SPIRE CORP
Form 10-Q
May 15, 2009

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

FORM 10-Q

|X| Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 For the quarterly period ended March 31, 2009; 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	04-2457335
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

ONE PATRIOTS PARK, BEDFORD, MASSACHUSETTS	01730-2396
(Address of principal executive offices)	(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 |X| 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 (ss.232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes |_| No |_|

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See 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 |_| (Do not check if a smaller reporting company)   Smaller reporting company |X|

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

The number of shares of the registrant's common stock outstanding as of May 7, 2009 was 8,334,688.

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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)

	March 31, 2009	December 31, 2008
ASSETS		
Current assets		
Cash and cash equivalents	$ 2,329	$ 5,971
Restricted cash - current portion	4,044	4,167
	6,373	10,138
Accounts receivable - trade, net	8,979	8,873
Inventories, net	20,169	17,876
Deferred cost of goods sold	17,901	17,088
Deposits on equipment for inventory	3,996	3,433
Prepaid expenses and other current assets	553	468
Total current assets	57,971	57,876
Property and equipment, net	6,290	6,089
Intangible and other assets, net	855	846
Available-for-sale investments, at quoted market value (cost of $1,747 and $1,859 at March 31, 2009 and December 31, 2008, respectively)	1,369	1,434
Equity investment in joint venture	1,193	1,473
Deposit - related party	300	300
Total other assets	3,717	4,053
Total assets	$ 67,978	$ 68,018
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Current portion of equipment and revolving line of credit	$ 2,667	$ 2,667
Accounts payable	10,176	5,161
Accrued liabilities	7,363	8,704
Current portion of advances on contracts in progress	33,520	34,509
Total current liabilities	53,726	51,041
Long-term portion of equipment line of credit	292	583
Long-term portion of advances on contracts in progress	7	1,149
Deferred compensation	1,369	1,434
Other long-term liabilities	370	293
Total long-term liabilities	2,038	3,459
Total liabilities	55,764	54,500

Stockholders' equity		
Common stock, $0.01 par value; 20,000,000 shares authorized; 8,334,688 and 8,330,688 shares issued and outstanding on March 31, 2009 and December 31, 2008, respectively	83	83
Additional paid-in capital	20,947	20,774
Accumulated deficit	(8,438)	(6,914)
Accumulated other comprehensive loss	(378)	(425)
Total stockholders' equity	12,214	13,518
Total liabilities and stockholders' equity	$ 67,978	$ 68,018

See accompanying notes to 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 MARCH 31,	
	2009	2008
Net sales and revenues		
Sales of goods	$ 9,429	$ 10,995
Contract research, service and license revenues	2,865	3,543
Total net sales and revenues	12,294	14,538
Costs of sales and revenues		
Cost of goods sold	8,677	8,494
Cost of contract research, services and licenses	2,164	2,374
Total cost of sales and revenues	10,841	10,868
Gross margin	1,453	3,670
Operating expenses		
Selling, general and administrative expenses	4,045	3,778
Internal research and development expenses	311	111
Total operating expenses	4,356	3,889
Gain on termination of contract	1,535	--
Loss from operations	(1,368)	(219)

Interest expense, net	(58)	(60)
Loss on equity investment in joint venture	(280)	(130)
Foreign exchange gain (loss)	209	(114)
Other expense, net	(129)	(304)
Loss before income tax provision	(1,497)	(523)
Income tax provision	(27)	--
Net loss	$ (1,524)	$ (523)
Loss per share - basic and diluted	$ (0.18)	$ (0.06)
Weighted average number of common and common equivalent shares outstanding - basic and diluted	8,333,132	8,322,919

See accompanying notes to unaudited condensed consolidated financial statements.

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

	THREE MONTHS ENDED MAR	
	2009	20
Cash flows from operating activities:		
Net loss	$ (1,524)	$
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization	369	
Loss on equity investment in joint venture	280	
Deferred compensation	47	
Stock-based compensation	149	
Provision for rebates, returns and accounts receivable reserves	97	
Provision for inventory reserve	53	
Changes in assets and liabilities:		
Restricted cash	123	
Accounts receivable	(203)	
Inventories	(2,346)	(
Deferred cost of goods sold	(813)	
Deposits, prepaid expenses and other current assets	(648)	
Accounts payable, accrued liabilities and other liabilities	3,751	
Advances on contracts in progress	(2,131)	(
Net cash (used in) provided by operating activities	(2,796)	

Cash flows from investing activities:		
Purchase of property and equipment	(551)	
Increase in intangible and other assets	(28)	
Net cash used in investing activities	(579)	
Cash flows from financing activities:		
Principal payments on capital lease obligations - related parties	--	
Principal payments on equipment line of credit, net	(291)	
Proceeds from exercise of stock options	24	
Net cash used in financing activities	(267)	
Net decrease in cash and cash equivalents	(3,642)	
Cash and cash equivalents, beginning of period	5,971	
Cash and cash equivalents, end of period	$ 2,329	$
Supplemental disclosures of cash flow information:		
Interest paid	$ 69	$
Interest received	$ 11	$
Interest paid - related party	$ --	$
Income taxes paid	$ 25	$

See accompanying notes to unaudited condensed consolidated financial statements.

SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

MARCH 31, 2009 AND 2008

1. DESCRIPTION OF THE BUSINESS

Spire Corporation ("Spire" or the "Company") develops, manufactures and markets highly-engineered products and services in three principal business areas: (i) capital equipment for the PV solar industry, (ii) biomedical and (iii) optoelectronics, generally bringing to bear expertise in materials technologies, surface science and thin films across all three business areas, discussed below.

In the PV 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.

In the biomedical area, 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; develops and markets coated and uncoated hemodialysis catheters and related devices for the treatment of chronic kidney disease; and performs sponsored research programs into practical applications of advanced biomedical and biophotonic technologies.

In the optoelectronics area, the Company provides custom compound semiconductor foundry and fabrication services on a merchant basis to customers involved in biomedical/biophotonic instruments, telecommunications and defense applications. Services include compound semiconductor wafer growth, other thin film processes and related device processing and fabrication services. The Company also provides materials testing services and performs services in support of sponsored research into practical applications of optoelectronic technologies.

Operating results will depend upon revenue growth and product mix, as well as the timing of shipments of higher priced products from the Company's solar equipment line and delivery of solar systems. Export sales, which amounted to 40% of net sales and revenues for the quarter ending March 31, 2009, continue to constitute a significant portion of the Company's net sales and revenues.

The Company has incurred operating losses before non-recurring gains in 2009 and 2008. Loss from operations, before gain on termination of contract, was $2.9 million for the three months ended March 31, 2009 and $267 thousand for the year ended December 31, 2008. For the three months ended March 31, 2009, the cash loss (loss from operations less gain on termination of contract plus or minus non-cash adjustments) was $1.8 million. For the year ended December 31, 2008, the cash gain (income from operations less gain on termination of contract plus or minus non-cash adjustments) was $4.1 million. The gain in 2008 was primarily attributed to margins from the Company's solar business unit. As of March 31, 2009, the Company had unrestricted cash and cash equivalents of $2.3 million compared to unrestricted cash and cash equivalents of $6.0 million as of December 31, 2008. The Company has numerous options on how to fund future operational losses or working capital needs, including but not limited to sales of equity, bank debt or the sale or license of assets and technology, as it has done in the past; however, there are no assurances that the Company will be able to sell equity, obtain bank debt, or sell or license assets or technology on a timely basis and at appropriate values. The Company has developed several plans including cost containment efforts and outside financing to offset a decline in business due to a further deepening of the current global economic recession. As a result, the Company believes it has sufficient resources to finance its current operations through at least March 31, 2010.

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 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, 2008, included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission.

