SPIRE CORP
Form 10QSB
November 12, 2004

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

FORM 10-QSB

|X| Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the quarterly period ended September 30, 2004; 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
(Name of small business issuer 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)

781-275-6000
(Issuer's telephone number)

Securities registered under Section 12(g) of the Act:

COMMON STOCK, $0.01 PAR VALUE; REGISTERED ON THE NASDAQ STOCK MARKET
(Title of class)

Check whether the issuer: (1) filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the past 12 months (or for such shorter period that the issuer was required to file such reports); and (2) has been subject to such filing requirements for the past 90 days. Yes |X| No |_|

State the number of shares outstanding of each of the issuer's classes of common equity, as of the latest practicable date. There were 6,839,909 outstanding shares of the issuer's only class of common equity, Common Stock, $0.01 par value, on October 25, 2004.

Transitional Small Business Disclosure Format (check one): Yes |_| No |X|

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PART I
FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

SPIRE CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEET
(UNAUDITED)

ASSETS

Current assets
Cash and cash equivalents
Restricted cash

Net accounts receivable, trade
Inventories
Refundable income taxes
Prepaid expenses and other current assets

Total current assets

Property and equipment
Less: Accumulated depreciation and amortization

Net property and equipment

Deposit - related party
Restricted cash - long-term
Intangible and other assets, net

Total assets

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities
Current portion of capital lease obligation
Current portion of capital lease obligation - related party
Accounts payable
Accrued liabilities
Current portion of accrued lease obligation - related party
Advances on contracts in progress

Total current liabilities

Long-term portion of capital lease obligation
Long-term portion of capital lease obligation - related party
Accrued lease obligation - related party
Unearned purchase discount

Total long-term liabilities

Total liabilities

Commitments and Contingencies

Stockholders' equity	
Common stock, $0.01 par value; shares authorized 20,000,000; issued 6,836,409 shares in 2004	
Additional paid-in capital	
Retained earnings	
Total stockholders' equity	
Total liabilities and stockholders' equity	

See accompanying notes to condensed consolidated financial statements.

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SPIRE CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	THREE MONTHS ENDED SEPTEMBER 30,		
	2004	2003	2
Net sales and revenues			
Contract research and service revenues	$ 2,290,456	$ 2,229,682	$ 7,
Sales of goods	1,437,047	1,843,631	5,
Total sales and revenues	3,727,503	4,073,313	13,
Costs and expenses			
Cost of contract research and services	1,791,787	1,767,086	5,
Cost of goods sold	1,353,809	1,548,622	4,
Selling, general and administrative expenses	1,994,725	2,001,110	6,
Internal research and development	308,531	388,197	1,
Total costs and expenses	5,448,852	5,705,015	17,
Gain on sale of license	--	--	3,
Earnings (loss) from operations	(1,721,349)	(1,631,702)	(1,
Interest expense, net	(77,084)	(68,065)	(
Earnings (loss) before income taxes	(1,798,433)	(1,699,767)	(1,
Income tax benefit (expense)	--	450,000	
Net earnings (loss)	$ (1,798,433)	$ (1,249,767)	$ (1,

Earnings (loss) per share of common stock - basic	$ (0.26)	$ (0.18)	$
Earnings (loss) per share of common stock - diluted	$ (0.26)	$ (0.18)	$
Weighted average number of common and common equivalent shares outstanding - basic	6,835,928	6,761,660	6,
Weighted average number of common and common equivalent shares outstanding - diluted	6,835,928	6,761,660	6,

See accompanying notes to condensed consolidated financial statements.

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

	NINE
	2
Cash flows from operating activities:	
Net income (loss)	$ (1,
Adjustments to reconcile net income (loss) to net cash used in operating activities:	
Depreciation and amortization	1,
Gain on sale of license	(3,
Changes in assets and liabilities (excluding business acquisition):	
Restricted cash	
Accounts receivable, net	
Inventories	(
Prepaid expenses and other current assets	(
Refundable income taxes	
Accounts payable, accrued liabilities and other liabilities	(
Unearned purchase discount	(
Deposit - related party	(
Other assets	
Advances on contracts in progress	
Net cash used in operating activities	(3,
Cash flows provided by investing activities:	
Proceeds from sale of license	3,
Additions to property and equipment	(
Acquisition, net of cash acquired	
Increase in intangible and other assets	(
Net cash provided by investing activities	2,

Cash flows from financing activities:	
Principal payments on capital lease obligation	(
Principal payments on capital lease obligation - related party	(
Exercise of stock options	
Net cash used in financing activities	(
Net increase (decrease) in cash and cash equivalents	(2,
Cash and cash equivalents, beginning of period	5,
Cash and cash equivalents, end of period	$ 3,
Supplemental disclosures of cash flow information:	
Acquisition of Bandwidth Semiconductor:	
Assets acquired	$
Liabilities assumed (including related party obligation of $1,247,241)	
Cash paid	$
Non cash financing activities:	
Capital lease obligation for building - related party	$
Cash paid (received) during the period for:	
Interest	$
Interest - related party	$
Income taxes	$ (

See accompanying notes to condensed consolidated financial statements.

SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

SEPTEMBER 30, 2004

1. DESCRIPTION OF THE BUSINESS

The Company develops, manufactures and markets highly-engineered products and services in four principal business areas: solar equipment, solar systems, biomedical and optoelectronics, generally bringing to bear expertise in materials technologies, surface science and thin films across all four business areas.

In the solar equipment area, the Company develops, custom manufactures and markets specialized equipment for the production of terrestrial photovoltaic modules from solar cells. The Company's equipment has been installed in more than 150 factories in 42 countries.

In the solar systems area, the Company provides both stand alone emergency power backup and electric power grid-connected distributed power generation systems employing photovoltaic technology.

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 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 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.

2. INTERIM FINANCIAL STATEMENTS

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 September 30, 2004 and the results of operations and cash flows for the three and nine months ended September 30, 2004 and 2003. The results of operations for the three and nine months ended September 30, 2004 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2004. The unaudited condensed consolidated statements of cash flows for the nine months ended September 30, 2003 have been updated to reflect the final allocation of purchase price related to the Bandwidth Semiconductor, LLC ("Bandwidth") acquisition.

The 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-KSB for the year ended December 31, 2003.

3. NEW ACCOUNTING STANDARD

In January 2003, the FASB issued FASB Interpretation No. 46, "Consolidation of Variable Interest Entities" ("FIN 46") which requires the consolidation of variable interest entities by the primary beneficiary of the entity if the equity investors in the entity do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. In December 2003, the FASB issued FASB Interpretation No. 46R, "Consolidation of Variable Interest Entities" ("FIN 46R"). FIN 46R superseded FIN 46 and defers the effective date for small business filers until the first reporting period that ends after December 15, 2004 (fourth quarter of 2004). The Company adopted of FIN 46R on January 1, 2004 and adoption did not have a material impact on the Company's financial position or results of operations.

