REDMOND ROGER

Form 4

August 10, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

OMB Number:

3235-0287

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January 31, 2005

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response...

if no longer subject to Section 16. Form 4 or Form 5

obligations

may continue.

See Instruction

Check this box

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

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * REDMOND ROGER

2. Issuer Name and Ticker or Trading

Symbol

Issuer

(Check all applicable)

(Last)

(First)

(Middle)

3. Date of Earliest Transaction

SPIRE CORP [SPIR]

(Month/Day/Year)

08/06/2010

X_ Director 10% Owner Officer (give title Other (specify

5. Relationship of Reporting Person(s) to

below)

C/O SPIRE CORPORATION, ONE PATRIOTS PARK

(Street)

4. If Amendment, Date Original

Filed(Month/Day/Year)

3.

6. Individual or Joint/Group Filing(Check

Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting

BEDFORD, MA 01730-2396

(City) (State) (Zip)

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

1.Title of Security (Instr. 3)

2. Transaction Date 2A. Deemed (Month/Day/Year) Execution Date, if

(Month/Day/Year)

TransactionAcquired (A) or Code Disposed of (D) (Instr. 8) (Instr. 3, 4 and 5)

4. Securities

5. Amount of Securities Beneficially Owned Following

6. Ownership 7. Nature of Form: Direct Indirect (D) or Beneficial Indirect (I) Ownership (Instr. 4) (Instr. 4)

(A) or

Reported Transaction(s) (Instr. 3 and 4)

Code V Amount (D) Price

6,728 D

Common Stock

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

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

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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. 5. Number Transaction Derivative Code Securities (Instr. 8) Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)				7. Title and Amour Underlying Securit (Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amo or Num of Share
Non-Qualified Stock Option (right to buy)	\$ 4.18	08/06/2010		A	2,000	08/06/2010	08/06/2020	Common Stock	2,0

Reporting Owners

Reporting Owner Name / Address	Relationships					
	Director	10% Owner	Officer	Other		
REDMOND ROGER C/O SPIRE CORPORATION ONE PATRIOTS PARK BEDFORD, MA 01730-2396	X					

Signatures

Roger W.
Redmond

**Signature of Date

Reporting Person

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).

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.

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