SPIRE Corp Form NT 10-K March 31, 2015

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

FORM 12b-25

SEC File Number: 000-12742 CUSIP Number: 848565107

#### NOTIFICATION OF LATE FILING

(Check one): S Form 10-K £ Form 20-F £ Form 11-K £ Form 10-Q £ Form 10-D

£ Form N-SAR £ Form N-CSR

For Period Ended: December 31, 2014

£ Transition Report on Form 10-K

£ Transition Report on Form 20-F

£ Transition Report on Form 11-K

£ Transition Report on Form 10-Q

£ Transition Report on Form N-SAR

For the Transition Period Ended:

Nothing in this form shall be construed to imply that the Commission has verified any information contained herein.

If the notification relates to a portion of the filing checked above, identify the item(s) to which the notification relates:

#### PART I -- REGISTRANT INFORMATION

Spire Corporation Full Name of Registrant

N/A

Former Name if Applicable

One Patriots Park

Address of Principal Executive Office (Street and Number)

Bedford, MA 01730-2396 City, State and Zip Code

PART II -- RULE 12b-25(b) AND (c)

If the subject report could not be filed without unreasonable effort or expense and the registrant seeks relief pursuant to Rule 12b-25 (b), the following should be completed. (Check box if appropriate)

- (a) The reason described in reasonable detail in Part III of this form could not be eliminated without unreasonable effort or expense;
- (b) The subject annual report, semi-annual report, transition report on Form 10-K, Form 20 F, Form 11-K, Form N-SAR or Form N-CSR, or portion thereof, will be filed on or before the fifteenth calendar day following the prescribed due date; or the subject quarterly report or transition report on Form 10-Q or subject distribution report on Form 10-D, or portion thereof, will be filed on or before the fifth calendar day following the prescribed due date; and
- (c) The accountant's statement or other exhibit required by Rule 12b-25(c) has been attached if applicable.

#### PART III -- NARRATIVE

State below in reasonable detail why Forms 10-K, 20-F, 11-K, 10-Q, 10-D, N-SAR, N-CSR, or the transition report or portion thereof, could not be filed within the prescribed time period.

As previously disclosed the registrant has limited cash resources and liquidity, and has been exploring various alternatives on how to fund future operational losses or working capital needs and instituted cost reduction efforts. The registrant's current cash resources, coupled with lack of financing, delays in shipments of certain products, the corresponding delay in receipt of expected revenue from such products, and the imposition of stricter payment terms from certain of its suppliers, continue to constrain the registrant's liquidity and operations. In January 2015, the registrant's Chief Financial Officer resigned, and the registrant's Chief Executive Officer currently acts as the registrant's principal financial officer. In addition, the registrant is in the process of deconsolidating N2 Biomedical LLC ("N2") from its financial statements and preparing the biomedical business as discontinued operations as a result of its October 2014 disposition of its interest in N2.

As a result, because the registrant's management continues to devote considerable attention to addressing the registrant's financial and liquidity issues and the recent departure of the registrant's Chief Financial Officer, the registrant is unable to complete its financial statements for its Annual Report on Form 10-K for the annual period ended December 31, 2014 within the prescribed time period without unreasonable effort or expense.

#### PART IV -- OTHER INFORMATION

(1) Name and telephone number of person to contact in regard to this notification

Rodger W. LaFavre 781 275-6000 (Name) (Area Code) (Telephone Number)

Have all other periodic reports required under Section 13 or 15(d) of the Securities Exchange Act of 1934 or (2) Section 30 of the Investment Company Act of 1940 during the preceding 12 months or for such shorter period that the registrant was required to file such report(s) been filed? If answer is no, identify report(s). S Yes £ No

(3) Is it anticipated that any significant change in results of operations from the corresponding period for the last fiscal year will be reflected by the earnings statements to be included in the subject report or portion thereof? S Yes £ No

If so, attach an explanation of the anticipated change, both narratively and quantitatively, and, if appropriate, state the reasons why a reasonable estimate of the results cannot be made.

Although the registrant has not completed its financial statements for the year ended December 31, 2014, the registrant anticipates significant changes in results of operations from the corresponding period of 2013 will be reflected by the earnings statements to be included in its Form 10-K for the year ended December 31, 2014. The registrant currently expects, for the year ended December 31, 2014, that its revenue will be in a range of \$9,800,000 and \$10,400,000, its operating loss from continuing operations will be in a range of \$(7,700,000) and \$(7,800,000) and its net loss in a range of \$(5,800,000) and \$(5,900,000). Since the financial statements for the year ended December 31, 2014 are not yet completed, actual results may differ materially from its current expectations.

Spire Corporation

(Name of Registrant as Specified in Charter)

has caused this notification to be signed on its behalf by the undersigned thereunto duly authorized.

Date March 31, 2015 By: /s/ Rodger W. LaFavre

Name: Rodger W. LaFavre

Title: Chief Executive Officer and President

### ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).