SPIRE CORP
Form 10QSB
May 14, 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 March 31, 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 6,765,660 outstanding shares of the issuer's only class of common equity, Common Stock, $0.01 par value, on May 4, 2004.

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

TABLE OF CONTENTS

		Page
PART I.	FINANCIAL INFORMATION	
Item 1.	Financial Statements	
	Unaudited Condensed Consolidated Balance Sheet as of March 31, 2004	1
	Unaudited Condensed Consolidated Statements of Operations for the Three Months Ended March 31, 2004 and 2003	2
	Unaudited Condensed Consolidated Statements of Cash Flows for the Three Months Ended March 31, 2004 and 2003	3
	Notes to Unaudited Condensed Consolidated Financial Statements	4
Item 2.	Management's Discussion and Analysis of Financial Condition and Results of Operations	9
Item 3.	Controls and Procedures	16
PART II.	OTHER INFORMATION	
Item 1.	Legal Proceedings	18
Item 2.	Changes in Securities	18
Item 3.	Defaults Upon Senior Securities	18
Item 4.	Submission of Matters to a Vote of Security Holders	18
Item 5.	Other Information	18
Item 6.	Exhibits and Reports on Form 8-K	18

PART I
FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

SPIRE CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEET
(UNAUDITED)

	MARCH 31, 2004
ASSETS	
Current assets	
Cash and cash equivalents	$ 4,794,133
Restricted cash	668,481
	5,462,614
Net accounts receivable, trade	3,527,717
Inventories	1,540,364
Refundable income taxes	529,410
Deferred income taxes	231,864
Prepaid expenses and other current assets	468,550
Total current assets	11,760,519
Property and equipment	23,699,549
Less accumulated depreciation and amortization	(15,344,877)
Net property and equipment	8,354,672
Patents and other assets, net	567,770
Total assets	$ 20,682,961
LIABILITIES AND STOCKHOLDERS' EQUITY	
Current liabilities	
Current portion of capital lease obligation	$ 381,195
Current portion of capital lease obligation - related party	447,386
Accounts payable	1,647,098
Accrued liabilities	1,798,031
Current portion of accrued lease obligation - related party	498,651
Advances on contracts in progress	195,829
Total current liabilities	4,968,190
Long-term portion of capital lease obligation	750,558
Long-term portion of capital lease obligation - related party	2,675,835
Accrued lease obligation - related party	345,812
Deferred income taxes	147,864
Unearned purchase discount	1,376,392
Total long-term liabilities	5,296,461
Total liabilities	10,264,651

Commitments and Contingencies:	
Stockholders' equity	
Common stock, $0.01 par value; shares authorized 20,000,000; issued 6,765,660 shares in 2004	67,657
Additional paid-in capital	9,258,536
Retained earnings	1,092,117
Total stockholders' equity	10,418,310
Total liabilities and stockholders' equity	$ 20,682,961

See accompanying notes to condensed consolidated financial statements

1

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

	THREE MONTHS ENDED MARCH 31,	
	2004	2003
Net sales and revenues		
Contract research and service revenues	$ 2,582,188	$ 1,592,064
Sales of goods	2,448,078	1,367,029
Total sales and revenues	5,030,266	2,959,093
Costs and expenses		
Cost of contract research and services	2,006,248	999,331
Cost of goods sold	1,920,577	1,287,737
Selling, general and administrative expenses	2,058,822	1,357,066
Internal research and development expenses	353,285	96,097
Total costs and expenses	6,338,932	3,740,231
Loss from operations	(1,308,666)	(781,138
Interest (expense) income, net	(69,389)	7,429
Loss before income taxes	(1,378,055)	(773,709
Income tax (benefit) expense	--	--
Net loss	$ (1,378,055)	$ (773,709

Loss per share of common stock - basic and diluted	$ (0.20)	$ (0.11
Weighted average number of common and common equivalent shares outstanding - basic and diluted	6,765,660	6,756,582

See accompanying notes to condensed consolidated financial statements.