4. ACCOUNTS RECEIVABLE/ADVANCES ON CONTRACTS IN PROGRESS

Net accounts receivable, trade consists of the following:

	September 30, 2004
Amounts billed	$ 3,036,585
Retainage	40,671
Accrued revenue	497,050
	3,574,306
Less: Allowance for sales returns and doubtful accounts	(145,729)
Net accounts receivable	$ 3,428,577
Advances on contracts in progress	$ 1,099,130

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. Included in retainage are amounts expected to be collected after one year, which totaled $41,000 at September 30, 2004. All other accounts receivable are expected to be collected within one year.

All contracts with United States government agencies have been audited by the government through December 2002. The Company has not incurred significant losses or adjustments as a result of government audits.

The Company maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to pay amounts due. Bad debts are written off against the allowance when identified. 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 but revenue has not been recognized.

5. INVENTORIES

Inventories consist of the following:

	September 30, 2004
Raw materials	$ 1,162,174
Work in process	846,456
Finished goods	297,635
	$ 2,306,265

SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)
(UNAUDITED)

SEPTEMBER 30, 2004

6. EARNINGS (LOSS) PER SHARE

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

	Three Months Ended September 30,		Nin
	2004	2003	2004
Weighted average number of common and common equivalent shares outstanding - basic	6,835,928	6,761,660	6,797
Add: Net additional common shares upon assumed exercise of common stock options	--	--	
Adjusted weighted average common and common equivalents shares outstanding - diluted	6,835,928	6,761,660	6,797

For the three and nine months ended September 30, 2004, 155,793 and 227,026 shares of common stock issuable relative to stock options were excluded from the calculation of dilutive shares since the inclusion of such shares would be anti-dilutive due to the Company's net loss position in the periods. In addition, for the three and nine months ended September 30, 2004, 120,777 and 96,433 shares, respectively, had exercise prices per share that exceeded the average market price of the Company's common stock and were excluded from the calculation of diluted shares since their inclusion would be anti-dilutive.

For the three months ended September 30, 2003, 173,147 shares of common stock issuable relative to stock options were excluded from the calculation of dilutive shares since the inclusion of such shares would be anti-dilutive due to the Company's net loss position in the period. In addition, for the three and nine months ended September 30, 2003, 55,000 and 418,014 shares, respectively, had exercise prices per share that exceeded the average market price of the Company's common stock and were excluded from the calculation of diluted shares since their inclusion would be anti-dilutive.

7. 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", which was adopted in 1998.

The results for Bandwidth Semiconductor have been combined with the Company's Biophotonics Lifesciences segment which has been renamed the Optoelectronics segment. The acquisition of Bandwidth took place on May 23, 2003.

	Solar Equipment	Solar Systems	Biomedical
For the three months ended September 30, 2004			
Net sales and revenues	$ 317,808	$ 748,418	$ 2,221,709
Loss from operations	(511,096)	(166,696)	(524,861)
For the three months ended September 30, 2003			
Net sales and revenues	$ 1,350,568	$ 384,941	$ 1,602,605
Loss from operations	(242,167)	(365,679)	(666,049)
For the nine months ended September 30, 2004			
Net sales and revenues	$ 2,292,499	$ 2,536,289	$ 6,402,408
Earnings (loss) from operations	(1,180,299)	(228,755)	1,243,145
For the nine months ended September 30, 2003			
Net sales and revenues	$ 3,545,152	$ 1,195,138	$ 4,908,928
Earnings (loss) from operations	(797,813)	(911,741)	3,754,826

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SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)
(UNAUDITED)

SEPTEMBER 30, 2004

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

	Three Months Ended September 30,				Nine Months E	
	2004	%	2003	%	2004	%
Foreign	$ 359,000	10%	$ 617,000	15%	$ 1,510,000	12%
United States	3,369,000	90%	3,456,000	85%	11,506,000	88%
	$ 3,728,000	100%	$ 4,073,000	100%	$13,016,000	100%

Revenues from contracts with United States government agencies for the three months ended September 30, 2004 and 2003 were $588,000 and $606,000 or 16% and 15% of consolidated net sales and revenues, respectively.

Revenues from contracts with United States government agencies for the nine months ended September 30, 2004 and 2003 were $2,053,000 and $1,919,000 or 16% and 18% of consolidated net sales and revenues, respectively.

Two customers accounted for approximately 34% and 27% of the Company's gross sales during the three months ended September 30, 2004 and 2003, respectively. One customer accounted for approximately 15% and three customers accounted for approximately 39% of the Company's gross sales during the nine months ended September 30, 2004 and 2003, respectively. No customer represented more than 10% of trade account receivables at September 30, 2004.

8. OTHER INTANGIBLE ASSETS

Patents amounted to $495,506 net of accumulated amortization of $555,553 at September 30, 2004. Licenses amounted to $240,833 net of accumulated amortization of $59,167 at September 30, 2004. 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. 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. For disclosure purposes, the table below includes future amortization expense for patents owned by the Company as well as $382,714 of estimated amortization expense related to patents that remain pending. Estimated amortization expense for the periods ending December 31, is as follows:

Year	Amortization Expense
2004 (fourth quarter only)	$ 55,528
2005	199,853
2006	154,025
2007	146,873
2008	121,521
2009	61,539
	$736,339

9. NOTES PAYABLE AND CREDIT ARRANGEMENTS

On June 23, 2003, the Company entered into a $2,000,000 Loan Agreement (the "Agreement") with Citizens Bank of Massachusetts. The Agreement provides Standby Letter of Credit Guarantees for foreign customers and is 100% secured with cash. The Agreement had an original expiration date of June 30, 2004 and was amended in June 2004 to extend the expiration date to June 28, 2005. The amendment also suspended the Agreement's revolving line of credit conversion feature for one year. At September 30, 2004, the Company had $716,000 of restricted cash associated with outstanding Letters of Credit. Standby Letters of Credit under this Agreement bear interest at 1%. A commitment fee of .25% is charged on the unused portion of the borrowing base. The Agreement contains covenants including certain financial reporting requirements. At September 30, 2004, the Company was in compliance with its financial reporting requirements and cash balance covenants. Letters of Credit issued with an expiration beyond June 28, 2005 are required to be 100% secured by cash.

10. STOCK-BASED COMPENSATION

The Company has adopted the disclosure provisions of Statement of Financial Accounting Standards No. 148, "Accounting for Stock-Based Compensation - Transition and Disclosure" ("SFAS 148") which is an amendment of SFAS No. 123 "Accounting for Stock-Based Compensation" ("SFAS 123"), and continues to apply

Accounting Principles Board Opinion No. 25 and related interpretations in accounting for its stock plans. If the Company had elected to recognize compensation cost for all of the plans based upon the fair value at the grant dates for awards under those plans, consistent with the method prescribed by SFAS 123, net earnings (loss) and earnings (loss) per share would have been changed to the pro forma amounts indicated below.