In the opinion of management, the accompanying unaudited, condensed consolidated financial statements contain all adjustments necessary to fairly present the Company's financial position as of March 31, 2009 and December 31,

2008 and the

results of its operations and cash flows for the three months ended March 31, 2009 and 2008. The results of operations for the three months ended March 31, 2009 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2009. The condensed consolidated balance sheet as of December 31, 2008 has been derived from audited financial statements as of that date.

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, 2008.

New Accounting Pronouncements

In December 2007, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 141R ("FAS 141R"), BUSINESS COMBINATIONS, which revises FAS 141 and changes multiple aspects of the accounting for business combinations. Under the guidance in FAS 141R, the acquisition method must be used, which requires the acquirer to recognize most identifiable assets acquired, liabilities assumed, and non-controlling interests in the acquiree at their full fair value on the acquisition date. Goodwill is to be recognized as the excess of the consideration transferred plus the fair value of the non-controlling interest over the fair values of the identifiable net assets acquired. Subsequent changes in the fair value of contingent consideration classified as a liability are to be recognized in earnings, while contingent consideration classified as equity is not to be re-measured. Costs such as transaction costs are to be excluded from acquisition accounting, generally leading to recognizing expense, and, additionally, restructuring costs that do not meet certain criteria at acquisition date are to be subsequently recognized as post-acquisition costs. FAS 141R is effective for business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 and will change the accounting for business combinations on a prospective basis.

Effective January 1, 2008, the Company adopted SFAS No. 157, FAIR VALUE MEASUREMENTS ("FAS 157") relative to financial assets and liabilities. In February 2008, the FASB issued FASB Staff Position No. FAS 157-2, EFFECTIVE DATE OF FASB STATEMENT NO. 157, which provides a one year deferral of the effective date of FAS 157 for non-financial assets and non-financial liabilities, except those that are recognized or disclosed in the financial statements at fair value at least annually. Effective January 1, 2009, the Company adopted the provisions of FAS 157 with respect to its non-financial assets and non-financial liabilities.

In December 2007, the FASB issued SFAS No. 160 ("FAS 160"), NON-CONTROLLING INTEREST IN CONSOLIDATED FINANCIAL STATEMENTS - AN AMENDMENT OF ARB NO. 151. FAS 160 requires that a non-controlling interest in a subsidiary (i.e. minority interest) be reported in the equity section of the balance sheet instead of being reported as a liability or in the mezzanine section between debt and equity. It also requires that the consolidated income statement include consolidated net income attributable to both the parent and non-controlling interest of a consolidated subsidiary. A disclosure must be made on the face of the consolidated income statement of the net income attributable to the parent and to the non-controlling interest. Also, regardless of whether the parent purchases additional ownership interest, sells a portion of its ownership interest in a subsidiary or the subsidiary participates in a transaction that changes the parent's ownership interest, as long as the parent retains controlling interest, the transaction is considered an equity transaction. FAS

160 is effective for annual periods beginning after December 15, 2008. The adoption of FAS 160 did not have an impact on the Company's financial position or results of operations.

In March 2008, the FASB issued SFAS No. 161 ("FAS 161"), DISCLOSURES ABOUT DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES--AN AMENDMENT OF FASB STATEMENT NO. 133. FAS 161 requires enhanced disclosures about an entity's derivative and hedging activities. Entities are required to provide enhanced disclosures about (a) how and why an entity uses derivative instruments, (b) how derivative instruments and related hedged items are accounted for under Statement No. 133 and its related interpretations, and (c) how derivative instruments and related hedged items affect an entity's financial position, financial performance, and cash flows. FAS 161 is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008, with early application encouraged. FAS 161 encourages, but does not require, comparative disclosures for earlier periods at initial adoption. The adoption of FAS 161 did not have an impact on the Company's financial position or results of operations.

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3. ACCOUNTS RECEIVABLE/ADVANCES ON CONTRACTS IN PROGRESS

Net accounts receivable, trade consists of the following:

(in thousands)	March 31, 2009	December 31, 2008
Amounts billed	$ 8,653	$ 7,671
Accrued revenue	838	1,790
	9,491	9,461
Less: Allowance for sales returns and doubtful accounts	(512)	(588)
Net accounts receivable - trade	$ 8,979	$ 8,873
Advances on contracts in progress	$ 33,527	$ 35,658

Accrued revenue represents revenues recognized on contracts for which billings have not been presented to customers as of the balance sheet date. These amounts are billed and generally collected within one year.

Retainage represents revenues on certain United States government sponsored research and development contracts. These amounts, which usually represent 15% of the Company's research fee on each applicable contract, are not collectible until a final cost review has been performed by government auditors. The government's most recent audit was as of December 31, 2006, with no adverse impact.

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 realizeability 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 and only in consultation with the appropriate business line manager. The Company has increased its allowance for doubtful accounts reserve in the year ended December 31, 2008, primarily as a result of a customer's failure to make timely facility availability payments of $225 thousand related to a Spire Semiconductor manufacturing agreement (see Gain on Termination of Contact).

In addition, the Company maintains an allowance for potential future product returns and rebates related to current period revenues. The Company analyzes the rate of historical returns when evaluating the adequacy of the allowance for sales returns and allowances. Returns and rebates are charged against the allowance when incurred.

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

4. INVENTORIES AND DEFERRED COSTS OF GOODS SOLD

Inventories, net of $251 thousand and $214 thousand of reserves at March 31, 2009 and December 31, 2008, respectively, consist of the following at:

(in thousands)	March 31, 2009	December 31, 2008
Raw materials	$ 4,030	$ 4,048
Work in process	7,564	7,385
Finished goods	8,575	6,443
Net inventory	$ 20,169	$ 17,876
Deferred cost of goods sold	$ 17,901	$ 17,088

Deferred costs of goods sold represents costs on equipment that has shipped to the customer and title has passed. The Company defers these costs until related revenue is recognized.

5. INCOME (LOSS) PER SHARE

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

	Three Months Ended March 31, 2009	Three Months Ended March 31, 2008
Weighted average number of common and common equivalent shares outstanding - basic	8,333,132	8,322,919
Add: Net additional common shares upon assumed exercise of common stock options	--	--
Adjusted weighted average number of common and common equivalents shares outstanding - diluted	8,333,132	8,322,919

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For the three months ended March 31, 2009 and 2008, 414,447 and 208,847 shares of common stock, respectively, issuable relative to stock options were excluded from the calculation of diluted shares since their inclusion would have been anti-dilutive.

In addition, for the three months ended March 31, 2009, 32,811 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 their exercise prices exceeding the average market price of the stock for the period.

6. OPERATING SEGMENTS AND RELATED INFORMATION

The following table presents certain operating division information in accordance with the provisions of SFAS No. 131, "Disclosure about Segments of an Enterprise and Related Information."

(in thousands)	Solar	Biomedical	Optoelectronics	Total Company
For the three months ended March 31, 2009				
Net sales and revenues	$ 8,574	$ 3,064	$ 656	$12,294
Income (loss) from operations	$(2,234)	$ 166	$ 700	$(1,368
For the three months ended March 31, 2008				
Net sales and revenues	$10,293	$ 2,808	$ 1,437	$14,538
Income (loss) from operations	$ 313	$ (176)	$ (356)	$ (219

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

(in thousands)	Three Months Ended March 31, 2009	%	2008	%
United States	$ 7,400	60%	$ 5,470	38%
Europe/Africa	3,078	25%	5,219	36%
Asia	1,379	11%	3,647	25%
Rest of the world	437	4%	202	1%
	$ 12,294	100%	$ 14,538	100%

Revenues from contracts with United States government agencies for the three months ended March 31, 2009 and 2008 were approximately $2.1 million and $400 thousand or 17% and 3% of consolidated net sales and revenues, respectively.

