SPIRE CORP Form 11-K June 29, 2005

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

FORM 11-K

- |X| Annual Report Pursuant to Section 15(d) of the Securities Exchange Act
 of 1934. For the fiscal year ended December 31, 2004; or
 |_| Transition Report Pursuant to 15(d) of the Securities Exchange Act of
- |_| Transition Report Pursuant to 15(d) of the Securities Exchange Act of 1934. For the transition period from ______ to ____

Commission file number: 0-12742

SPIRE CORPORATION 401(K) PROFIT SHARING PLAN (Full title of the plan)

 ${\tt SPIRE\ CORPORATION}$ (Name of issuer of the securities held pursuant to the plan)

ONE PATRIOTS PARK
BEDFORD, MASSACHUSETTS 01730-2396
(Address of principal executive offices)

SPIRE CORPORATION 401(K) PROFIT SHARING PLAN FOR THE YEAR ENDED DECEMBER 31, 2004

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Plan Administrator Spire Corporation 401(k) Profit Sharing Plan Bedford, Massachusetts

We have audited the accompanying statements of net assets available for benefits of Spire Corporation 401(k) Profit Sharing Plan (the Plan) as of December 31, 2004 and 2003 and the related statement of changes in net assets available for benefits for the year ended December 31, 2004. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2004 and 2003, and the changes in net assets available for benefits for the year ended December 31, 2004, in conformity with accounting principles generally accepted in the United States of America.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedules of delinquent participant contributions and assets (held at end of year) are presented for the purpose of additional analysis and are not a required part of the basic financial statements but are supplementary information required by the Department of Labor's Rules and Regulations for Reporting under the Employee Retirement Income Security Act of 1974. The supplemental schedules are the responsibility of the Plan's management. The supplemental schedules have been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ CARLIN, CHARRON & ROSEN LLP

Westborough, Massachusetts June 3, 2005

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS DECEMBER 31, 2004 AND 2003

	2004	2003
ASSETS		
<pre>Investments: At fair value:</pre>		
Common stock - Spire Corporation	\$1,241,277	\$1,529,906
Mutual funds	4,449,785	4,017,326
Participant loans	89,153	85 , 944
At contract value:		
Hartford Fixed Income Fund	264,124	310,693
	6,044,339	5,943,869
Participant contributions receivable	17,169 	18,545
Total assets	\$6,061,508 ======	\$5,962,414 =======
Net assets available for benefits	\$6,061,508 ======	\$5,962,414 ======

See notes to financial statements.

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS FOR THE YEAR ENDED DECEMBER 31, 2004

Additions to net assets attributed to:	
Investment income:	
Interest and dividends	\$ 131,990
Interest on loans Net appreciation in fair value of investments	3,502 201,865
	337,357
Participant contributions	 396 , 534
Total additions	 733,891
Deductions from net assets attributed to: Benefits paid to participants Administrative charges	 634 , 124 673
Total deductions	 634,797
Net increase	99,094

Net assets available for benefits:

Beginning of year 5,962,414

End of year \$6,061,508

See notes to financial statements.

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2004

1. PLAN DESCRIPTION

The following description of the Spire Corporation 401(k) Profit Sharing Plan (the Plan) provides only general information. Participants should refer to the Plan agreement for a more complete description of the Plan's provisions.

GENERAL

The Plan is a defined contribution plan covering all employees of Spire Corporation (the Company) who have completed 90 days of service and are age twenty-one or older. The Plan is subject to the provisions of the Employee Retirement Income Security Act (ERISA).

CONTRIBUTIONS

Each year, participants may contribute up to the maximum amount of pre-tax annual compensation as determined by the Internal Revenue Code. Participants who have attained age 50 before the end of the Plan year are eligible to make catch-up contributions. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans. Participants direct the investment of their contributions into various investment options offered by the Plan. The Plan currently offers the Company's common stock, sixteen mutual funds, and an insurance contract as investment options for participants. The Company may contribute, at the determination of the board of directors, a discretionary matching contribution on the first 15 percent of base compensation that a participant contributes to the Plan. The Company's matching contribution is invested directly in Company common stock. The Company may also make a profit sharing contribution. In 2004, the Company did not make a matching or profit sharing contribution. Contributions are subject to certain limitations.