	Three Months Ended September 30,	
	2004	2003
Net earnings (loss), as reported	$ (1,798,433)	$ (1,249,767)
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(86,411)	(85,021)
Pro forma net earnings (loss)	$ (1,884,844)	$ (1,334,788)
Earnings (loss) per share:		
Basic - as reported	$ (0.26)	$ (0.18)
Basic - pro forma	$ (0.28)	$ (0.20)
Diluted - as reported	$ (0.26)	$ (0.18)
Diluted - pro forma	$ (0.28)	$ (0.20)

The per-share weighted-average fair value of stock options granted during the quarters ended September 30, 2004 and 2003 was $3.94 and $2.25, 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
2004	--	4.13%	5 years	77.1%
2003	--	3.33%	5 years	81.7%

For the quarter ended September 30, 2004, 6,250 stock options were granted.

11. SALE OF A LICENSE

In October 2002, the Company sold an exclusive patent license for a hemodialysis split-tip catheter to Bard Access Systems, Inc. ("Bard"), a wholly owned subsidiary of C. R. Bard, Inc., in exchange for $5,000,000 upon the execution of the agreement, with another $5,000,000 due upon the earlier to occur of: (a) the date of the first commercial sale of a licensed product by Bard; or (b) no more than 18 months after signing. The agreement further provided for two additional contingent cash payments of $3,000,000 each upon the completion of certain milestones by Bard in 2004 and 2005. Bard has the right to cancel the agreement at any time subsequent to the second payment. There can be no assurances that these milestones will be attained and attainment is beyond the control of the Company. During the year ended December 31, 2002, the Company recorded the initial payment under the agreement, resulting in a gain of $4,464,929, net of direct costs. Due to the potential length of time between the first and second payments and the cancellation provisions within the agreement, the Company did not record the potential remaining payments at that time. During June 2003, in accordance

with the agreement, the Company received notification from Bard of the first commercial sale, collected the $5,000,000 payment due and recorded a gain of $4,989,150, net of direct costs. During June 2004, the Company received the first contingent milestone payment and recorded a gain of $3,000,000. There were no direct costs associated with this payment. These gains have been recorded in the accompanying unaudited condensed consolidated statements of operations for the nine months ended September 30, 2004 and 2003, respectively. The Company believes that the sale of the license does not reflect the day-to-day operations of the Company. Therefore, the net proceeds received has been classified under proceeds from a license in the unaudited condensed consolidated statements of cash flows for the nine months ended September 30, 2004 and September 30, 2003, respectively.

In conjunction with the sale, the Company received a sublicense, which permits the Company to continue to manufacture and market hemodialysis catheters for the treatment of chronic kidney disease. In addition, the Company granted Bard a right of first refusal should the Company seek to sell the catheter business.

12. COMMITMENTS

Letters of Credit

During the second quarter of 2004, the Company entered into a Purchase and Sale Agreement (the "Agreement") to supply certain solar systems units and equipment to a third party. Performance under the Agreement is subject to several precedent conditions including the issuance of a Standby Letter of Credit by the Company in favor of the third party and the advance funding of the total purchase price by the third party to Spire. On July 1, 2004, Spire issued a $5,860,249 Standby Letter of Credit, as amended, in accordance with the terms of this Agreement. The Standby Letter of Credit is subject to the terms of the Company's Loan Agreement as discussed in Note 9 and is only available for drawing to the extent that payments are received by the Company from the third party. The Standby Letter of Credit expired on October 31, 2004 as no payment was received from the third party.

Related Party Capital Lease

In conjunction with the acquisition of Bandwidth by the Company, SPI-Trust, a Trust of which Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company, is sole trustee and principal beneficiary, purchased from Stratos (Bandwidth's owner) the building that Bandwidth occupies in Hudson, New Hampshire for $3.7 million. Subsequently, the

Company entered into a lease for the building (90,000 square feet) with SPI-Trust whereby the Company will pay $4.1 million to SPI-Trust over an initial five year term expiring in 2008 with a Company option to extend for five years. In addition to the rent payments, the lease obligates the Company to keep on deposit with SPI-Trust the equivalent of three months rent ($168,750 as of September 30, 2004). The lease agreement does not provide for a transfer of ownership at any point. Interest costs were assumed at 7%. For the nine months ended September 30, 2004, interest expense was approximately $162,000. This lease has been 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
June 1, 2003 - May 31, 2004	$6.00	$ 540,000	$45,000	$135,000
June 1, 2004 - May 31, 2005	7.50	675,000	56,250	168,750
June 1, 2005 - May 31, 2006	8.50	765,000	63,750	191,250
June 1, 2006 - May 31, 2007	10.50	945,000	78,750	236,250
June 1, 2007 - May 31, 2008	13.50	1,215,000	101,250	303,750
		$4,140,000		

At September 30, 2004, $517,000 and $2,398,000 are reflected as the current and long-term portions of capital lease obligation - related party, respectively, in the September 30, 2004 unaudited condensed consolidated balance sheet.

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SPIRE CORPORATION AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)
(UNAUDITED)

SEPTEMBER 30, 2004

Unrelated Party Capital Lease

In September 2001, Bandwidth Semiconductor, LLC ("Bandwidth") entered into an agreement with GE Capital Leasing Corp, for the lease of a reactor for its wafer production line. The lease is accounted for as a capital lease. Under the lease agreement, the Company is making monthly payments of $36,000. After the initial three-year period ending in September 2004, the lease allows for an additional two-year extension. In September 2004, the Company extended the lease term for the additional two years to September 2006. The lease includes a residual value guarantee of $204,000 at the end of extended period. Interest costs were assumed at 7%. For the nine months ended September 30, 2004, interest expense was approximately $48,000.

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 THAT INVOLVE RISKS AND UNCERTAINTIES. THE COMPANY'S ACTUAL RESULTS AND THE TIMING OF CERTAIN EVENTS MAY DIFFER SIGNIFICANTLY FROM THE RESULTS AND TIMING DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED OR REFERRED TO IN THIS REPORT AND IN ITEM 6 OF THE ANNUAL REPORT ON FORM 10-KSB FOR THE YEAR ENDED DECEMBER 31, 2003. MANAGEMENT'S DISCUSSION AND ANALYSIS INCLUDES THE FOLLOWING SECTIONS:

- OVERVIEW;
- RESULTS OF OPERATIONS;
- THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2004 COMPARED TO THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2003;
- LIQUIDITY AND CAPITAL RESOURCES;
- RECENT ACCOUNTING PRONOUNCEMENTS;
- IMPACT OF INFLATION AND CHANGING PRICES;
- FOREIGN CURRENCY FLUCTUATION;
- RELATED PARTY TRANSACTIONS;
- CRITICAL ACCOUNTING POLICIES; AND
- CONTRACTUAL OBLIGATIONS, COMMERCIAL COMMITMENTS AND OFF-BALANCE SHEET ARRANGEMENTS.

