

Lieberman Robert S
 Form 3
 December 10, 2009

FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

OMB APPROVAL

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INITIAL STATEMENT OF 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 * | | 2. Date of Event Requiring Statement | 3. Issuer Name and Ticker or Trading Symbol | |
| Â Lieberman Robert S | | (Month/Day/Year) | SPIRE CORP [SPIR] | |
| (Last) | (First) | (Middle) | 12/03/2009 | |
| C/O SPIRE CORPORATION,Â ONE PATRIOTS PARK | | | 4. Relationship of Reporting Person(s) to Issuer | 5. If Amendment, Date Original Filed(Month/Day/Year) |
| (Street) | (Check all applicable) | | | |
| | <input type="checkbox"/> Director | <input type="checkbox"/> 10% Owner | | |
| | <input checked="" type="checkbox"/> Officer | <input type="checkbox"/> Other | 6. Individual or Joint/Group Filing(Check Applicable Line) | |
| | (give title below) (specify below) | | <input checked="" type="checkbox"/> Form filed by One Reporting Person | |
| | CAO, Corporate Controller | | <input type="checkbox"/> Form filed by More than One Reporting Person | |
| BEDFORD,Â MAÂ 01730-2396 | | | | |
| (City) | (State) | (Zip) | | |

Table I - Non-Derivative Securities Beneficially Owned

| | | | |
|------------------------------------|--|---|--|
| 1. Title of Security (Instr. 4) | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|------------------------------------|--|---|--|

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

SEC 1473 (7-02)

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

| | | | | | |
|---|---|--|--|---|--|
| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form of Derivative Security: Direct (D) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
| | Date Exercisable | Expiration Date | Title | Amount or Number of | |

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| | | | | Shares | | or Indirect (I) (Instr. 5) | |
|--|---------------------------|------------|-----------------|--------|---------|----------------------------------|---|
| Employee Stock Option dated 5/21/2009 (right to buy) | 05/21/2010 ⁽¹⁾ | 05/21/2019 | Common Stock | 15,000 | \$ 6.24 | D | Â |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|-----------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Lieberman Robert S C/O SPIRE CORPORATION ONE PATRIOTS PARK BEDFORD, MA 01730-2396 | Â | Â | Â CAO, Corporate Controller | Â |

Signatures

Robert S.
Lieberman

12/10/2009

__Signature of
Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 5(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 option is exercisable in annual increments of 25% of the option shares, with the first quarter increment becoming exercisable on the date 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.
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