

SPIRE CORP
 Form 4
 September 16, 2005

FORM 4

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

OMB APPROVAL

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
LITTLE MARK C

(Last) (First) (Middle)

C/O SPIRE CORPORATION, ONE PATRIOTS PARK

(Street)

BEDFORD, MA 01730-2396

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
SPIRE CORP [SPIR]

3. Date of Earliest Transaction (Month/Day/Year)
09/14/2005

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)

CEO, Spire Biomedical

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|---|
| | | | Code | V | Amount or Price | | |
| Common Stock, \$0.01 par value | 09/14/2005 | | M | | 3,750 A \$ 3.875 | 96,370 ⁽¹⁾ | D |
| Common Stock, \$0.01 par value | 09/14/2005 | | S | | 3,750 D \$ 11.14 ⁽²⁾ | 92,620 ⁽¹⁾ | D |
| Common Stock, \$0.01 par value | 09/14/2005 | | M | | 2,000 A \$ 1.782 | 94,620 ⁽¹⁾ | D |

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| | | | | | | | |
|--------------------------------|------------|---|--------|---|------------------------|--------------------|---|
| Common Stock, \$0.01 par value | 09/14/2005 | S | 2,000 | D | \$ 11.14 <u>(2)</u> | 92,620 <u>(1)</u> | D |
| Common Stock, \$0.01 par value | 09/14/2005 | M | 11,000 | A | \$ 2.5 | 103,620 <u>(1)</u> | D |
| Common Stock, \$0.01 par value | 09/14/2005 | S | 11,000 | D | \$ 11.14 <u>(2)</u> | 92,620 <u>(1)</u> | D |
| Common Stock, \$0.01 par value | 09/14/2005 | M | 3,250 | A | \$ 3.9 | 95,870 <u>(1)</u> | D |
| Common Stock, \$0.01 par value | 09/14/2005 | S | 3,250 | D | \$ 11.14 <u>(2)</u> | 92,620 <u>(1)</u> | D |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

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(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Security (Instr. 3 and 4) | Amount or Number of Shares |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|----------------------------|
| Employee Stock Option (right to buy) | \$ 3.875 | 09/14/2005 | | M | 3,750 | 05/21/1999 ⁽³⁾ 05/21/2008 | Common Stock | 3,750 |
| Employee Stock | \$ 1.782 | 09/14/2005 | | M | 2,000 | 03/18/2000 ⁽³⁾ 03/18/2009 | Common Stock | 2,000 |

Option
(right to
buy)

Employee
Stock

| | | | | | | | | |
|-----------------------------|--------|------------|---|--------|---------------------------|------------|-----------------|------|
| Option (right to buy) | \$ 2.5 | 09/14/2005 | M | 11,000 | 04/11/2001 ⁽³⁾ | 04/11/2010 | Common Stock | 11,0 |
|-----------------------------|--------|------------|---|--------|---------------------------|------------|-----------------|------|

Employee
Stock

| | | | | | | | | |
|-----------------------------|--------|------------|---|-------|---------------------------|------------|-----------------|------|
| Option (right to buy) | \$ 3.9 | 09/14/2005 | M | 3,250 | 05/22/2003 ⁽⁴⁾ | 05/22/2012 | Common Stock | 3,25 |
|-----------------------------|--------|------------|---|-------|---------------------------|------------|-----------------|------|

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|-----------------------|-------|
| | Director | 10% Owner | Officer | Other |
| LITTLE MARK C C/O SPIRE CORPORATION ONE PATRIOTS PARK BEDFORD, MA 01730-2396 | | | CEO, Spire Biomedical | |

Signatures

| | |
|--|------------|
| Mark C. Little | 09/16/2005 |
| <u> </u> Signature of Reporting Person | Date |

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) The amount of securities beneficially owned includes 92,620, directly held by the reporting person, which have been previously reported.
- (2) Price is based on weighted average of sale prices.
- (3) The option is exercisable in annual increments of 25% of the option shares, with the first quarter increment becoming exercisable on the date shown in this column. This option is now fully vested.
- (4) The option is exercisable in annual increments of 25% of the option shares, with the first quarter increment becoming exercisable on the date shown in this column.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.