Overview

The Company develops, manufactures and markets highly-engineered products and services in four principal business areas: biomedical, solar equipment, solar systems and optoelectronics, generally bringing to bear expertise in materials technologies, surface science and thin films across all four business areas.

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 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 solar equipment area, the Company develops, custom manufactures and markets specialized equipment for the production of terrestrial photovoltaic modules from solar cells. The Company's equipment has been installed in more than 150 factories in 42 countries.

In the solar systems area, the Company provides both stand alone emergency power backup and electric power grid-connected distributed power generation systems employing photovoltaic technology.

In the optoelectronics area, the Company provides 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.

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 September 30,		Nine Months En September 30	
	2004	2003	2004	20
Net sales and revenues	100%	100%	100%	
Cost of sales and revenues	84	81	81	
Gross profit	16	19	19	
Selling, general and administrative expenses	(54)	(49)	(47)	
Internal research and development	(8)	(10)	(8)	
Gain on sale of license	--	--	23	
Earnings (loss) from operations	(46)	(40)	(13)	
Interest expense, net	(2)	(2)	(2)	
Earnings (loss) before income taxes	(48)	(42)	(15)	
Income tax (expense) benefit	--	11	--	
Net earnings (loss)	(48%)	(31%)	(15%)	

OVERALL

The Company's total net sales and revenues for the nine months ended September 30, 2004 ("2004") increased 21% compared to the nine months ended September 30, 2003 ("2003"). The increase was attributable to an increase in solar systems in 2004 (12%), the acquisition of Bandwidth Semiconductor, LLC

("Bandwidth") in May 2003 (7%), and to a lesser extent, increases in biomedical processing services (6%), medical devices (6%), and government funded research and development activities (4%). These increases were partially offset by a decrease in solar equipment sales (14%).

SOLAR BUSINESS UNIT

Sales in the Company's solar business unit increased 2% during 2004 as compared to 2003 primarily due to a 113% increase in solar systems sales resulting from the temporary permitting challenges experienced in 2003 in the metro Chicago area that Spire did not encounter in 2004. The increase can also be attributed to a 113% increase in revenue from government-funded research and development activities associated with Spire's cost sharing agreement with the Department of Energy National Renewable Energy Laboratory ("NREL"). These increases were substantially offset by a 51% decrease in equipment sales in 2004 of the Company's solar energy manufacturing equipment as compared to 2003 primarily due to the sale of a 5 megawatt SPI-LINETM turnkey photovoltaic module production line.

BIOMEDICAL BUSINESS UNIT

Revenues of the Company's biomedical business unit increased 27% during 2004 as compared to 2003 as a result of a 25% increase in revenue from Spire's IONGUARD(R) implant process services and an 84% increase in revenue from Spire's line of hemodialysis catheters and, to a lesser extent, a 6% increase in revenue from Spire's government-funded research and development activities.

OPTOELECTRONICS

Sales in the Company's optoelectronics business unit increased 76% during 2004 as compared to 2003, due to the May 23, 2003 acquisition of Bandwidth Semiconductor, LLC ("Bandwidth").

Operating results will depend upon 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 were 10% of net sales and revenues in 2004 and are expected to continue to constitute a significant portion of the Company's net sales and revenues.

Three and Nine Months Ended September 30, 2004 Compared to Three and Nine Months Ended September 30, 2003

NET SALES AND REVENUES

The following table categorizes the Company's net sales and revenues for the periods presented:

	Three Months Ended September 30,		Increase/(Decrease)	
	2004	2003	$	%
Contract research and service revenues	$2,291,000	$2,230,000	$ 61,000	3%
Sales of goods	1,437,000	1,843,000	(406,000)	(22%)
Net sales and revenues	$3,728,000	$4,073,000	$ (345,000)	(8%)

The 3% increase in contract research and service revenues for the three months ended September 30, 2004 as compared to the three months ended September 30, 2003 is primarily attributable to an increase in biomedical processing services (12%) and an increase in research and development activities (3%) both offset by a decrease in Bandwidth foundry services (12%). Revenue from Spire's biomedical processing services increased 28% in 2004 compared to 2003 as a result of continued strong demand for Spire's IONGUARD implant services. Revenues from Spire's research and development activities increased 18% in 2004 as compared to 2003 primarily due to an increase in the number of contracts associated with funded research and development and an increase in revenue from activities associated with our cost sharing agreement with NREL. Revenues from Bandwidth foundry services declined 40% in 2004 compared to 2003 due to the timing and delivery of customer orders.

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The 22% decrease in sales of goods for the three months ended September 30, 2004 as compared to the three months ended September 30, 2003 was primarily due to a decrease in solar equipment revenues (58%) offset by increases in biomedical product sales (16%) and solar systems (20%). Solar equipment sales decreased 89% in 2004 as compared to 2003 primarily due to the timing and delivery of customer orders. Biomedical product sales increased 120% in 2004 as compared to 2003 as a result of increased demand for Spire's line of hemodialysis catheters and initial sales of Spire's Decathlon product line which was introduced in December 2003.

The following table categorizes the Company's net sales and revenues for the periods presented:

	Nine Months Ended September 30,		Increase/(Decrease)	
	2004	2003	$	%
Contract research and service revenues	$7,622,000	$5,748,000	$1,874,000	33%
Sales of goods	5,394,000	5,039,000	355,000	7%
Net sales and revenues	$13,016,000	$10,787,000	$2,229,000	21%

The 33% increase in contract research and service revenues for the nine months ended September 30, 2004 is primarily attributable to the acquisition of Bandwidth (13%) on May 23, 2003, and an increase in biomedical processing services (12%) and, to a lesser extent, an increase in government-funded research and development activities associated with Spire's cost sharing agreement with NREL (8%). Revenue from Spire's biomedical processing services increased 25% in 2004 compared to 2003 as a result of continued strong demand for Spire's IONGUARD implant process services.

The 7% increase in sales of goods for the nine months ended September 30, 2004 was primarily due to an increase in solar systems revenues (26%) and, to a lesser extent, an increase in biomedical product sales (12%), both offset by a decrease in solar equipment sales (31%). The increase in solar systems revenues was primarily due to a 113% increase in solar systems revenue in 2004 as compared to 2003 resulting from the temporary permitting challenges experienced in 2003 in the metro Chicago area that Spire did not encounter in 2004. Biomedical product sales increased 84% in 2004 as compared to 2003 as a result of increased demand for Spire's line of hemodialysis catheters and initial sales of Spire's Decathlon product line which was introduced in December 2003. Solar equipment sales decreased 51% in 2004 as compared to 2003 primarily due to the sale of a 5 megawatt SPI-LINE turnkey photovoltaic module production line in 2003.