PARTICIPANT ACCOUNTS

Each participant's account is credited with the participant's contributions and the Company's matching contribution (if any) and an allocation of (a) the Company's profit sharing contribution (if any), and (b) plan earnings. Allocations are based on participant earnings or account balances, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

VESTING

Participants are immediately vested in voluntary contributions plus actual earnings thereon. Vesting in the Company matching contribution is based on

years of continuous service. A participant is 100 percent vested after six years of credited service.

FORFEITED ACCOUNTS

At December 31, 2004 and 2003, forfeited nonvested accounts totaled \$19,896 and \$17,713, respectively. These amounts will be used to reduce future employer contributions.

PARTICIPANT LOANS

Participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to \$50,000 or 50 percent of their account balance, whichever is less. The loans are secured by the balance in the participant's account and bear interest at a rate commensurate with local prevailing rates as determined by the plan administrator. Interest rates range from 5.0% to 10.5%. Principal and interest are repaid through payroll deductions.

PAYMENTS OF BENEFITS

On termination of service for any reason, a participant may elect to receive a lump-sum amount equal to the value of the participant's vested interest in his or her account or annual installments over a period of not more than a participant's and his or her beneficiary's assumed life expectancy determined at the time of distribution. Withdrawals may be made under certain other circumstances in accordance with the Plan document.

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

NOTES TO FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2004

1. PLAN DESCRIPTION (CONTINUED)

ADMINISTRATIVE COSTS

Except for loan fees, which are charged against the borrowers' accounts, administrative costs of the Plan are paid by the Company.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and changes therein and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

INVESTMENT VALUATION AND INCOME RECOGNITION

The Plan's investments are stated at fair value except for its insurance contract which is stated at contract value, which approximates fair value, as reported to the plan administrator by Hartford Life Insurance Company. Quoted market prices are used to value investments. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

PAYMENT OF BENEFITS

Benefits are recorded when paid.

RECLASSIFICATIONS

Certain amounts previously reported in the 2003 financial statements have been reclassified to facilitate comparability with the current year presentation.

3. INVESTMENTS

Investments that represent five percent or more of the Plan's net assets are as follows:

	December 31,	
	2004	2003
Mutual funds		
Oppenheimer Quest Opportunity Value Franklin Flexible Capital Growth American Funds Washington Mutual Investors American Funds Europacific Growth	\$1,255,486 1,204,944 386,337 383,644	\$1,161,689 1,162,364 376,332
Common stock		
Spire Corporation	1,241,277	1,529,906

During 2004, the Plan's investments (including investments bought, sold, and held during the year) appreciated (depreciated) in value as follows:

		========	
		\$	201,865
Common	stock		(89,371)
Mutual	funds	\$	291,236

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

NOTES TO FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2004

4. NONPARTICIPANT-DIRECTED INVESTMENTS

Information about the net assets and the significant components of the changes in net assets relating to the nonparticipant-directed investments is as follows:

	Decen	December 31,	
	2004	2003	
Net assets: Common stock - Spire Corporation	\$1,235,266 ======	\$1,494,579 ======	
Changes in net assets during 2004: Benefits paid to participants	\$ (173,884)		

Net appreciation

(85,429)\$ (259,313)

PLAN TERMINATION

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of plan termination, participants would become 100 percent vested in their employer contributions.

INCOME TAX STATUS

The Internal Revenue Service has determined and informed the Company by a letter dated May 23, 1995, that the Plan and related trust are designed in accordance with applicable sections of the Internal Revenue Code (IRC). Although the Plan has been amended since receiving the determination letter, the plan administrator believes that the Plan is designed and is currently being operated in compliance with the applicable requirements of the IRC.