Three customers accounted for approximately 45% and one customer accounted for approximately 20% of the Company's gross sales during the three months ended March 31, 2009 and 2008, respectively. Two customers represented approximately 30% of trade account receivables at March 31, 2009 and two customers represented approximately 25% of trade account receivables at December 31, 2008.

7. INTANGIBLE AND OTHER ASSETS

Patents amounted to $142 thousand and $154 thousand net of accumulated amortization of $767 thousand and $754 thousand, at March 31, 2009 and December 31, 2008, respectively. Licenses amounted to $60 thousand and $66 thousand, net of accumulated amortization of $265 thousand and $259 thousand, at March 31, 2009 and December 31, 2008, respectively.

Patent cost is primarily composed of cost associated with securing and registering patents that the Company has been awarded or that have been submitted to, and the Company believes will be approved by, the government. 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, ordinarily five years, using the straight-line method. There are no expected residual values related to these patents. Amortization expense, relating to patents and licenses, was approximately $19 thousand and $29 thousand for the three months ended March 31, 2009 and 2008, respectively.

For disclosure purposes, 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 March 31, 2009 of $652 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
2009 remaining 9 months	$144
2010	189
2011	182
2012	162
2013 and beyond	177
	$854

Also included in other assets are approximately $1 thousand of refundable deposits made by the Company at March 31, 2009.

8. AVAILABLE-FOR-SALE INVESTMENTS

Available-for-sale securities consist of the following assets held as part of the Spire Corporation Non-Qualified Deferred Compensation Plan:

(in thousands)	March 31, 2009	December 31, 2008
Equity investments	$ 1,151	$ 1,170
Government bonds	178	190
Cash and money market funds	40	74
	$ 1,369	$ 1,434

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 loss. As of March 31, 2009, the unrealized loss on these marketable securities was $378 thousand and as of December 31, 2008, the unrealized loss on these marketable securities was $425 thousand.

Effective January 1, 2008, the Company adopted SFAS No. 157, FAIR VALUE MEASUREMENTS ("FAS 157"). In February 2008, the FASB issued FASB Staff Position No. FAS 157-2, EFFECTIVE DATE OF FASB STATEMENT NO. 157, which provides a one year deferral of the effective date of FAS 157 for non-financial assets and non-financial liabilities, except those that are recognized or disclosed in the financial statements at fair value at least annually. Effective January 1, 2009, the Company has adopted the provisions of FAS 157 with respect to its non-financial assets and non-financial liabilities. FAS 157 defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The new standard provides a consistent definition of fair value which focuses on an exit price which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The standard also prioritizes, within the measurement of fair value, the use of market-based information over entity specific information and establishes a three-level hierarchy for fair value measurements based on the nature of inputs used in the valuation of an asset or liability as of the measurement date. The application of FAS 157 in situations where the market for a financial asset is not active was clarified by the issuance of FASB Staff Position No. FAS 157-3, DETERMINING THE FAIR VALUE OF A FINANCIAL ASSET WHEN THE MARKET FOR THAT ASSET IS NOT ACTIVE, ("FAS 157-3") in October 2008. FAS 157-3 became effective immediately and did not significantly impact the methods by which the Company determines the fair values of its financial assets.

The hierarchy established under FAS 157 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 FAS 157, 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 FAS 157, 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 FAS 157, 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.

The following table presents the financial instruments related to the

Company's non-qualified deferred compensation plan carried at fair value as of March 31, 2009 by FAS 157 valuation hierarchy (as defined above).

(in thousands)	Level 1	Level 2	Level 3	Total
Cash and short term investments	$ 40	$ --	$ --	$ 40
Fixed income	--	215	--	215
Equities	733	381	--	1,114
Total available for-sale-investments	$ 773	$ 596	$ --	$1,369
Percent of total	56%	44%	--	100%

9. NOTES PAYABLE AND CREDIT ARRANGEMENTS

On May 25, 2007, the Company and its wholly-owned subsidiary, Spire Semiconductor, LLC, entered into a Loan and Security Agreement (the "Equipment Credit Facility") with Silicon Valley Bank (the "Bank"). Under the Equipment Credit Facility, for a one-year period, the Company and Spire Semiconductor could borrow up to $3.5 million in the aggregate to finance certain equipment purchases (including reimbursement of certain previously-made purchases). Advances made under the Equipment Credit Facility would bear interest at the Bank's prime rate, as determined, plus 0.5% and payable in thirty-six (36) consecutive monthly payments following the funding date of that advance. The Equipment Credit Facility, if not sooner terminated in accordance with its terms, expires on June 1, 2010.

On March 31, 2008, the Company entered into a second Loan and Security Agreement (the "Revolving Credit Facility") with the Bank. Under the terms of the Revolving Credit Facility, the Bank agreed to provide the Company with a credit line up to $5 million. The Company's obligations under the Equipment Credit Facility are secured by substantially all of its assets and advances under the Revolving Credit Facility are limited to 80% of eligible receivables and the lesser of 25% of the value of its eligible inventory, as defined, or $2.5 million if the inventory is backed by a customer letter of credit. Interest on outstanding borrowings accrues at a rate per annum equal to the greater of Prime Rate plus one percent (1.0%) or seven percent (7%). In addition, the Company agreed to pay to the Bank a monthly collateral monitoring fee in the event the Company is in default of its covenants and agreed to the following additional terms: (i) $50 thousand commitment fee; (ii) an unused line fee in the amount of 0.75% per annum of the average unused portion of the revolving line; and (iii) an early termination fee of 0.5% of the total credit line if the Company terminates the Revolving Credit Facility prior to 12 months from the Revolving Credit Facility's effective date. In addition, on March 31, 2008 the Company's existing Equipment Credit Facility was amended whereby the Bank granted a waiver for the Company's defaults for not meeting its December 31, 2007 quarter liquidity and profit covenants and for not meeting its January and February 2008 liquidity covenants. Further, the covenants were amended to match the covenants, as discussed below, contained in the Revolving Credit Facility. The Company's interest rate under the Equipment Credit Facility was also modified from Bank Prime plus one half percent (0.5%) to the greater of Bank Prime plus one percent (1%) or seven percent (7%).

On May 13, 2008, the Bank amended the Equipment Credit Facility and the Revolving Credit Facility, modifying the Company's net income profitability covenant requirements in exchange for a three quarters percent (0.75%) increase in the Company's interest rate (7.75% at March 31, 2009) and waiver restructuring fee equal to one half percent (0.5%) of amounts outstanding under the Equipment Credit Facility and committed under the Revolving Credit Facility. In addition, the Company's term loan balance will be factored in when

calculating the Company's borrowing base under the Revolving Credit Facility.

Under the amended terms of both credit facilities, as long as any commitment remains outstanding under the facilities, the Company must comply with an adjusted quick ratio covenant and a minimum monthly net income covenant. In addition, until all amounts under the credit facilities with the Bank are repaid, covenants under the credit facilities impose restrictions on the Company's ability to, among other things, incur additional indebtedness, create or permit liens on the Company'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 Company and its subsidiaries. Any failure by the Company to comply with the covenants and obligations under the credit facilities could result in an event of default, in which case the Bank may be entitled to declare all amounts owed to be due and payable immediately. The Company's obligations under the credit facilities are secured by substantially all of its assets.

On March 31, 2009, the Bank extended the expiration of the Revolving Credit Facility under the same terms for an additional sixty-one days, to expire on May 31, 2009. The purpose of the extension is to allow both parties the time to negotiate an expansion of the credit limit contingent upon our qualifying for an Export-Import Bank loan guarantee.

The Equipment Credit Facility principal balance outstanding was $1.46 million and $1.75 million at March 31, 2009 and December 31, 2008, respectively. The Revolving Credit Facility principal balance outstanding was $1.5 million at March 31, 2009 and December 31, 2008. The Company was in compliance with its credit facility covenants as of March 31, 2009.