COST OF SALES AND REVENUES

The following table categorizes the Company's 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,				
	2004	%	2003	%	
Cost of contract research and services	$1,792,000	78%	$1,767,000	79%	$
Cost of goods sold	1,354,000	94%	1,549,000	84%	
Net cost of sales and revenues	$3,146,000	84%	$3,316,000	81%	$

The $25,000 (1%) increase in cost of contract research and service revenues in 2004 is primarily due to a 32% increase in the Company's biomedical processing services direct costs associated with its 28% increase in revenues. The decline in profit margins associated with the biomedical processing services is primarily attributable to product mix. This increase was substantially offset by a 24% decrease in factory overhead and direct costs associated with the Company's semiconductor foundry. This decrease was attributable to a cost adjustment associated with a one-time business interruption insurance payment recovered during the quarter. The decrease in cost of contract research and services as a percentage of revenues is due to a greater mix of biomedical processing services margin in 2004 as compared to 2003.

The $195,000 (13%) decrease in cost of goods sold is primarily due to a 76% decrease in Spire's solar equipment direct costs resulting from its 89% decrease in revenues discussed above. This decrease was substantially offset by increases in Spire's solar systems and biomedical products units due to increased sales levels in both units. The increase in cost of goods sold as a percentage of revenue is the result of the decrease in solar equipment sales discussed above and a decrease in margin in our biomedical products units both offset by improved contribution margins at our Chicago facility due to the increase in revenues discussed above.

COST OF SALES AND REVENUES

	Nine Months Ended September 30,				
	2004	%	2003	%	

Cost of contract research and services	$ 5,911,000	78%	$4,022,000	70%	$1
Cost of goods sold	4,662,000	86%	4,559,000	90%	
Net cost of sales and revenues	$10,573,000	81%	$8,581,000	80%	$1

The $1,889,000 (47%) increase in cost of contract research and service revenues in 2004 is primarily due to increased factory overhead and direct costs of $1,247,000 associated with the Company's semiconductor foundry and a $667,000 increase in biomedical processing services costs associated with its 25% increase in revenues. The increase was partially offset by a decrease in cost of sales associated with Spire's research and development activities. The increase in cost of contract research and service revenues as a percentage of revenues is the direct result of the Bandwidth acquisition, which recorded a -30% gross margin in 2004.

The $103,000 (2%) increase in cost of goods sold in 2004 is due to increased direct costs of $630,000 in solar systems costs and $579,000 in biomedical product costs both offset by a $1,106,000 decrease in solar equipment costs. The decrease in cost of goods sold as a percentage of revenue is the result of improved contribution margins at the Chicago facility and increased contribution from Spire's hemodialysis catheter product line both partially offset by reduced absorption of fixed costs within Spire's solar equipment line resulting from its decrease in revenue.

INTERNAL RESEARCH AND DEVELOPMENT

Internal research and development for the three months ended September 30, 2004 decreased $79,000 or 21% to $309,000, compared to $388,000 for the three months ended September 30, 2003. The decrease was primarily a result of reduced internal research projects within the biomedical segment. As a percentage of sales and revenues, internal research and development decreased 1% primarily due to reduced efforts with the biomedical segment noted above partially offset by the decrease in sales and revenues.

Internal research and development for the nine months ended September 30, 2004 increased $271,000 or 35% to $1,039,000, compared to $768,000 for the nine months ended September 30, 2003. The increase was primarily a result of the Company's continued investment in its semiconductor foundry and the "next generation" solar energy module manufacturing equipment under a cost-sharing contract with NREL. These increases were partially offset by decreased research and development efforts within the biomedical products group. As a percentage of sales and revenues, internal research and development increased 1% primarily due to the continued investments discussed above partially offset by the increase in sales and revenue.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses for the three months ended September 30, 2004 decreased $6,000 to $1,995,000, or 54% of sales and revenues, compared to $2,001,000 or 49% of sales and revenues for the three months ended September 30, 2003. The decrease was due primarily to decreased cost associated with legal and audit expenses in connection with increased compliance requirements partially offset by increased cost associated with sales and marketing efforts of the Company's biomedical products and solar business units. The increase in selling, general and administrative expenses as a percentage of sales and revenues was primarily due to the decrease in sales and revenue.

Selling, general and administrative expenses for the nine months ended September 30, 2004 increased $1,201,000 to $6,084,000, or 47% of sales and revenues, compared to $4,883,000 or 45% of sales and revenues for the nine months ended September 30, 2003. The increase was due primarily to increased costs associated with sales and marketing efforts of the Company's biomedical products and solar business units, the addition of Bandwidth and increased costs associated with legal and auditing expenses in connection with increased compliance requirements. The increase in selling, general and administrative expenses as a percentage of sales and revenues was primarily due to the dollar increases described above partially offset by the increase in sales and revenue.

INTEREST

The Company earned $13,000 and $24,000 of interest income for the quarters ended September 30, 2004 and 2003, respectively. The Company incurred interest expense of $90,000 and $92,000 for the quarters ended September 30, 2004 and 2003, respectively. The interest expense is primarily associated with interest incurred on capital leases associated with the semiconductor foundry.

The Company earned $48,000 and $64,000 of interest income for the nine months ended September 30, 2004 and 2003, respectively. The Company incurred interest expense of $265,000 and $146,000 for the nine months ended September 30, 2004 and 2003, respectively. The interest expense is primarily associated with interest incurred on capital leases associated with the semiconductor foundry.

INCOME TAXES

The Company incurred zero income tax expense for the quarter and the nine months ended September 30, 2004, compared to income tax benefit of $450,000 for the quarter September 30, 2003 and a tax expense of $225,000 the nine months ended September 30, 2003. The effective tax rate was a benefit of 26% for the three months ended September 30, 2003 and 15% for the nine months ended September 30, 2003. A valuation allowance has been provided against the current year income tax benefit due to uncertainty regarding the realization of the net operating loss in the future.

NET EARNINGS (LOSS)

The Company reported a net loss for the three months ended September 30, 2004 of $1,798,000, compared to a net loss of $1,250,000 in 2003. The net loss increased $548,000 primarily due to the $450,000 income tax benefit recognized in the third quarter of 2003.

The Company reported a net loss for the nine months ended September 30, 2004 of $1,898,000, compared to net earnings of $1,238,000 in 2003. The loss for the nine months ended September 30, 2004 is attributable to the Company's operations as outlined above offset by the Company's income associated with the $3,000,000 gain on the sale of license. The Net earnings (loss) decreased $3,136,000 primarily due to the $1,989,000 decrease in the gain on sale of license and, to a lesser extent, the increased fixed costs associated with the Company's semiconductor foundry.

