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SPIRE CORP
Form DEF 14A
April 15, 2008

SPIRE CORPORATION
ONE PATRIOTS PARK
BEDFORD, MASSACHUSETTS 01730-2396

NOTICE OF SPECIAL MEETING IN LIEU OF
2008 ANNUAL MEETING OF STOCKHOLDERS

Notice is hereby given that the Special Meeting in Lieu of 2008 Annual Meeting of Stockholders ("Meeting") of Spire Corporation ("Company") will be held at Spire Corporation, One Patriots Park, Bedford, Massachusetts, on Thursday, May 22, 2008, at 10:00 a.m., to consider and act upon the following:

1. To fix the number of directors at eight and to elect seven directors to serve for one year, leaving one vacancy; and
2. To transact such other business as may properly come before the Meeting.

Stockholders owning Company shares at the close of business on March 28, 2008, are entitled to receive notice of and to vote at the Meeting.

All stockholders are cordially invited to attend the Meeting.

By Order of the Board of Directors,

/s/ Michael W. O'Dougherty

Michael W. O'Dougherty
SECRETARY

Bedford, Massachusetts
April 15, 2008

WHETHER OR NOT YOU PLAN TO ATTEND THE MEETING AND IN ORDER TO ASSURE THAT YOUR SHARES ARE REPRESENTED AT THE MEETING, PLEASE SIGN AND RETURN THE ENCLOSED PROXY CARD AS PROMPTLY AS POSSIBLE IN THE ENCLOSED POSTAGE-PREPAID ENVELOPE.

SPIRE CORPORATION
ONE PATRIOTS PARK
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PROXY STATEMENT

SPECIAL MEETING IN LIEU OF
2008 ANNUAL MEETING OF STOCKHOLDERS

MAY 22, 2008

The Board of Directors of Spire Corporation is soliciting proxies for the Special Meeting in Lieu of 2008 Annual Meeting of Stockholders ("Meeting"). This Proxy Statement contains important information for you to consider when deciding how to vote on the matters brought before the Meeting. The Meeting will be held

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on Thursday, May 22, 2008. This Proxy Statement, proxy card and the 2007 Annual Report and Form 10-K are being mailed to the stockholders on or about April 15, 2008.

PROPOSAL NUMBER ONE

ELECTION OF DIRECTORS

Spire Corporation's By-Laws provide for a minimum of three directors with the exact number to be voted on by the stockholders at the Meeting. The Board of Directors has recommended for this Meeting that the number of directors be fixed at eight and has nominated seven persons for election as directors as noted below, leaving one vacancy. Each director will hold office until the next Annual Meeting of Stockholders (or Special Meeting in Lieu of Annual Meeting of Stockholders) and until his successor is duly elected by the stockholders. For information regarding the independence of the Company's directors, see "Meetings and Committees of the Board" below.

Unless otherwise instructed, the persons named in the proxy will vote to fix the number of directors at eight and to elect the seven nominees named below as directors, leaving one vacancy. Although the Board does not contemplate that any of the nominees will be unavailable to serve as a director, should any unexpected vacancies occur, the enclosed proxy will be voted for such substituted nominees, if any, as may be designated by the Board. In no event will the proxy be voted for more than seven directors.

All of the nominees are currently directors. Set forth below is information about each nominee:

Name	Age	Position with Company
Udo Henseler	68	Director and Chairman, Audit Committee
David R. Lipinski	56	Director and Member, Compensation Committee
Mark C. Little	46	Director and Chief Executive Officer, Spire Biomedical
Roger G. Little	67	Chairman of the Board, Chief Executive Officer and President
Michael J. Magliochetti	44	Director and Member, Audit Committee
Guy L. Mayer	56	Director and Chairman, Compensation Committee and Member, Audit Committee
Roger W. Redmond	54	Director and Member, Compensation Committee

UDO HENSELER, PH.D., is currently the President and principal/owner of Management Services International ("MSI"), a private business initiated in 1994. MSI provides business development services for biotechnology and life sciences firms at various stages of their corporate evolution. From 2002 to 2005, Dr. Henseler was the Chief Executive Officer and Chairman of eGene, Inc., a publicly traded biotechnology company, and further served as a Director in 2006. Dr. Henseler has over forty years' combined global public and private company financial and operations leadership experience mainly in the biopharmaceutical and life sciences sectors, including positions as Director, Board Chairman, Chief Executive Officer, Chief Financial Officer, Executive Vice President, and memberships and Chairman of various Board committees. Dr. Henseler earned a B.A. in Germany, an MBA from Fairleigh Dickinson University in New Jersey, and Master's and Ph.D. degrees from the Claremont Graduate University in Claremont, California. Dr. Henseler is also a Certified Public and Certified Management Accountant. He currently serves as Director of RTI Biologics, Inc. (formerly Regeneration Technologies, Inc.) and VentriPoint Diagnostics, Ltd. Prior to it being acquired by RTI Biologics, Inc. in February 2008, Dr. Henseler served as a Director and Chairman of the Audit Committee of Tutogen Medical, Inc.