7. DELINQUENT PARTICIPANT CONTRIBUTIONS

The Company is obligated to transmit payroll withholdings of employee contributions to the investment manager within fifteen business days after the month end in which the amounts are withheld. For two months in 2004, withholdings amounting to \$53,080 were six days late in being transmitted.

EXCESS CONTRIBUTIONS

Contributions received for the year ended December 31, 2004 include excess deferral contributions in the amount of \$6,683. These amounts must be refunded as required to satisfy the relevant nondiscrimination provisions of the 2004 plan year. These excess deferral contributions will be shown as distributions in the year in which the refunds are actually made.

RISKS AND UNCERTAINTIES

The Plan invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statement of net assets available for benefits.

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

SCHEDULE H, PART IV, LINE 4A - FORM 5500 SCHEDULE OF DELINQUENT PARTICIPANT CONTRIBUTIONS FOR THE YEAR ENDED DECEMBER 31, 2004

E.I.N. 04-2457335 Plan number 002

Participant Contributions Total that Constitute
Transferred Late to Plan Nonexempt Prohibited Transactions

\$53,080 \$53,080

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SPIRE CORPORATION 401(K) PROFIT SHARING PLAN

SCHEDULE H, PART IV, ITEM 4I - FORM 5500 SCHEDULE OF ASSETS (HELD AT END OF YEAR) DECEMBER 31, 2004

American Funds New Perspective

E.I.N. 04-2457335 Plan Number 002

(a)	(b)	(c)	(d)	(e)
	Talanda in a Carana	Description of Investment		
	Identity of Issue,	Including Maturity Date,		~
	Borrower, Lessor or	Rate of Interest, Collateral,		Curre
	Similar Party	Par or Maturity Value	Cost 	Valu
*	Wachovia	Spire Corporation common stock	\$ 567 , 215	\$1,241,
	OppenheimerFunds	Oppenheimer Quest Opportunity Value	n/a	1,255,
	Franklin Templeton Investments	Franklin Flexible Capital Growth	n/a	1,204,
	American Funds	Washington Mutual Investors	n/a	386,
	American Funds	Europacific Growth	n/a	383,
	Hartford Life Insurance Co.	Fixed Income	n/a	264,
	AIM Funds	AIM Cash Reserve Shares	n/a	222,
	American Funds	American Balanced	n/a	115,
	PIMCO Funds	PEA Innovation	n/a	101,
	AIM Funds	AIM Balanced	n/a	62,
	Franklin Templeton Investments	Franklin Small-Mid Cap Growth	n/a	96,
	MFS Investment Management	MFS Capital Opportunities	n/a	61,
	MFS Investment Management	Mass Investors Growth Stock	n/a	47,
	Eaton Vance	Income Fund of Boston	n/a	95,

n/a 83,

OppenheimerFunds	Oppenheimer Strategic Income	n/a	36,
Fidelity Investments	Fidelity Advisor Value Strategies	n/a	131,
PIMCO Funds	Total Return	n/a	109,
Evergreen Investments	Evergreen Money Market	n/a	34,
Hilliard Lyons, Inc.	Black Rock Money Market	n/a	
Pioneer Investments	Pioneer Cash Reserves	n/a	19,
Participant Loans	Interest rates 5.0% to 10.5%	n/a	89,

\$6,044,

* Represents party-in-interest

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SIGNATURE

THE PLAN. Pursuant to the requirements of the Securities Exchange Act of 1034, the Investment Committee of the Spire Corporation 401(k) Profit Sharing Plan have duly caused this annual report to be signed on their behalf by the undersigned hereunto duly authorized.

SPIRE CORPORATION 401(k) PROFIT SHARING PLAN

Date: June 29, 2005 By: /s/ Christian Dufresne

Christian Dufresne

Vice President, Corporate Planning