Liquidity and Capital Resources

Cash and cash equivalents decreased $2,225,000 to $3,774,000 as of September 30, 2004 primarily due to $3,987,000 of cash used in operations and, to a lesser extent, investments in patents and licenses and payments on capital leases. These decreases were substantially offset by the $3,000,000 proceeds from the sale of a license.

The Company has historically funded its operating cash requirements using operating cash flow and proceeds from the sale and licensing of technology. The Company's liquidity position benefited as a result of cash receipts of $5,000,000 in each of the years ended December 31, 2003 and 2002, and $3,000,000 in the nine months ended September 30, 2004 arising from the sale of a hemodialysis patent license to Bard Access Systems. The license sale agreement provides for the Company to receive one additional contingent cash payment of $3,000,000 upon the completion of certain milestones by Bard Access Systems during 2005. There can be no assurance that these milestones will be attained and attainment is beyond the control of the Company.

On June 23, 2003, the Company entered into a $2,000,000 Loan Agreement (the "Agreement") with Citizens Bank of Massachusetts. The Agreement provides Standby Letter of Credit Guarantees for foreign customers and is 100% secured with cash. The Agreement had an original expiration date of June 30, 2004 and was amended in June 2004 to extend the expiration date to June 28, 2005. The amendment also suspended the Agreement's revolving line of credit conversion feature for one year. At September 30, 2004, the Company had $716,000 of restricted cash associated with outstanding letters of credit. Standby Letters of Credit under this Agreement bear interest at 1%. A commitment fee of .25% is charged on the unused portion of the borrowing base. The Agreement contains covenants including certain financial reporting requirements. At September 30, 2004, the Company was in compliance with its financial reporting requirements and cash balance covenants. Letters of Credit issued with an expiration beyond June 28, 2005 are required to be 100% secured by cash.

To date, there are no material commitments by the Company for capital expenditures. At September 30, 2004, the Company's retained earnings were $572,000, compared to retained earnings of $2,470,000 as of December 31, 2003. Working capital as of September 30, 2004 decreased to $5,993,000, compared to $8,182,000 as of December 31, 2003.

During the second quarter of 2004, the Company entered into a Purchase and Sale Agreement (the "Agreement") to supply certain solar systems units and equipment to a third party. Performance under the Agreement is subject to several precedent conditions including the issuance of a Standby Letter of Credit by the Company in favor of the third party and the advance funding of the total purchase price by the third party to Spire. On July 1, 2004, Spire issued a $5,860,249 Standby Letter of Credit, as amended, in accordance with the terms of this Agreement. The Standby Letter of Credit is subject to the terms of the Company's Loan Agreement as discussed in Note 9 and is only available for drawing to the extent that payments are received by the Company from the third party. The Standby Letter of Credit expired on October 31, 2004 as no payment was received from the third party.

The Company believes it has sufficient resources to finance its current operations for the foreseeable future through working capital.

Recent Accounting Pronouncements

In January 2003, the FASB issued FASB Interpretation No. 46, "Consolidation of Variable Interest Entities" ("FIN 46") which requires the consolidation of variable interest entities by the primary beneficiary of the entity if the equity investors in the entity do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. In December 2003, the FASB issued FASB

Interpretation No. 46R, "Consolidation of Variable Interest Entities" ("FIN 46R"). FIN 46R superseded FIN 46 and defers the effective date for small business filers until the first reporting period that ends after December 15, 2004 (fourth quarter of 2004). The Company adopted of FIN 46R on January 1, 2004 and adoption did not have a material impact on the Company's financial position or results of operations.

Impact of Inflation and Changing Prices

Historically, the Company's business has not been materially impacted by inflation. Manufacturing equipment and solar systems are generally quoted, manufactured and shipped within a cycle of approximately nine months, allowing for orderly pricing adjustments to the cost of labor and purchased parts. The Company has not experienced any negative effects from the impact of inflation on long-term contracts. The Company's service business is not expected to be seriously affected by inflation because its procurement-production cycle typically ranges from two weeks to several months, and prices generally are not fixed for more than one year. Research and development contracts usually include cost escalation provisions.

Foreign Currency Fluctuation

The Company sells only in U.S. dollars, generally against an irrevocable confirmed letter of credit through a major United States bank. Therefore the Company is not directly affected by foreign exchange fluctuations on its current orders. However, fluctuations in foreign exchange rates do have an effect on the Company's customers' access to U.S. dollars and on the pricing competition on certain pieces of equipment that the Company sells in selected markets.

Related Party Transactions

The Company subleases 74,000 square feet in a building leased by Mykrolis Corporation, who in turn leases the building from a Trust of which Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company, is sole trustee and principal beneficiary. The Company believes that the terms of the third-party sublease are commercially reasonable. The 1985 sublease originally was for a period of ten years, was extended for a five-year period expiring on November 30, 2000 and was further extended for a five-year period expiring on November 30, 2005. The agreement provides for minimum rental payments plus annual increases linked to the consumer price index. Rent expense under this sublease for the nine months ended September 30, 2004 was $809,000. In connection with this sublease, the Company is invoiced and pays certain Trust related expenses, including building maintenance and insurance. The Company invoices the Trust on a monthly basis and the Trust reimburses the Company for all such costs.

In conjunction with the acquisition of Bandwidth by the Company, the Company released Bandwidth from the lease agreement that had existed between Bandwidth and the Company. In November 2001, Bandwidth, under its previous

owner, abandoned the space being subleased from the Company in Bedford, Massachusetts, to move to a new building and wafer fabrication lab in Hudson, New Hampshire. At that time, there were 48 months left on the lease. Subsequent to the move to Hudson, New Hampshire, Bandwidth was unable to sublease the Bedford, Massachusetts space, and was paying the Company for the unused space. In conjunction with the acquisition of Bandwidth in May 2003, the Company released Bandwidth from the remaining lease payments. However, the Company continues to be obligated to Mykrolis Corporation for the entire amount of the remaining lease agreement. As a result, the present value of the remaining lease obligation associated with the unused space was recorded as an assumed liability of $1,247,241 in the purchase accounting. As of September 30, 2004, the remaining lease obligation is $598,091, which is reflected as "accrued lease obligation - related party" in the June 30, 2004 unaudited condensed consolidated balance sheet. The amount due beyond one year has been reflected in long-term liabilities. The difference between the actual rent payment and the discounted rent payment will be accreted to the consolidated statements of operations as interest expense. Interest of 4.75% has been assumed on this obligation. For the nine months ended September 30, 2004, interest expense was approximately $29,000.