2

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

	THREE MONTHS
	2004
Cash flows from operating activities:	
Net loss	$ (1,378,055)
Adjustments to reconcile net loss to net cash used in operating activities:	
Depreciation and amortization	636,006
Changes in assets and liabilities:	
Restricted cash	(5,592)
Accounts receivable, net	712,620
Inventories	(109,375)
Prepaid expenses and other current assets	(74,217)
Refundable income taxes	(6,410)
Accounts payable, accrued liabilities and other liabilities	477,131
Unearned purchase discount	(53,490)
Advances on contracts in progress	(983,964)
Net cash used in operating activities	(785,346)
Cash flows from investing activities:	
Additions to property and equipment	(90,785)
Increase in patent costs and other assets	(158,198)
Net cash used in investing activities	(248,983)
Cash flows from financing activities:	
Principal payments on capital lease obligation	(91,214)
Principal payments on capital lease obligation - related party	(79,415)
Exercise of stock options	--
Net cash provided by (used in) financing activities	(170,629)
Net decrease in cash and cash equivalents	(1,204,958)

Cash and cash equivalents, beginning of period	5,999,091
Cash and cash equivalents, end of period	$ 4,794,133

Supplemental disclosures of cash flow information:

Cash paid during the period for:	
Interest	$ 18,021
Interest - related party	$ 55,584
Income taxes	$ --

See accompanying notes to condensed consolidated financial statements.

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

MARCH 31, 2004

1. DESCRIPTION OF THE BUSINESS

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.

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. The Company also manufactures and markets solar photovoltaic systems suitable both for stand alone emergency power backup and for interconnection into the electric power grid.

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 March 31, 2004 and the results of operations and cash flows for the three months ended March 31, 2004 and 2003. The results of operations for the three months ended March 31, 2004 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2004.

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:

	MARCH 31, 2004
Amounts billed	$2,162,503
Retainage	37,505
Unbilled costs	1,516,131
	3,716,139
Less: Allowance for sales returns and doubtful accounts	(188,422)
Net accounts receivable	$3,527,717

Unbilled costs on contracts in progress represent revenues recognized on contracts for which billings have not been presented to customers as of 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 $38,000 at March 31, 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 2000. The Company has not incurred significant losses 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.

5. INVENTORIES

Inventories consist of the following:	MARCH 31, 2004
Raw materials	$1,023,965
Work in process	279,736
Finished goods	236,663
	$1,540,364

6. LOSS PER SHARE

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

	THREE MONTHS ENDED MARCH 31,	
	2004	2003
Weighted average number of common shares outstanding - basic	6,765,660	6,756,582
Add: Net additional common shares upon exercise of common stock options	--	--
Adjusted weighted average common shares outstanding - diluted	6,765,660	6,756,582

At March 31, 2004 and 2003, 251,407 and 22,679 shares, respectively, 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 both periods. In addition, at March 31, 2004 and 2003, 54,615 and 604,702 shares, respectively, of common stock issuable relative to stock options 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 Semiconductor took place on May 23, 2003.

	SOLAR EQUIPMENT	SOLAR SYSTEMS	BIOMEDICAL
For the Three Months Ended March 31, 2004			
Net sales and revenues	$ 1,161,667	$ 1,277,321	$ 1,857,392
Earnings (loss) from operations	(162,924)	90,150	(824,036)
For the Three Months Ended March 31, 2003			
Net sales and revenues	$ 1,243,361	$ --	$ 1,635,585
Loss from operations	(67,313)	(400,442)	(303,501)

The following table shows net sales and revenues by geographic area (based on customer location) for the quarter ended March 31:

	2004	%	2003	%
Foreign	$ 236,000	5%	$ 1,253,000	
United States	4,794,000	95%	1,706,000	
	$ 5,030,000	100%	$ 2,959,000	1

Revenues from contracts with United States government agencies for the quarter ended March 31, 2004 and 2003 were $721,000 and $697,000, or 14% and 24% of consolidated net sales and revenues, respectively.

Three customers accounted for approximately 51% and two customers accounted for approximately 51% of the Company's gross sales during the three-months ended March 31, 2004 and 2003, respectively. The two largest account receivable balances represented approximately 23% of trade account receivables at March 31, 2004.