Annual maturities of the Equipment Credit Facility and the Revolving Credit Facility as of March 31, 2009 are as follows:

(in thousands)	
Year Ending December 31,	
2009	$ 2,376
2010	583
Total equipment and revolving line of credit	$ 2,959

10. STOCK OPTION PLAN AND STOCK-BASED COMPENSATION

In accordance with SFAS No. 123(R), SHARE-BASED PAYMENT, the Company has recognized stock-based compensation expense of approximately $149 thousand and $196 thousand for the three months ended March 31, 2009 and 2008, respectively. The total non-cash, stock-based compensation expense included in the condensed consolidated statement of operations for the periods presented is included in the following expense categories:

	Three Months Ended March 31,	
(in thousands)	2009	2008
Cost of contract research, services and licenses	$ 7	$ 13
Cost of goods sold	29	32
Selling, general and administrative	113	151

Total stock-based compensation	$ 149	$ 196

At March 31, 2009, the Company had outstanding options under the 2007 Stock Equity Plan (the "Plan"). The Plan was 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.

A summary of options outstanding under the Plan as of March 31, 2009 and changes during the three-month period is as follows:

(in thousands, except share and per share data)	Number of Shares	Weighted-Average Exercise Price	Average Remaining Contractual Life (Years)	Aggrega Intrins Value
Options Outstanding at December 31, 2008	606,177	$ 7.52		
Granted	20,000	$ 3.50		
Exercised	(4,000)	$ 1.78		
Cancelled/expired	--	$ --		
Options Outstanding at March 31, 2009	622,177	$ 7.43	7.16	$145
Options Exercisable at March 31, 2009	359,537	$ 6.74	6.18	$127

The per-share weighted-average fair value of stock options granted during the three months ended March 31, 2009 and 2008 was $2.18 and $7.28, respectively, on the date of grant using the Black-Scholes option-pricing model with the following weighted-average assumptions:

Year	Expected Dividend Yield	Risk-Free Interest Rate	Expected Option Life	Expected Volatility Factor
2009	--	1.64%	4.5 years	81.0%

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 plan. 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.

11. COMPREHENSIVE LOSS

Comprehensive loss includes certain changes in equity that are excluded from net loss and consists of the following:

For the Three Months Ended March 31,

(in thousands)	2009	2008
Net loss	$ (1,524)	$ (523)
Other comprehensive income (loss):		
Unrealized gain (loss) on available for sale marketable securities, net of tax	47	(62)
Total comprehensive income (loss)	$ (1,477)	$ (585)

12. GAIN ON TERMINATION OF CONTRACT

On August 29, 2008, the Company delivered to Principia Lightworks, Inc. ("Principia") a Notice of Breach and Pending Termination (the "Notice") of a certain Manufacturing Agreement, dated August 29, 2006, by and between Spire Semiconductor and Principia (the "Manufacturing Agreement"). Under the terms of the Manufacturing Agreement, Principia made an up-front payment for nonrecurring engineering and facility access costs and was required to make monthly facility availability payments throughout the term of the agreement. As a result of Principia's failure to make monthly facility availability payments in 2008, the Company has fully reserved $225 thousand against Principia's accounts receivable balance. The Company entered into a mutual standstill agreement with Principia which expired on March 15, 2009. The purpose of the standstill was to give the parties additional time to negotiate a resolution.

On March 27, 2009, Spire Semiconductor and Principia mutually agreed to terminate the Manufacturing Agreement for convenience and entered into a separation and novation agreement (the "Novation Agreement"). Under the terms of the Novation Agreement, both parties agreed to terminate technology licenses that were granted to each other under the terms of the Manufacturing Agreement and Spire Semiconductor was released from its production requirements to Principia. Principia was released from paying its future facility availability payments due under the Manufacturing Agreement but will be required to pay facility availability payments of $300 thousand. Spire Semiconductor holds 67,500 shares of Principia stock as collateral against the outstanding facility availability payments. During the three months ended March 31, 2009, the Company accelerated the amortization of deferred revenue and recognized $1.54 million as a gain on termination of contract related to the termination of the Manufacturing Agreement.

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 RESULTS AND 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, 2008 AND IN SUBSEQUENT PERIOD 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 have been in the solar business for over 30 years, initially pioneering developments in solar cell technology. Currently, we develop, manufacture, and market customized turnkey solutions for the solar industry, including individual pieces of manufacturing equipment and full turnkey lines for cell and module production and testing. We have been continually active in research and development in the space, with over $100 million of research and development conducted and 35 issued patents. This expertise has provided the platform for development of our manufacturing equipment and turnkey lines. We have equipment deployed in approximately 50 countries and have among our customers some of the world's leading solar manufacturers including First Solar, BP Solar, Canadian Solar, Trina Solar Energy, Evergreen Solar and Solaria Energia.

As the solar market continues to expand, and photovoltaic cell and module manufacturers ramp production to meet increasing demand, they require more turnkey equipment to produce additional photovoltaic cells and modules. We believe that we are one of the world's leading suppliers of the manufacturing equipment and technology needed to produce solar photovoltaic power systems. Our individual manufacturing equipment products and our SPI-LINETM integrated turnkey cell and module production lines can be highly scaled, customized, and automated with high throughput. These systems are designed to meet the needs of a broad customer base ranging from manufacturers relying on mostly manual processes, to some of the largest photovoltaic manufacturing companies in the world. With nearly 40 years since our incorporation and over 30 years in the solar market, we have been in a good position to capitalize on the market's growth.

In July 2007, we entered into a joint venture with Gloria Solar Co., Ltd., a leading cell and module manufacturer in Taiwan, which designs, sells and manages installations of photovoltaic systems. Our 45% ownership stake in the joint venture, Gloria Spire Solar, LLC, was obtained through the contribution of our building integrated photovoltaic business to Gloria Solar. This transaction has allowed us to focus more of our attention on our core solar business, while continuing to expand the Spire brand name in the marketplace.

In addition to our cell and module manufacturing solutions, our Spire Semiconductor subsidiary provides semiconductor foundry services and is currently developing triple-junction gallium arsenide ("GaAs") concentrator solar cells. This state-of-the-art semiconductor fabrication facility is the foundation of our solar cell process technology for silicon, polysilicon, thin-film, and GaAs concentrator cells. We also operate a small business line associated with advanced biomedical applications. The foundation for all of our business units is our industry-leading expertise in manufacturing, materials technologies and surface treatments; this proprietary knowledge enables us to further develop our offerings in each market we serve.

Operating results will depend upon revenue growth and product mix, as well as the timing of shipments of higher priced products from our solar equipment line and delivery of solar systems. Export sales, which amounted to 40% of net sales and revenues for the three months ended March 31, 2009, continue to constitute a significant portion of our net sales and revenues.

Results of Operations

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

	Three Months Ended March 31,	
	2009	2008
Net sales and revenues	100%	100%
Cost of sales and revenues	88	75
Gross profit	12	25
Selling, general and administrative expenses	(33)	(26)
Internal research and development expenses	(2)	(1)
Gain on termination of contract	12	--
Loss from operations	(11)	(2)
Other loss, net	(1)	(2)
Loss before income tax provision	(12)	(4)
Income tax provision	--	--
Net loss	(12%)	(4%)

OVERALL

Our total net sales and revenues for the three months ended March 31, 2009 were $12.3 million as compared to $14.5 million for the three months ended March 31, 2008, which represents a decrease of $2.2 million or 15%. The decrease was primarily attributable to a $1.7 million decrease in solar sales and a $781 thousand decrease in optoelectronics sales, partially offset by a slight increase in biomedical sales.

SOLAR BUSINESS UNIT

Sales in our solar business unit decreased 17% during the three months ended March 31, 2009 to $8.6 million as compared to $10.3 million in the three months ended March 31, 2008. The decrease is the result of a slowdown of solar equipment shipments reflecting the overall decrease in activity in the solar power industry due to a further deepening of the current global economic recession.