Also in conjunction with the acquisition of Bandwidth by the Company, SPI-Trust, a Trust of which Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company, is sole trustee and principal beneficiary, purchased from Stratos (Bandwidth's owner) the building that Bandwidth occupies in Hudson, New Hampshire for $3.7 million. Subsequently, the Company entered into a lease for the building (90,000 square feet) with SPI-Trust whereby the Company will pay $4.1 million to SPI-Trust over an initial five-year term expiring in 2008 with a Company option to extend for five years. In addition to the rent payments, the lease obligates the Company to keep on deposit with SPI-Trust the equivalent of three months rent ($168,750 as of September 30, 2004). The lease agreement does not provide for a transfer of ownership at any point. Interest costs were assumed at 7%. For the nine months ended September 30, 2004, interest expense was approximately $162,000. This lease has been 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
June 1, 2003 - May 31, 2004	$6.00	$ 540,000	$45,000	$135,000
June 1, 2004 - May 31, 2005	7.50	675,000	56,250	168,750
June 1, 2005 - May 31, 2006	8.50	765,000	63,750	191,250
June 1, 2006 - May 31, 2007	10.50	945,000	78,750	236,250
June 1, 2007 - May 31, 2008	13.50	1,215,000	101,250	303,750
		$4,140,000		

At September 30, 2004, $516,638 and $2,398,139 are reflected as the current and long-term portions of capital lease obligation - related party, respectively, in the accompanying unaudited condensed consolidated balance sheet

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 unaudited condensed consolidated financial statements are those relating to revenue recognition, impairment of long-lived assets, acquisition accounting, income taxes, and warranties. 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 following critical accounting policies affect our more significant judgments and estimates used in the preparation of our unaudited condensed consolidated financial statements. Refer to Footnote 2 of our notes to consolidated financial statements in our annual report on Form 10-KSB for the year ended December 31, 2003 for a description of our accounting policies for income taxes and warranties.

REVENUE RECOGNITION

The Company derives its 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.

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We generally recognize 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. 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 the Company's 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. 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.)

The Company's OEM capital equipment solar energy business builds complex customized machines to order for specific customers. Substantially all of these orders are sold on a FOB Bedford, Massachusetts (or EXW Factory) basis. It is the Company's policy to recognize revenues for this equipment as the product is shipped 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 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. The Company's solar energy systems business installs solar energy systems on customer-owned properties on a contractual basis. Generally, revenue is recognized once the systems have been installed and the title is passed to the customer. For arrangements with multiple elements, the Company allocates fair value to each element in the contract and revenue is recognized upon delivery of each element. If the Company is not able to establish fair value of undelivered elements, all revenue is deferred.

The Company recognizes revenues and estimated profits on long-term government contracts on a percentage- of-completion method of accounting using a cost-to-cost methodology. 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. 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.

IMPAIRMENT OF LONG-LIVED ASSETS

Long-lived assets, including fixed assets and intangible assets, are continually monitored and are evaluated at least annually for impairment. The determination of recoverability is based on an estimate of undiscounted cash flows expected to result from the use of an asset and its eventual disposition. The estimate of cash flows is based upon, among other things, certain assumptions about expected future operating performance. Our estimates of undiscounted cash flows may differ from actual cash flows due to, among other things, technological changes, economic conditions, changes to our business model or changes in our operating performance. If the sum of the undiscounted cash flows (excluding interest) is less than the carrying value, we recognize an impairment loss, measured as the amount by which the carrying value exceeds the fair value of the asset.

ACQUISITION ACCOUNTING

Through its acquisition, the Company has accumulated assets, the valuation of which involves estimates based on fair value assumptions. Estimated lives assigned to the assets acquired in a business purchase also involve the use of estimates. These matters that are subject to judgments and estimates are inherently uncertain, and different amounts could be reported using different methodologies. Management uses its best estimate in determining the appropriate values and estimated lives to reflect in the consolidated financial statements, using historical experience, market data, and all other available information.

Contractual Obligations, Commercial Commitments and Off-Balance Sheet Arrangements

The following table summarizes the Company's gross contractual obligations at September 30, 2004 and the maturity periods and the effect that such obligations are expected to have on its liquidity and cash flows in future periods:

	Payments Due by Period			
Contractual Obligations	Total	Less than 1 Year	2 - 3 Years	4 - 5 Years
PURCHASE OBLIGATIONS	$2,248,000	$2,135,000	$ 113,000	$ --
CAPITAL LEASES:				
Unrelated party capital lease	$1,042,000	$ 437,000	$ 605,000	$ --
Related party capital lease	3,364,000	705,000	1,860,000	799,000
OPERATING LEASES:				

Unrelated party operating leases	$ 236,000	$ 160,000	$ 64,000	$ 12,000
Related party operating lease	1,244,000	1,066,000	178,000	--

Purchase obligations include all open purchase orders outstanding regardless of whether they are cancelable or not.

Capital lease obligations outlined above include both the principal and interest components of these contractual obligations. Included in the related party operating lease is the accrued lease obligation in the amount of $598,091.

On October 8, 1999, the Company entered into an Agreement with BP Solarex ("BPS") in which BPS agreed to purchase certain production equipment built by the Company, for use in the Company's Chicago factory ("Spire Solar Chicago") and in return the Company agreed to purchase solar cells of a minimum of two megawatts per year over a five-year term for a fixed fee from BPS (the "Purchase Commitment"). BPS has the right to reclaim the equipment should the Company not meet its obligations in the Purchase Commitment. The proceeds from the sale of the production equipment purchased by BPS have been classified as an unearned purchase discount in the accompanying unaudited condensed consolidated balance sheet. The Company will amortize this discount as a reduction to cost of sales as it purchases solar cells from BPS. During the quarter ended September 30, 2003, the Company and BPS retroactively amended the agreement to include all purchases of solar modules, solar systems, inverter systems and other system equipment purchased by the Company from BPS in the purchase commitment calculation. Amortization of the purchase discount amounted to $108,889 for the nine months ended September 30, 2004.

In addition, the agreement contains a put option for BPS to have the Company create a separate legal entity for Spire Solar Chicago and for BPS to convert the value of the equipment and additional costs, as defined, into equity of the new legal entity. The percentage ownership in the joint venture would be determined based on the cumulative investments by BPS and the Company.

The amended agreement also allows the Company to terminate the agreement on 30 days notice in consideration for a termination payment based on the aggregate amount of Spire purchases of BPS products and the fair market value of the production equipment purchased by BPS at the time of the termination election. As of September 30, 2004, the Company has no intention of terminating the agreement.