6

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

MARCH 31, 2004

8. OTHER INTANGIBLE ASSETS

Patents amounted to $559,445 net of accumulated amortization of $553,173 at March 31, 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 $285,370 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	$ 92,152
2005	126,794
2006	121,958
2007	121,146
2008	97,395
	$ 559,445

9. 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 loss and loss per share would have been changed to the pro forma amounts indicated below.

	THREE MONTHS ENDED MARCH 31,	
	2004	2003
Net loss, as reported	$ (1,378,055)	$ (773,709)
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	70,313	85,415
Pro forma net loss	$ (1,448,368)	$ (859,124)
Loss per share:		
Basic - as reported	$ (0.20)	$ (0.11)
Basic - pro forma	$ (0.21)	$ (0.13)
Diluted - as reported	$ (0.20)	$ (0.11)
Diluted - pro forma	$ (0.21)	$ (0.13)

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

MARCH 31, 2004

The per-share weighted-average fair value of stock options granted during the quarter ended March 31, 2004 and 2003 was $5.12 and $2.46, 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	--	3.83%	5 years	79.5%
2003	--	3.81%	5 years	83.4%

For the quarter ended March 31, 2004, 30,000 stock options were granted.

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 MONTHS ENDED MARCH 31, 2004 COMPARED TO THREE MONTHS ENDED MARCH 31, 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 bringing to bear expertise in materials technologies 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, 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 electric power grid-connected distributed power generation systems employing photovoltaic technology.

In the optoelectronics area, the Company provides compound semiconductor foundry 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 MARCH 31,	
	2004	2003
Net sales and revenues	100%	100%
Cost of sales and revenues	78	77
Gross profit	22	23
Selling, general and administrative expenses	41	46

Internal research and development	7	3
Loss from operations	(26)	(26)
Interest (expense) income, net	(1)	--
Loss before income taxes	(27)	(26)
Net loss	(27%)	(26%)

9

The Company's total net sales and revenues for the three-months ended March 31, 2004 ("2004") increased 70% compared to the three-months ended March 31, 2003 ("2003"). The increase was attributable to an increase in solar systems in 2004 (43%), the acquisition of Bandwidth Semiconductor, LLC ("Bandwidth") in May 2003 (25%), and to a lesser extent, increases in biomedical processing services and devices (10%). These increases were partially offset by a decrease in solar equipment sales (8%).

Sales in the Company's solar business unit increased 102% during 2004 as compared to 2003 primarily due to a $1,277,000 increase in solar systems sales during 2004 versus zero in 2003. This increase was due to the temporary permitting challenges in the metro Chicago area we experienced in 2003 that we did not encounter in 2004. The increase in solar systems was partially offset by a 20% decrease in equipment sales in 2004 of the Company's solar energy manufacturing equipment as compared to 2003. Sales in 2004 consisted primarily of two assemblers as compared to the shipment of a 5 megawatt SPI-LINETM turnkey photovoltaic module production line to Huangshan Ho Tin Solar Technology Development Ltd. located in China in 2003, under a large contract.

Revenues of the Company's biomedical business unit increased 6% during 2004, as compared to 2003 as a result of a 35% increase in revenue from our IONGUARD(R) implant process services and an 11% increase in revenue from our line of hemodialysis catheters. These increases were partially offset by a 30% decrease in revenue from our government-funded research and development activities primarily due to lower average funding per contract.

Sales in the Company's optoelectronics business unit were $734,000 in 2004 versus zero in 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 only 5% of net sales and revenues in 2004 but are expected to continue to constitute a significant portion of the Company's net sales and revenues.

Three Months Ended March 31, 2004 Compared to Three Months Ended March 31, 2003

NET SALES AND REVENUES

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

	THREE MONTHS ENDED MARCH 31,		INCREASE/(DECREASE)	
	2004	2003	$	%
Contract research and service revenues	$2,582,000	$1,592,000	$ 990,000	62%
Sales of goods	2,448,000	1,367,000	1,081,000	79%

Net sales and revenues	$5,030,000	$2,959,000	$2,071,000	70%

The 62% increase in contract research and service revenues for 2004 is primarily attributable to the acquisition of Bandwidth (46%) on May 23, 2003 and, to a lesser extent, an increase in biomedical processing services (18%) and research and development activities (1%). Revenue from our biomedical processing services increased 35% in 2004 compared to 2003 as a result of continued strong demand for our IONGUARD implant services. These increases were partially offset by a decrease in royalty fees (-3%).