BIOMEDICAL BUSINESS UNIT

Revenues of our biomedical business unit increased 9% during the three months ended March 31, 2009 to $3.1 million as compared to $2.8 million in the three months ended March 31, 2008. The increase reflects increased revenues from our orthopedics coatings services partially offset by a decrease in revenue from research and development contracts.

OPTOELECTRONICS BUSINESS UNIT

Revenues in our optoelectronics business unit decreased 54% to $656 thousand during the three months ended March 31, 2009 as compared to $1.4 million in the three months ended March 31, 2008. The decrease reflects an overall decrease in optoelectronics activities attributable to a further deepening of the current global economic recession and to a lesser extent the termination of a contract as discussed below in Gain on Termination of Contact.

Three Months Ended March 31, 2009 Compared to Three Months Ended March 31, 2008

NET SALES AND REVENUES

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

(in thousands)	Three Months Ended March 31, 2009	2008	Decrea $
Sales of goods	$ 9,429	$ 10,995	$ (1,566)
Contract research, services and license revenues	2,865	3,543	(678)
Net sales and revenues	$ 12,294	$ 14,538	$ (2,244)

The 14% decrease in sales of goods for the three months ended March 31, 2009 as compared to the three months ended March 31, 2008 was primarily due to a decrease in solar equipment revenues partially offset by catheter sales and new sales of solar materials of $1.5 million in 2009. Solar equipment sales decreased 31% in 2009 as compared to 2008 primarily due to an overall slow down in solar power industry activity.

The 19% decrease in contract research, services and license revenues for the three months ended March 31, 2009 as compared to the three months ended March 31, 2008 is primarily attributable to a decrease in optoelectronics, royalties and research and development activities, partially offset by orthopedics service revenue. Revenue from our optoelectronics processing services (Spire Semiconductor) decreased 54% in 2009 compared to 2008 as a result of an overall decrease in optoelectronics activities attributable to a further deepening of the current global economic recession and to a lesser extent the termination of a contract with Principia Lightworks, Inc. in March 2009 (see Gain on Termination of Contact). Revenue from royalties decreased 100% as a result of the termination of contract with Nisshinbo Industries, Inc. in November. Revenues from our research and development activities decreased 31% in 2009 as compared to 2008 primarily due to a decrease in the number and value of contracts associated with funded research and development. Revenues from our orthopedic activities increased 29% in 2009 as compared to 2008. This increase is primarily the result of revenue from a new customer added in the third quarter of 2008.

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:

(in thousands)	Three Months Ended March 31, 2009	%	2008	%	Increase/(Decrease $	%
Cost of goods sold	$ 8,677	92%	$ 8,494	77%	$183	2%

Cost of contract research, services and licenses	2,164	76%	2,374	67%	(210)	(9%)
Net cost of sales and revenues	$10,841	88%	$10,868	75%	$(27)	0%

Cost of goods sold increased 2% for the three months ended March 31, 2009 as compared to the three months ended March 31, 2008, primarily as a result of costs related to solar materials and a provision for a reserve of $504 thousand related to estimated costs to complete two solar projects; partially offset by a decrease in solar equipment costs related to a decrease in associated revenue. As a percentage of sales, cost of goods sold was 92% of sales of goods in 2009 as compared to 77% of sales of goods in 2008. This increase in the percentage of sales in 2009 is due to the provision for a reserve of $504 thousand related to estimated costs to complete two solar projects and an unfavorable product mix with lower margins in solar equipment sales along with an unfavorable utilization of solar manufacturing overhead.

Cost of contract research, services and licenses decreased 9% for the three months ended March 31, 2009 as compared to the three months ended March 31, 2008, primarily as a result of decreased costs at our optoelectronics facility (Spire Semiconductor) due to lower associated revenues along with decreased costs of our contract research activities due to lower volumes. Cost of contract research, services and licenses as a percentage of revenue increased to 76% of revenues in 2009 from 67% in 2008, primarily due to unfavorable margin related to our optoelectronics facility, partially offset by favorable margins in orthopedic services in 2008.

Cost of sales and revenues also includes approximately $36 thousand and $45 thousand of stock-based compensation for the three months ending March 31, 2009 and 2008, 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 March 31,				Increase	
(in thousands)	2009	%	2008	%	$	%
Selling, general and administrative	$ 4,045	33%	$ 3,778	26%	$267	7%
Internal research and development	311	2%	111	1%	200	180%
Operating expenses	$ 4,356	35%	$ 3,889	27%	$467	12%

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SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expense increased 7% in the three months ended March 31, 2009 as compared to the three months ended March 31, 2008, primarily as a result of an increase in corporate staffing levels and related employee costs to support our overall growth, partially offset by a

decrease in professional services. Selling, general and administrative expense increased to 33% of sales and revenues in 2009 as compared to 26% in 2008. The increase was primarily due to the under absorption of selling, general and administrative overhead costs by the 15% decrease in sales and revenues.

Operating expenses includes approximately $113 thousand and $151 thousand of stock-based compensation for the three months ending March 31, 2009 and 2008, respectively.

INTERNAL RESEARCH AND DEVELOPMENT

Internal research and development expense increased 180% in the three months ended March 31, 2009 as compared to the three months ended March 31, 2008, primarily as a result of our cost sharing contract with the National Renewable Energy Laboratory ("NREL") reducing 2008 costs. As a percentage of sales and revenue, internal research and development expenses remained increased slightly to 2% of sales and revenues in 2009 as compared to 1% in 2008.

GAIN ON TERMINATION OF CONTRACT

On August 29, 2008, we delivered to Principia Lightworks, Inc. ("Principia") a Notice of Breach and Pending Termination (the "Notice") of a certain Manufacturing Agreement, dated August 29, 2006, by and between Spire Semiconductor and Principia (the "Manufacturing Agreement"). Under the terms of the Manufacturing Agreement, Principia made an up-front payment for nonrecurring engineering and facility access costs and was required to make monthly facility availability payments throughout the term of the agreement. As a result of Principia's failure to make monthly facility availability payments in 2008, we have fully reserved $225 thousand against Principia's accounts receivable balance. We entered into a mutual standstill agreement with Principia which expired on March 15, 2009. The purpose of the standstill was to give the parties additional time to negotiate a resolution.

On March 27, 2009, Spire Semiconductor and Principia mutually agreed to terminate the Manufacturing Agreement for convenience and entered into a separation and novation agreement (the "Novation Agreement"). Under the terms of the Novation Agreement, both parties agreed to terminate technology licenses that were granted to each other under the terms of the Manufacturing Agreement and Spire Semiconductor was released from its production requirements to Principia. Principia was released from paying its future facility availability payments due under the Manufacturing Agreement but will be required to pay facility availability payments of $300 thousand. Spire Semiconductor holds 67,500 shares of Principia stock as collateral against the outstanding facility availability payments. During the three months ended March 31, 2009, we accelerated the amortization of deferred revenue and recognized $1.54 million as a gain on termination of contract related to the termination of the Manufacturing Agreement.

OTHER INCOME (EXPENSE), NET

We earned $11 thousand and $9 thousand of interest income for the three months ended March 31, 2009 and 2008, respectively. We incurred interest expense of $69 thousand for both three months ended March 31, 2009 and 2008. We recorded a loss of $280 thousand and $130 thousand on equity investment in joint venture with Gloria Solar for the three months ended March 31, 2009 and 2008, respectively. We had a currency exchange gain of approximately $209 thousand and a currency exchange loss of $114 thousand during the three months ended March 31, 2009 and 2008, respectively.

INCOME TAXES

We recorded a provision for income taxes of $27 thousand for the three

months ended March 31, 2009. We did not record an income tax provision or benefit in the three months ending March 31, 2008. A valuation allowance has been provided against the current period tax benefit due to uncertainty regarding the realization of the net operating loss in the future.