In October 2002, the Company sold an exclusive patent license for a hemodialysis split-tip catheter to Bard Access Systems, Inc. ("Bard"), a wholly owned subsidiary of C. R. Bard, Inc., in exchange for $5,000,000 upon the execution of the agreement, with another $5,000,000 due upon the earlier to occur of: (a) the date of the first commercial sale of a licensed product by Bard; or (b) no more than 18 months after signing. The agreement further provided for two additional contingent cash payments of $3,000,000 each upon the completion of certain milestones by Bard in 2004 and 2005. Bard has the right to cancel the agreement at any time subsequent to the second payment. There can be no assurances that these milestones will be attained and attainment is beyond the control of the Company. During the year ended December 31, 2002, the Company recorded the initial payment under the agreement, resulting in a gain of $4,464,929, net of direct costs. Due to the potential length of time between the first and second payments and the cancellation provisions within the agreement, the Company did not record the potential remaining payments at that time. During June 2003, in accordance with the agreement, the Company received notification from Bard of the first commercial sale, collected the $5,000,000 payment due and recorded a gain of $4,989,150, net of direct costs. During June 2004, the Company received the first contingent milestone payment and recorded a gain of $3,000,000. There were no direct costs associated with this payment.

Outstanding letters of credit totaled $716,000 at September 30, 2004. The letters of credit principally secure performance obligations, and allow holders to draw funds up to the face amount of the letter of credit if the Company does not perform as contractually required. These letters of credit expire through February 3, 2006 and are 100% secured by cash.

During the second quarter of 2004, the Company entered into a Purchase and Sale Agreement (the "Agreement") to supply certain solar systems units and equipment to a third party. Performance under the Agreement is subject to several precedent conditions including the issuance of a Standby Letter of Credit by the Company in favor of the third party and the advance funding of the total purchase price by the third party to Spire. On July 1, 2004, Spire issued a $5,860,249 Standby Letter of Credit, as amended, in accordance with the terms of this Agreement. The Standby Letter of Credit is subject to the terms of the Company's Loan Agreement as discussed in Note 9 and is only available for drawing to the extent that payments are received by the Company from the third party. The Standby Letter of Credit expired on October 31, 2004 as no payment was received from the third party.

ITEM 3. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Company carried out an evaluation under the supervision and with the participation of the Company's management, including the Chief Executive Officer and President and the Chief Financial Officer, of the effectiveness of the Company's disclosure controls and procedures as of September 30, 2004. In designing and evaluating the Company's disclosure controls and procedures, the Company and its management recognize that there are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their desired control objectives. Additionally, in evaluating and implementing possible controls and procedures, the Company's management was required to apply its reasonable judgment. Furthermore, in the course of this evaluation, management considered certain internal control areas, including those discussed below, in which we have made and are continuing to make changes to improve and enhance controls. Based upon the required evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that as of September 30, 2004 the Company's disclosure controls and procedures were effective (at the "reasonable assurance" level mentioned above) to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

From time to time, the Company and its management have conducted and will continue to conduct further reviews and, from time to time put in place additional documentation, of the Company's disclosure controls and procedures, as well as its internal control over financial reporting. The Company may from time to time make changes aimed at enhancing their effectiveness, as well as changes aimed at ensuring that the Company's systems evolve with, and meet the needs of, the Company's business. These changes may include changes necessary or desirable to address recommendations of the Company's management, its counsel and/or its independent auditors, including any recommendations of its independent auditors arising out of their audits and reviews of the Company's financial statements. These changes may include changes to the Company's own systems, as well as to the systems of businesses that the Company has acquired or that the Company may acquire in the future and will, if made, be intended to enhance the effectiveness of the Company's controls and procedures. The Company is also continually striving to improve its management and operational efficiency and the Company expects that its efforts in that regard will from time to time directly or indirectly affect the Company's disclosure controls and procedures, as well as the Company's internal control over financial reporting.

As disclosed in our annual report on Form 10-KSB for the year ended December 31, 2003, the Company's independent auditor, Vitale, Caturano and Company, Ltd. ("VCC") advised management and the Audit Committee by a letter dated March 18, 2004 that, in connection with its audit of the Company's consolidated financial statements for the year ended December 31, 2003, it noted certain matters involving internal control and its operation that it considered to be a material weakness under standards established by the American Institute of Certified Public Accountants. Reportable conditions are matters coming to an independent auditors' attention that, in their judgment, relate to significant deficiencies

in the design or operation of internal control and could adversely affect the organization's ability to record, process, summarize, and report financial data consistent with the assertions of management in the financial statements. Further, a material weakness is a reportable condition in which the design or operation of one or more internal control components does not reduce to a relatively low level the risk that errors or fraud in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. VCC advised management and the Audit Committee that it considered the following to constitute material weaknesses in internal control and operations: (i) the Company's failure to adequately staff its finance group with the appropriate level of experience to effectively control the increased level of transaction activity, address the complex accounting matters and manage the increased financial reporting complexities resulting from, among other things, the acquisition of Bandwidth, the implementation of a new financial reporting system and the investigation surrounding the filing and eventual restatement of the Company's Form 10-QSB, as amended, for the quarter ended June 30, 2003 and (ii) the Company's current monthly close process does not mitigate the risk that material errors could occur in the books, records and financial statements, and does not ensure that those errors would be detected in a timely manner by the Company's employees in the normal course of performing their assigned functions. The matter noted in clause (i) above was similar to the material weakness noted by our former independent auditor (as disclosed in prior SEC filings). VCC noted that these matters were considered by it during its audit and did not modify the opinion expressed in its independent auditor's report dated March 18, 2004.

The Company is still in the process of assessing the findings of its independent auditors. The Company has implemented several of the specific recommendations noted by the independent auditors letter including: instituting a disciplined and timely monthly close process, detailed reviews of the monthly closing packages by the appropriate levels of management and monthly reconciliations of all account balances. These efforts have been supplemented by detailed, substantive reviews by Company management to ensure that the information disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified. As noted above, however, the Company has made and is continuing to make changes in its controls and procedures, including its internal control over financial reporting, aimed at enhancing their effectiveness and ensuring that the Company's systems evolve with, and meet the needs of, the Company's business. As further noted above, the Company is also continually striving to improve its management and operational efficiency and the Company expects that its efforts in that regard will from time to time directly or indirectly affect the Company's controls and procedures, including its internal control over financial reporting. For example, the Company has recently added to its accounting staff and expects to hire additional professionals and the Company has recently completed compliance training and will continue to arrange for additional training for its staff. On April 1, 2004, the Company hired a permanent chief financial officer with the appropriate experience and background to manage the diverse and complex financial issues which may arise in the Company's business. The Company is also continuing its efforts to upgrade its information technology capabilities and has completed the implementation of a common accounting system at all of its business units.

Changes in Internal Control Over Financial Reporting

There was no change in the Company's internal control over financial reporting that occurred during the third fiscal quarter of 2004 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II
OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 2. CHANGES IN SECURITIES

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 AND REPORTS ON FORM 8-K

a. 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 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 pursuant to 18 U.S.C. ss.1350, as adopted pursuant to ss.906 of the Sarbanes-Oxley Act of 2002.

b. Reports on Form 8-K

None.

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 12, 2004 By: /s/ Roger G. Little

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

Dated: November 12, 2004 By: /s/ James F. Parslow

James F. Parslow
Chief Financial Officer