The 79% increase in sales of goods in 2004 was primarily due to an increase in solar systems revenues (93%), and to a lesser extent, an increase in biomedical product sales (2%) both offset by a decrease in solar equipment sales (16%). The increase in solar system revenues was primarily due to zero revenue in 2003 resulting from the temporary permitting challenges we experienced in 2003 that were not repeated in 2004. Biomedical product sales increased 10% in 2004 as compared to 2003 as a result of increased demand for our line of hemodialysis catheters. The decrease in solar equipment sales was primarily attributable to the sale of two assemblers in 2004 as compared to the shipment of a 5 megawatt SPI-LINE turkey production line in 2003, which resulted in a 20% decrease in 2004 solar equipment sales.

10

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 MARCH 31,				INCREASE/(DEC
	2004	%	2003	%	$
Cost of contract research and services	$2,006,000	78%	$ 999,000	63%	$1,007,000
Cost of goods sold	1,921,000	78%	1,288,000	94%	633,000
Net cost of sales and revenues	$3,927,000	78%	$2,287,000	77%	$1,640,000

The $1,007,000 increase in cost of contract research and service revenues in 2004 is primarily due to increased factory overhead and direct costs of $852,000, or 85%, associated with the Company's semiconductor foundry and a $217,000, or 35%, increase in biomedical processing services costs associated with its 35% increase in revenues. These increases were partially offset by a decrease in biomedical research and development costs as a result of the 30% decrease in research and development revenues. The increase in cost of contract research and services as a percentage of revenues is the direct result of the Bandwidth acquisition, which recorded a (-17%) gross margin in 2004.

The decrease in cost of goods sold as a percentage of revenue is the result of a higher sales volume and increased absorption of fixed costs associated with the Company's Chicago facility.

INTERNAL RESEARCH AND DEVELOPMENT

Internal research and development for 2004 increased $257,000, or 268%, to $353,000, compared to $96,000 for 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 the Department of Energy National Renewable Energy Laboratory ("NREL").

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses for 2004 increased $702,000 to $2,059,000, and decreased to 41% of sales and revenues, compared to $1,357,000 or 46% of sales and revenues for 2003. This increase was due primarily to increased costs associated with legal and auditing expenses in connection with increased compliance requirements, increased sales and marketing efforts associated with the Company's biomedical contracts and the addition of Bandwidth. The decrease in selling, general and administrative expenses as a percentage of sales and revenues was due to higher revenues associated with the Company's Chicago and semiconductor foundry operation in 2004 as compared to 2003 partially offset by the cost increases outlined above.

INTEREST

The Company earned $20,000 of interest income in 2004, compared to $23,000 of interest income in 2003. The Company incurred interest expense of $89,000 in 2004 compared to $15,000 in 2003. The interest expense for 2004 is primarily due to interest incurred on capital leases associated with the semiconductor foundry.

NET LOSS

The Company reported a net loss in 2004 of $1,378,000, compared to a net loss of $774,000 in 2003. While revenue increased in the quarter, the breakeven point of the Company rose with the increased fixed costs associated with the Company's semiconductor foundry.

Liquidity and Capital Resources

Cash and cash equivalents decreased $1,205,000 to $4,794,000 as of March 31, 2004 primarily due to cash used in operations.

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

11

$5,000,000 in each of the years ended December 31, 2003 and 2002 arising from the sale of a hemodialysis patent license to Bard Access Systems. The license sale agreement provides for the Company to receive two additional contingent cash payments of $3,000,000 each upon the completion of certain milestones by Bard Access Systems during 2004 and 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 Loan Agreement (the "Agreement") with Citizens Bank of Massachusetts (the "Bank"). The Agreement provides Standby Letter of Credit Guarantees for foreign customers and is 100% secured with cash. At March 31, 2004, the Company had $668,000 of restricted cash associated with letters of credit. The Agreement also provides the Company with the ability to convert to a $2,000,000 revolving line of credit, based upon eligible accounts receivable and certain other conversion covenants. Loans under this Agreement bear interest at the Bank's prime rate as determined (4.25% at March 31, 2004.) A commitment fee of .25% is charged on any unused portion of the borrowing base. The Agreement contains covenants including certain financial