NET LOSS

We reported a net loss for the three months ended March 31, 2009 and 2008 of approximately $1.52 million and $523 thousand, respectively. The net loss increased approximately $1.0 million primarily due to the decline in sales and revenue and decreased margins, partially offset by a one time gain on termination of contract.

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Liquidity and Capital Resources

(in thousands)	March 31, 2009	December 31, 2008	Decrease $	Decrease %
Cash and cash equivalents	$ 2,329	$ 5,971	$(3,642)	(61%)
Working capital	$ 4,245	$ 6,835	$(2,590)	(38%)

Cash and cash equivalents decreased due to cash used in operating activities, primarily inventories, and to a lesser extent investing and financing activities. The overall reduction in working capital is due to a decrease in cash and an increase in current liabilities, primarily accounts payable, partially offset by an increase in inventories. We have historically funded our operating cash requirements using operating cash flow, proceeds from the sale and licensing of technology and proceeds from the sale of equity securities.

There are no material commitments by us for capital expenditures. At March 31, 2009, our accumulated deficit was approximately $8.4 million, compared to accumulated deficit of approximately $6.9 million as of December 31, 2008.

We have numerous options on how to fund future operational losses or working capital needs, including but not limited to sales of equity, bank debt or the sale or license of assets and technology, as we have done in the past; however, there are no assurances that we will be able to sell equity, obtain bank debt, or sell or license assets or technology on a timely basis and at appropriate values. We have developed several plans including cost containment efforts and outside financing to offset a decline in business due to a further deepening of the current global economic recession. As a result, we believe we have sufficient resources to finance our current operations through at least March 31, 2010.

LOAN AGREEMENTS

On May 25, 2007, we and our wholly-owned subsidiary, Spire Semiconductor, LLC, entered into a Loan and Security Agreement (the "Equipment Credit Facility") with Silicon Valley Bank (the "Bank"). Under the Equipment Credit Facility, for a one-year period, we and Spire Semiconductor could borrow up to $3.5 million in the aggregate to finance certain equipment purchases (including reimbursement of certain previously-made purchases). Advances made under the Equipment Credit Facility would bear interest at the Bank's prime rate, as determined, plus 0.5% and payable in thirty-six (36) consecutive monthly payments following the funding date of that advance.

On March 31, 2008, we entered into a second Loan and Security Agreement (the "Revolving Credit Facility") with the Bank. Under the terms of the Revolving Credit Facility, the Bank agreed to provide us with a credit line up to $5.0 million. Our obligations under the Equipment Credit Facility are secured by substantially all of our assets and advances under the Revolving Credit Facility are limited to 80% of eligible receivables and the lesser of 25% of the value of our eligible inventory, as defined, or $2.5 million if the inventory is backed by a customer letter of credit. Interest on outstanding borrowings accrues at a rate per annum equal to the greater of Prime Rate plus one percent (1.0%) or seven percent (7.0%). In addition, we agreed to pay to the Bank a collateral monitoring fee of $750 per month in the event we are in default of our covenants and agreed to the following additional terms: (i) $50 thousand commitment fee; (ii) an unused line fee in the amount of 0.75% per annum of the average unused portion of the revolving line; and (iii) an early termination fee of 0.5% of the total credit line if we terminate the Revolving Credit Facility prior to 12 months from the Revolving Credit Facility's effective date. In addition, on March 31, 2008 our existing Equipment Credit Facility was amended whereby the Bank granted a waiver for our defaults for not meeting our December 31, 2007 quarter liquidity and profit covenants and for not meeting our January and February 2008 liquidity covenants. Further, the covenants were amended to match the covenants, as discussed below, contained in the Revolving Credit Facility. Our interest rate under the Equipment Credit Facility was also modified from Bank Prime plus one half percent (0.5%) to the greater of Bank Prime plus one percent (1.0%) or seven percent (7.0%).

On May 13, 2008, the Bank amended the Equipment Credit Facility and the Revolving Credit Facility, modifying our net income profitability covenant requirements in exchange for a three quarters percent (0.75%) increase in our interest rate (7.75% at March 31, 2009) and waiver restructuring fee equal to one half percent (0.5%) of amounts outstanding under the Equipment Credit Facility and committed under the Revolving Credit Facility. Interest on outstanding borrowings accrues at a rate per annum equal to the greater of Prime Rate plus one percent (1.0%) or seven percent (7.0%). In addition, our term loan balance will be factored in when calculating our borrowing base under the Revolving Credit Facility.

Under the amended terms of both credit facilities, as long as any commitment remains outstanding under the facilities, we must comply with an adjusted quick ratio covenant and a minimum monthly net income covenant. In addition, until all amounts under the credit facilities with the Bank are repaid, covenants under the credit facilities impose restrictions on our ability to, among other things, incur additional indebtedness, create or permit liens on our 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 us and our subsidiaries. Any failure by us to comply with the covenants and obligations under the credit facilities could result in an event of default, in which case the Bank may be entitled to declare all amounts owed to be due and payable immediately. Our obligations under the credit facilities are secured by substantially all of our assets.

On March 31, 2009, the Bank extended the expiration of the Revolving Credit Facility under the same terms for an additional sixty-one days, to expire on May 31, 2009. The purpose of the extension is to allow both parties the time to negotiate an expansion of the credit limit contingent upon our qualifying for an Export-Import Bank loan guarantee.

Our Equipment Credit Facility principal balance outstanding was $1.46

million and $1.75 million at March 31, 2009 and December 31, 2008, respectively. Our Revolving Credit Facility principal balance outstanding was $1.5 million at March 31, 2009 and December 31, 2008. We were in compliance with our credit facility covenants as of March 31, 2009.

TERMINATION OF CONTRACTS

On August 29, 2008, we delivered to Principia Lightworks, Inc. ("Principia") a Notice of Breach and Pending Termination (the "Notice") of a certain Manufacturing Agreement, dated August 29, 2006, by and between Spire Semiconductor and Principia (the "Manufacturing Agreement"). Under the terms of the Manufacturing Agreement, Principia made an up-front payment for nonrecurring engineering and facility access costs and was required to make monthly facility availability payments throughout the term of the agreement. As a result of Principia's failure to make monthly facility availability payments in 2008, we have fully reserved $225 thousand against Principia's accounts receivable balance. We entered into a mutual standstill agreement with Principia which expired on March 15, 2009. The purpose of the standstill was to give the parties additional time to negotiate a resolution.

On March 27, 2009, Spire Semiconductor and Principia mutually agreed to terminate the Manufacturing Agreement for convenience and entered into a separation and novation agreement (the "Novation Agreement"). Under the terms of the Novation Agreement, both parties agreed to terminate technology licenses that were granted to each other under the terms of the Manufacturing Agreement and Spire Semiconductor was released from its production requirements to Principia. Principia was released from paying its future facility availability payments due under the Manufacturing Agreement but will be required to pay facility availability payments of $300 thousand. Spire Semiconductor holds 67,500 shares of Principia stock as collateral against the outstanding facility availability payments. During the three months ended March 31, 2009, we accelerated the amortization of deferred revenue and recognized $1.54 million as a gain on termination of contract related to the termination of the Manufacturing Agreement.

Foreign Currency Fluctuation

We sell only in U.S. dollars, generally against an irrevocable confirmed letter of credit through a major United States bank. Accordingly, we are not directly affected by foreign exchange fluctuations on our current 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. In addition, purchases made and royalties received under our Consortium Agreement with Nisshinbo are in Japanese yen. In addition, we received Japanese yen related to the termination of the Consortium Agreement in 2008. We have committed to purchase certain pieces of equipment from European vendors; these commitments are denominated in Euros. 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. There were no hedged amounts at March 31, 2009 and 2008. Foreign exchange gain (loss) included in other income (expense) was $209 thousand and $(114) thousand for the three months ended March 31, 2009 and 2008, respectively.

