SPIRE CORP Form S-8 September 27, 2005

As filed with the Securities and Exchange Commission on September 27, 2005

Registration No. 333-_____

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

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

SPIRE CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Massachusetts 04-2457335

(State or Other Jurisdiction of Incorporation or Organization) (I.R.S. Employer Identification No.)

SPIRE CORPORATION 1996 EQUITY INCENTIVE PLAN
-----(Full Title of the Plan)

Roger G. Little
Chairman of the Board, Chief Executive Officer and President
Spire Corporation
One Patriots Park
Bedford, Massachusetts 01730-2396

(Name and Address of Agent for Service)

(781) 275-6000

(Telephone Number, Including Area Code, of Agent For Service)

CALCULATION OF REGISTRATION FEE

Common Stock, \$0.01 900,000 Shares(2) \$4.28 - \$10.15(3) \$6,813,268.25(3) par value per share	Title of securities to be registered	Amount to be Registered(1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	 A regi
		900,000 Shares(2)	\$4.28 - \$10.15(3)	\$6,813,268.25(3)	

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Consists of (i) 395,525 shares reserved for issuance upon the exercise of outstanding options granted under the Spire Corporation 1996 Equity Incentive Plan (the "Plan") and (ii) 504,475 shares available for future grants under the Plan. These shares have previously been approved for issuance under the Plan by the Registrant's board of directors and stockholders.
- (3) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) of the Securities Act of 1933, as amended. The price per share and aggregate offering price are calculated on the basis of (i) with respect to the 395,525 shares reserved for issuance upon the exercise of outstanding options granted under the Plan, the weighted average exercise price of \$4.28 per share and (ii) with respect to the 504,475 shares available for future grants under the Plan, the average of the high and low sale prices of the Registrant's Common Stock on the Nasdaq National Market on September 22, 2005 (\$10.15), in accordance with Rule 457(c) under the Securities Act of 1933, as amended.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

Pursuant to General Instruction E of Form S-8, Spire Corporation (the "Registrant") hereby incorporates by reference the contents of the Registrant's Registration Statement on Form S-8 (No. 333-22223) as previously filed with the Securities and Exchange Commission on February 21, 1997. This Registration Statement is being filed to register an additional 900,000 shares of the Registrant's Common Stock that may be issued under the Spire Corporation 1996 Equity Incentive Plan.

ITEM 8. EXHIBITS.

 $\,$ The Exhibit Index immediately preceding the exhibits is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Boston, Massachusetts, on this 27th day of September, 2005.

SPIRE CORPORATION

By: /s/ Roger G. Little

Chairman of the Board, Chief
Executive Officer and President

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

/s/ Roger G. Little	Chairman of the Board, Chief Executive Officer and President	September 27,		2005
Roger G. Little	(Principal Executive Officer)			
/s/ James F. Parslow	Chief Financial Officer (Principal Financial Officer	September	27,	2005
James F. Parslow	and Principal Accounting Officer)			
/s/ Udo Henseler	Director	September	27,	2005
Udo Henseler				
/s/ David R. Lipinski	Director	September	27,	2005
David R. Lipinski				
/s/ Mark C. Little	Chief Executive Officer, Spire Biomedical and Director	September 27	27,	, 2005
Mark C. Little	Biomedical and Director			
/s/ Michael J. Magliochetti	Director	September	27,	2005
Michael J. Magliochetti				
/s/ Guy L. Mayer	Director	September	27,	2005
Guy L. Mayer				
/s/ Roger W. Redmond	Director	September	27,	2005

Roger W. Redmond

EXHIBIT INDEX

NO.	DESCRIPTION
5.1	Opinion of Greenberg Traurig, LLP, counsel to the Registrant
23.1	Consent of Greenberg Traurig, LLP (included in Exhibit 5.1).
23.2	Independent Registered Public Accounting Firm's Consent