reporting requirements. At March 31, 2004, the Company was in compliance with its financial reporting requirements and cash balance covenants. The Agreement expires on June 30, 2004. Letters of Credit issued with an expiration beyond June 30, 2004 are required to be 100% secured by cash. At March 31, 2004, the Company had not exercised its conversion option and no amounts were outstanding under the revolving line of credit.

To date, there are no material commitments by the Company for capital expenditures. At March 31, 2004, the Company's retained earnings were $1,092,000, compared to retained earnings of $2,470,000 as of December 31, 2003. Working capital as of March 31, 2004 decreased 17% to $6,792,000, compared to $8,182,000 as of December 31, 2003.

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

12

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 quarter ended March 31, 2004 was $267,000. 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 March 31, 2004, the remaining lease obligation is $844,463, which is reflected as "accrued lease obligation - related party" in the March 31, 2004 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 quarter ended March 31, 2004, interest expense was $11,000.

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 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 the SPI-Trust over an initial five year term expiring in 2008 with a Company option to extend for five years. The lease agreement does not provide for a transfer of ownership at any point. 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
Year 1	$ 6.00	$ 540,000	$ 45,000
Year 2	7.50	675,000	56,250
Year 3	8.50	765,000	63,750
Year 4	10.50	945,000	78,750
Year 5	13.50	1,215,000	101,250
		$ 4,140,000	

At March 31, 2004, $447,386 and $2,675,835 are reflected as the current and long-term portions of capital lease obligation - related party, respectively, in the March 31, 2004 consolidated balance sheet. Interest costs were assumed at 7%. Interest expense of $56,000 related to this obligation was recorded in the quarter ended March 31, 2004 consolidated statement of operations.

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, 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 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.

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 the element.

The Company's biomedical subsidiary and semiconductor foundry and fabrication unit perform specialty material processing services for various manufacturers on a contractual basis. The Company recognizes revenue as the processed products are shipped to the customer.

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 March 31, 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 - YEA
PURCHASE OBLIGATIONS	$ 2,307,000	$ 2,196,000	$ 111,000	$
CAPITAL LEASES:				
Unrelated party capital lease	$ 1,260,000	$ 437,000	$ 823,000	$
Related party capital lease	3,679,000	652,000	1,665,000	1,36
OPERATING LEASES:				
Unrelated party operating leases	$ 312,000	$ 152,000	$ 147,000	$ 1
Related party operating lease	1,777,000	977,000	800,000	

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 $844,463.

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 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 $53,000 for the quarter ended March 31, 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 March 31, 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 provides for two additional contingent cash payments of $3,000,000 each upon the completion of certain milestones by Bard during the next two years. 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.

Outstanding letters of credit totaled $668,000 at March 31, 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 in December 2004 and are 100% secured by cash.

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 Financial Controller and Treasurer, of the effectiveness of the Company's disclosure controls and procedures as of March 31, 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 Financial Controller and Treasurer concluded that as of March 31, 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, P.C. ("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. 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 arranged for additional compliance 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 first 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 toss.302 of the Sarbanes-Oxley Act of 2002.

31.2 Certification of the Chief Financial Officer pursuant toss.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 toss.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 toss.906 of the Sarbanes-Oxley Act of 2002.

b. Reports on Form 8-K

There were three reports on Form 8-K filed by the Registrant in the quarter ended March 31, 2004:

January 7, 2004, Item 4 (Changes in Registrant's Certifying Accountant) and Item 7 (Financial Statements and Exhibits).

January 8, 2004, Item 4 (Changes in Registrant's Certifying Accountant).

March 26, 2004, Item 4 (Changes in Registrant's Certifying Accountant) and Item 7 (Financial Statements and Exhibits).

18

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 14, 2004

By: /s/ Roger G. Little

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

Dated: May 14, 2004 By: /s/ James F. Parslow

James F. Parslow
Chief Financial Officer