Related Party Transactions

On November 30, 2007, we entered into a Lease Agreement (the "Bedford Lease") with SPI-Trust, a Trust of which Roger Little, our Chairman of the Board, Chief Executive Officer and President, 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 continues for five (5) years until November 30, 2012. We have the right to extend the term of the Bedford Lease for an additional five (5) year period. The annual rental rate for the first year of the Lease is $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 increases on each anniversary by $0.75 per square foot. If we exercise our right to extend the term of the Bedford Lease, the annual rental rate for the first year of the 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 $0.75 per square foot. We believe that the terms of the Bedford Lease are commercially reasonable. Rent expense under the Bedford Lease for the three months ended March 31, 2009 and 2008 was $505 thousand for both periods.

In May 2003, Spire Semiconductor leased a building (90 thousand square feet) in Hudson, New Hampshire from SPI-Trust whereby we agreed to pay $4.1 million to SPI-Trust over an initial five-year term expiring in May 2008 with an option for us to extend for five years. In addition to the rent payments, the lease obligated us to keep on deposit with SPI-Trust the equivalent of three months rent. The lease agreement did not provide for a transfer of ownership at any point. Interest costs were assumed at 7%. Interest expense was approximately $6.8 thousand for the three months ended March 31, 2008. This lease was classified as a related party capital lease and a summary of payments (including interest) follows:

Year	Rate Per Square Foot	Annual Rent	Monthly Rent	Security Deposit
(in thousands, except rate per square foot)				
June 1, 2003 - May 31, 2004	$ 6.00	$ 540	$ 45	$ 135
June 1, 2004 - May 31, 2005	7.50	675	56	169
June 1, 2005 - May 31, 2006	8.50	765	64	191
June 1, 2006 - May 31, 2007	10.50	945	79	236
June 1, 2007 - May 31, 2008	$13.50	$ 1,215	$ 101	$ 304
		$ 4,140		

Upon the expiration of the lease in May 2008, we did not exercise our option to extend the lease for an additional 5 years. On May 20, 2008, we agreed with SPI-Trust to continue the current lease, under the current terms and conditions on a month-to-month basis for a maximum of three (3) months beyond the current term.

On August 29, 2008, we entered into a new Lease Agreement (the "Hudson Lease") with SPI-Trust, with respect to 90 thousand square feet of space comprising the entire building in which Spire Semiconductor has occupied space since June 1, 2003. The term of the Hudson Lease commenced on September 1, 2008, and continues for seven (7) years until August 31, 2015. We have the right to extend the term of the Hudson Lease for an additional five (5) year period. The annual rental rate for the first year of the Hudson Lease is $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 increases on each anniversary by $0.75 per square foot. If we exercise our right

to extend the term of the Hudson Lease, the annual rental rate for the first year of the 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 $0.75 per square foot. In addition, we are required to deposit with SPI-Trust $300 thousand as security for performance by us for our covenants and obligations under the Hudson Lease. SPI-Trust is responsible, at its sole expense, to make certain defined tenant improvements to the building. We believe that the terms of the Hudson Lease are commercially reasonable and reflective of market rates. The lease agreement does not provide for a transfer of ownership at any point. The Hudson Lease is classified as a related party operating lease. Rent expense under the Hudson Lease for the year three months ended March 31, 2009 was $332 thousand.

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 consolidated financial statements are those relating to revenue recognition, reserves for doubtful accounts and sales returns and allowances, reserve for excess and obsolete inventory, impairment of long-lived assets, income taxes, and warranty reserves. We regularly evaluate our estimates and assumptions based upon historical experience and various other factors that it believes 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 following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements. Refer to Note 2 of the notes to consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2008 for a description of our significant accounting policies.

REVENUE RECOGNITION

We derive our revenues from three primary sources: (1) commercial products including, but not limited to, solar energy manufacturing equipment, solar energy systems and hemodialysis catheters; (2) biomedical and semiconductor processing services; and (3) United States government funded research and development contracts.

We 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 collectibility is reasonably assured. These criteria are generally met at the time of shipment when the risk of loss and title passes to the customer or distributor, unless a consignment arrangement exists. Revenue from consignment arrangements is recognized based on product usage indicating sales are complete.

We utilize a distributor network to market and sell our hemodialysis catheters domestically. We generally recognizes revenue when the catheters are shipped to our distributors. Gross sales reflect reductions attributable to customer returns and various customer incentive programs including pricing

discounts and rebates. Product returns are permitted in certain sales contracts and an allowance is recorded for returns based on our history of actual returns. Certain customer incentive programs require management to estimate the cost of those programs. The allowance for these programs is determined through an analysis of programs offered, historical trends, expectations regarding customer and consumer participation, sales and payment trends, and experience with payment patterns associated with similar programs that had been previously offered. An analysis of the sales return and rebate activity for the three months ended March 31, 2009, is as follows:

(in thousands)	Rebates	Returns	Total
Balance - December 31, 2008	$ 152	$ 10	$ 162
Provision	129	4	133
Utilization	(128)	(5)	(133)
Balance - March 31, 2009	$ 153	$ 9	$ 162

- Credits for rebates are recorded in the month of the actual sale.
- Credits for returns are processed when we receive the actual returned merchandise.
- Substantially all rebates and returns are processed no later than three months after our original shipment.

The reserve percentage of inventory held by distributors over the past quarters has increased to approximately 17.7% at March 31, 2009, when compared to 17% at December 31, 2008. We perform various sensitivity analyses to determine the appropriate reserve percentage to use. To date, actual quarterly reserve utilization has approximated the amount provided. The total inventory held by distributors was approximately $919 thousand at March 31, 2009.

If sufficient history to make reasonable and reliable estimates of returns or rebates does not exist, revenue associated with such practices is deferred until the return period lapses or a reasonable estimate can be made. This deferred revenue will be recognized as revenue when the distributor reports to us that it has either shipped or disposed of the units (indicating that the possibility of return is remote).

Our OEM 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 CIP or on rare situations a DDU basis. It is our policy to recognize revenues for this equipment as title of the product has passed to the customer, as 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 our 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. For arrangements with multiple elements, we allocate fair value to each element in the contract and revenue is recognized upon delivery of each element. If we are not able to establish fair value of undelivered elements, all revenue is deferred.

We recognize revenues and estimated profits on long-term government contracts on the accrual basis where the circumstances are such that total profit can be estimated with reasonable accuracy and ultimate realization is reasonably assured. We accrue 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 and 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. Our policy is to take into revenue the full value of the contract, including any retainage, as we perform against the contract because we have not experienced any substantial losses as a result of audits performed by the United States government.

ALLOWANCE FOR DOUBTFUL ACCOUNTS

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to pay amounts due. We actively pursue 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 we can reasonably estimate the amount of the loss. We do not record an allowance for government receivables and invoices backed by letters of credit as realizability 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 and only in consultation with the appropriate business line manager.

IMPAIRMENT OF LONG-LIVED ASSETS

Long-lived assets, such as property and equipment and amortizable intangibles, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The determination of recoverability is based on fair value. If the fair value is less than the carrying value, we recognize an impairment loss to operations in the period in which impairment is determined. Impairment is measured as the amount by which the carrying value exceeds the fair value of the asset.

STOCK-BASED COMPENSATION

We account for our stock-based compensation plans in accordance with the fair value recognition provisions of SFAS No. 123(R), SHARE-BASED PAYMENT ("Statement 123(R)"). We use the Black-Scholes option pricing model as our method for determining the fair value of stock option grants. Statement 123(R) requires the fair value of all share-based awards that are expected to vest to be recognized in the statements of operations over the service or vesting period of each award. We use the straight-line method of attributing the value of stock-based compensation expense for all stock option grants.

