand for the three months ended September 30, 2014 and 2013, respectively, and $364 thousand and $14 thousand for the nine months ended September 30, 2014 and 2013, respectively.

Related Party Transactions on October 10, 2014

As previously disclosed, in September 2013, we sold the Bio Business Unit to N2 Bio. The purchase price for the Bio Business Unit was $10.5 million plus the assumption of liabilities of approximately $100 thousand, with $6.0 million paid in cash at closing, a $2.4 million subordinated convertible promissory note (the “N2 Note”), and 310,549 Series A Preferred Units of N2 (the “N2 Units”) valued at approximately $2.1 million. See Note 13 to the unaudited condensed consolidated financial statements.

On October 10, 2014, in order to increase working capital, eliminate significant unpaid rent obligations and substantially reduce future rent obligations, we entered into a series of agreements with Roger G. Little, our Chairman of the Board of Directors, and SPI-Trust, a trust of which Mr. Little is the sole trustee and principal beneficiary (the “Transactions”). SPI-Trust is the owner of the building in Bedford, MA in which we lease our space. Under the Bedford Lease prior to the amendment discussed below, we leased 117 thousand square feet of space at a rate of $16.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building, with annual increases of $0.50 per square foot. The Bedford Lease expires on November 30, 2017.

In connection with the Transactions, we entered into the following agreements:

1.A Note Purchase and Assignment Agreement with Mr. Little pursuant to which we sold the N2 Note to Mr. Little in exchange for (i) $1.5 million in cash and (ii) the forgiveness of $200 thousand of compensation owed by us to Mr. Little. In addition, as part of the transaction, Mr. Little was issued a five-year warrant to purchase 1.0 million shares of our common stock for an exercise price per share of $0.276 (representing 120% of the closing price of the common stock on such date).

2.An Equity Ownership Interest Transfer Agreement with SPI-Trust pursuant to which we sold the N2 Units to SPI-Trust in exchange for (i) the forgiveness of approximately $1.9 million in unpaid rent for the period from October 1, 2013 through October 31, 2014 and (ii) the agreement to enter into an amendment to the Bedford Lease, as described below.

3.The Third Amendment to Lease Agreement with SPI-Trust pursuant to which the Bedford Lease was amended to, among other things, (i) reduce the leased portion of the premises to 86 thousand square feet of space, effective November 1, 2014,

(ii) provide that for the period commencing November 1, 2014 and running through and including July 31, 2015, we shall not be required to pay any base rent, (iii) provide that for the period commencing on August 1, 2015 and running through and including January 31, 2016, base rent under the Bedford Lease shall be $5.00 per square foot and (iv) provide that for the period commencing on February 1, 2016 and running through the end of the term (November 30, 2017), base rent under the Bedford Lease shall be $10.00 per square foot. In addition, SPI-Trust can terminate the Bedford Lease upon 6 months' prior written notice, provided that the Bedford Lease cannot be terminated prior to July 31, 2015.

Critical Accounting Policies

The preparation of financial statements in accordance with accounting principles generally accepted in the United States requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Among the significant estimates affecting our condensed consolidated financial statements are those relating to revenue recognition, reserves for doubtful accounts, reserve for excess and obsolete inventory, impairment of long-lived assets, share-based compensation and warranty reserves. We regularly evaluate our estimates and assumptions based upon historical experience and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. To the extent actual results differ from those estimates, our future results of operations may be affected. We believe the critical accounting policies affect our more significant judgments and estimates used in the preparation of our condensed consolidated financial statements. A summary of significant accounting policies and a description of accounting policies that are considered critical may be found in our Annual Report on Form 10-K for the year ended December 31, 2013, in Note 2 of the notes to consolidated financial statements and the Critical Accounting Policies section of Management's Discussion and Analysis of Financial Condition and Results of Operations.

Contractual Obligations, Commercial Commitments and Off-Balance Sheet Arrangements

The following table summarizes our gross contractual obligations at September 30, 2014 and the maturity periods and the effect that such obligations are expected to have on our liquidity and cash flows in future periods:

	Payments Due by Period				
Contractual Obligations	Total	Less than 1 Year	2 - 3 Years	4 - 5 Years	More Than 5 Years
(in thousands)					
Term Note (MSB)	$6,018	$1,003	$2,006	$2,006	$1,003
Purchase obligations	$494	$429	$65	$—	$—
Operating leases:					
Unrelated party operating leases	$160	$108	$49	$3	$—
Related party operating leases	$8,582	$2,155	$4,503	$1,311	$613

Purchase obligations include open purchase orders which are firm, non-cancelable and unconditional. Included in purchase obligations are raw material, equipment and services needed to fulfill customer orders.

Related party operating leases do not include reduced lease payments included in the Third Amendment to Lease Agreement with SPI-Trust. See above, "Related Party Transactions on October 10, 2014".

Outstanding letters of credit totaled $188 thousand and $170 thousand at September 30, 2014 and December 31, 2013, respectively. The letters of credit secure performance obligations and purchase commitments, and allow holders to draw funds up to the face amount of the letter of credit if we do not perform as contractually required. The outstanding letters of credit are secured by restricted cash.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Not required as we are a smaller reporting company.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) was performed under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of September 30, 2014 to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and that information required to be disclosed under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2014 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

Except as set forth below, there have been no material changes to the legal proceedings disclosure included in Part I, Item 3 (“Legal Proceedings”) of our Annual Report on Form 10-K for the year ended December 31, 2013 and Part II, Item 1, of our Quarterly Report on From 10-Q for the period ended March 31, 2014.

On December 10, 2013, Stifel, Nicolaus & Company, Inc. ("Stifel") filed a complaint against the Company in the United States District Court for the Southern District of New York (the "Court"), alleging breach of contract related to Stifel's activities acting as an investment banker for us. The complaint alleged that the Company owed certain amounts to Stifel. In October 2014, the Company and Stifel reached a settlement whereby the parties agreed to voluntarily dismiss the action with prejudice, and the Company agreed to pay to Stifel a sum with a net present value of $587 thousand, which amount is secured by a security interest in certain collateral. Payments will be made in installments through July 2019. The Court dismissed the matter with prejudice on October 21, 2014.

Item 1A. Risk Factors

Except as set forth in our Quarterly Report on Form 10-Q for the period ended March 31, 2014, there have been no material changes in the Risk Factors described in Part I, Item 1A (“Risk Factors”) of our Annual Report on Form 10-K for the year ended December 31, 2013.

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

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit	Description
31.1	Certification of the Chief Executive Officer and President pursuant to §302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer and Treasurer pursuant to §302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Chief Executive Officer and President pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Chief Financial Officer and Treasurer pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Lable Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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.

		Spire Corporation
Dated:	November 13, 2014	By: /s/ Rodger W. LaFavre Rodger W. LaFavre Chief Executive Officer and President (Principal Executive Officer)
Dated:	November 13, 2014	By: /s/ Robert S. Lieberman Robert S. Lieberman Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)

EXHIBIT INDEX

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