On November 10, 2005, the FASB issued FASB Staff Position SFAS 123R-3, TRANSITION ELECTION RELATED TO ACCOUNTING FOR TAX EFFECTS OF SHARE-BASED PAYMENT AWARDS. We have elected to adopt the alternative transition method provided by the FASB Staff Position for calculating the tax effects (if any) of stock-based compensation expense pursuant to Statement 123(R). The alternative transition method includes simplified methods to establish the beginning balance of the additional paid-in capital pool related to the tax effects of employee stock-based compensation, and to determine the subsequent impact to the additional paid-in capital pool and the consolidated statements of operations and cash flows of the tax effects of employee stock-based compensation awards that are outstanding upon adoption of Statement 123(R).

WARRANTY

We provide warranties on certain products and services. Our warranty programs are described below:

Spire Solar Equipment warrants solar energy module manufacturing equipment sold for a total of 360 days, the first 90 days of which include the replacement of defective component parts and the labor to correct the defect and the next 270 days of which include only the cost of defective component parts.

Spire Biomedical warrants that any of its catheter products found to be defective will be replaced. No warranty is made that the failure of the product will not occur, and we disclaim any responsibility for any medical complications. Spire Biomedical warrants that its services only will meet the agreed upon specifications.

Spire Semiconductor warrants that its products will meet the agreed upon specifications.

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We provide for the estimated cost of product warranties, determined primarily from historical information, at the time product revenue is recognized. Should actual product failure warranties differ from our estimates, revisions to the estimated warranty liability would be required. The changes in the product warranties for the three months ended March 31, 2009, are as follows:

(in thousands)	
Balance at December 31, 2008	$ 495
Provision charged to income	124
Usage	(106)
Balance at March 31, 2009	$513

Contractual Obligations, Commercial Commitments and Off-Balance Sheet Arrangements

The following table summarizes our gross contractual obligations at March 31, 2009 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)					
Equipment Credit Facility (SVB)	$ 1,535	$ 1,240	$ 295	--	--
Revolving Credit Facility (SVB)	$ 1,500	$ 1,500	--	--	--
Purchase obligations	$15,988	$15,879	$ 109	--	--
Operating leases:					
Unrelated party operating leases	$ 235	$ 131	$ 104	--	--
Related party operating leases	$16,292	$ 3,111	$6,750	$4,292	$2,139

Purchase obligations include all open purchase orders outstanding regardless of whether they are cancelable or not. Included in purchase obligations are raw material and equipment needed to fulfill customer orders.

Equipment Credit Facility obligations outlined above include both the principal and interest components of these contractual obligations.

Outstanding letters of credit totaled $4.1 million and $4.2 million at March 31, 2009 and December 31, 2008, 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. These letters of credit expire through 2010 and are 100% secured by cash, short-term investments and the Revolving Credit Facility.

ITEM 3.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required as we are a smaller reporting company.

ITEM 4T. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, under the supervision of and with the participation of the Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) as of the end of the period covered by this report, March 31, 2009.

Based on its evaluation, and taking into consideration the material weaknesses in internal control over financial reporting referenced below, our management, including the Chief Executive Officer and Chief Financial Officer, concluded that our disclosure controls and procedures were not effective as of March 31, 2009.

As previously reported in our Annual Report on Form 10-K, as filed with the Securities and Exchange Commission (SEC) on March 31, 2009, in connection with our assessment of the effectiveness of our internal control over financial reporting at the end of our last fiscal year, management identified material weaknesses in the internal control over financial reporting as of December 31, 2008.

We have an ineffective control environment. This has been previously disclosed in prior filings. Management has designed and implemented some effective controls, however, these controls are not sufficient and are not operating effectively. Efforts to remediate deficiencies were impeded by an evolving control environment brought on by the rapid expansion in our business. We did not maintain an effective financial reporting process, ensure timely and accurate completion of financial statements and we did not maintain effective monitoring controls including reconciliations and analysis of key accounts. We did not have a sufficient level of staffing with the necessary knowledge, experience and training to ensure the completeness and accuracy of our financial statements. In addition, certain finance positions were staffed with individuals who did not possess the level of accounting knowledge, experience and training in the application of US GAAP commensurate with our financial reporting requirements. Specifically, the financial reporting organization structure was

not adequate to support the size, complexity or activities of our Company.

This affected our ability to maintain effective monitoring controls and related segregation of duties over automated and manual transactions processes. Specifically, inadequate segregation of duties led to untimely identification and resolution of accounting and disclosure matters and failure to perform timely and effective supervision and reviews. We did not maintain effective controls over our IT environment. Specifically, we did not perform a timely review of restricted user access in our application software system and we did not consistently follow our defined back up polices and procedures.

As a result of the foregoing, management concluded that our internal control over financial reporting was not effective as of December 31, 2008.

Management is actively addressing operational and internal control remediation efforts. New policies and procedures have been created and existing policies and procedures have been reviewed and modified as part of our documentation of internal control over financial reporting. Management believes these new controls, policies and procedures, training of key personnel, testing of these key controls will be effective in remediating these material weaknesses. Management reports quarterly to our Audit Committee on the status of the remediation effort.

Management has partially addressed the need for additional experienced staff with the addition of a Director of Financial Reporting (February 2008) who has the primary responsibility for the financial close and reporting process and monitoring environment related to financial reporting. We also hired a Senior Financial Analyst, CPA (July 2008) who is actively involved in the financial close and reporting process and assisting us in our remediation efforts. In addition, we hired a Corporate Controller (April 2009) who will add accounting knowledge, experience and applications of US GAAP. These positions will help us address the identified weakness in the knowledge and experience required for completeness and accuracy of our financial statements and will also help improve our overall financial close and reporting process.

In connection with the findings of our review related to the November 2008 restatement of our previously issued financial statements for the fourth quarter and fiscal 2007 included in our Annual Report on From 10-K for the fiscal year ended December 31, 2007 and our previously issued financial statements included in the Quarterly Report on Form 10-Q for the fiscal quarters ended March 31, 2008 and June 30, 2008, management and the Audit Committee reviewed the additional internal control procedures and processes that have been implemented since the original date of the error and have identified additional remediation steps to address the material weakness of untimely reporting of customer contract changes. We have implemented new internal controls and enhanced accounting policies, as well as improved sales policies and procedures relating to customer contract management and order fulfillment.

Changes in Internal Control Over Financial Reporting

Except as described above, there have been no changes during our fiscal quarter ended March 31, 2009 in our internal control over financial reporting that may have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II
OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

There have been no material changes to any of the material legal proceedings described in Part I, Item 3 ("Legal Proceedings") of our Annual Report on From 10-K for the year ended December 31, 2008.

ITEM 1A. RISK FACTORS

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, 2008.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

31.1 Certification of the Chairman of the Board, Chief Executive Officer and President pursuant to ss.302 of the Sarbanes-Oxley Act of 2002.

31.2 Certification of the Chief Financial Officer and Treasurer pursuant to ss.302 of the Sarbanes-Oxley Act of 2002.

32.1 Certification of the Chairman of the Board, Chief Executive Officer and President pursuant to 18 U.S.C. ss.1350, as adopted pursuant to ss.906 of the Sarbanes-Oxley Act of 2002.

32.2 Certification of the Chief Financial Officer and Treasurer pursuant to 18 U.S.C. ss.1350, as adopted pursuant to ss.906 of the Sarbanes-Oxley Act of 2002.

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: May 15, 2009 By: /s/ Roger G. Little

Roger G. Little
Chairman of the Board, Chief Executive
Officer and President

Dated: May 15, 2009 By: /s/ Christian Dufresne

Christian Dufresne, Ph. D.
Chief Financial Officer and Treasurer

EXHIBIT INDEX

Exhibit	Description
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