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DAVID R. LIPINSKI is currently a consulting engineer with WorleyParsons Limited, a provider of professional services to the energy, resource and complex industries. Since 2002, he has been an independent consultant in management and finance. From September 2004 to October 2005, he was Assistant Vice President, Business Development Group of Fifth Third Bank. Previously from August 2003 to May 2004, Mr. Lipinski was Vice President of Corporate Development of Spire Corporation and from August 2003 until November 2003, he was Chief Financial Officer. From 2000 to 2002, he was the Vice President for Corporate Development of Stratos Lightwave, Inc., a manufacturer of optoelectronic components and interconnection products used in optical communications and data networking. Mr. Lipinski is a director of Optelecom-NKF, Inc., a manufacturer of voice, video and data communications modules. He is a registered Professional Engineer and a Chartered Financial Analyst. He holds a B.S. in Physics from the United States Naval Academy and an M.B.A. from the University of New Haven. Mr. Lipinski is a retired Captain of the United States Naval Reserve.

MARK C. LITTLE joined the Company in 1994 as a Medical Device Engineer. He was named Assistant General Manager, Biomedical, in March 1999; General Manager, Spire Biomedical, in January 2000; Vice President and General Manager, Spire Biomedical in November 2000; and Chief Executive Officer, Spire Biomedical in June 2001. He holds a B.A. from Flagler College. Mr. Mark C. Little is the son of Mr. Roger G. Little.

ROGER G. LITTLE was the founder of Spire Corporation in 1969, and has been Chairman of the Board of Directors, Chief Executive Officer and President of the Company. He has served on many committees and advisory boards related to small business innovative research, the transfer and commercialization of technology, the worldwide growth of the photovoltaics industry, and the development of sound renewable energy policies. Mr. Little holds a B.A. in Physics from Colgate University and a M.S. in Physics from the Massachusetts Institute of Technology. Mr. Roger G. Little is the father of Mark C. Little.

MICHAEL J. MAGLIOCHETTI, PH.D., is currently President and Chief Executive Officer of Claros Diagnostics, Inc., a point-of-care immunoassay diagnostic technology firm. During 2006, he was an Entrepreneur-in-Residence at Oxford Biosciences Partners. From 2003 to 2006, Dr. Magliochetti was President and CEO of Rehab Medical Holdings, Inc., a company focused in orthopedics. Previously, from 2000 to 2003, he was President and CEO of Hema Metrics Corporation, a private medical technology company specializing in blood monitoring and diagnostic products for dialysis. He holds B.S. and Ph.D. degrees in Chemical Engineering from Northeastern University and the University of Massachusetts at Amherst, respectively, and a High Technology M.B.A. from Northeastern University.

GUY L. MAYER is currently President and a Director of RTI Biologics, Inc. (formerly Regeneration Technologies, Inc.), a leader in the preparation of human donated tissue and bovine tissue for transplantation with a commitment to advancing science, safety and innovation. Prior to assuming this role in February 2008, Mr. Mayer was Chief Executive Officer and Director of Tutogen Medical, Inc., a leading manufacturer of sterile biological implant products made from human (allograft) and animal (xenograft) tissue, until it was acquired by RTI Biologics, Inc. in February 2008. From 2001 to November 2004, Mr. Mayer served as Chairman and CEO of VisEn Medical, Inc., a private biotechnology company focused on molecular imaging technologies. Prior to VisEn, he was from 1998 to 2001 President and CEO of ETEX Corporation, a private biomedical company based in Cambridge, Massachusetts and from 1984 to 1998, he was with Zimmer Inc., a leader in orthopedic implants where he last served as president Global Products Group. Mr. Mayer is a 1974 Graduate of the University of Ottawa, and

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currently serves on the Board of Directors of several public and private companies.

ROGER W. REDMOND is currently Vice President and Sr. Investment Manager for Wells Fargo & Company, a financial services firm. From July 2004 to July 2006, Mr. Redmond was a Partner, Chief Investment Officer of Stillwater Investment Management, LLC, an independent, registered investment advisory firm. Previously from January 2002 to July 2004, Mr. Redmond was Senior Vice President of Windsor Financial Group, LLC, an investment advisor firm. From June 1999 to December 2001, Mr. Redmond was a managing director of Goldsmith, Agio, Helms and Company, a private investment banking firm specializing in representing sellers of private, public and closely held companies. He was designated a Chartered Financial Analyst in 1988. Mr. Redmond holds a B.S. in Chemistry from the University of Arizona and an M.B.A. in Finance from the University of Minnesota.

The Board of Directors recommends a vote "FOR" fixing the number of directors at eight and for electing the seven nominees listed above, leaving one vacancy.

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MEETINGS AND COMMITTEES OF THE BOARD

THE BOARD OF DIRECTORS

The Board of Directors of the Company held four meetings during 2007. Each director then serving attended 75% or more of the aggregate of (1) the total number of Board meetings, and (2) the total number of meetings of the committee(s) of which he is a member, if any. The Company does not have a written policy on board attendance at annual meetings of stockholders; however it does schedule a board meeting immediately after the annual meeting (or special meeting in lieu thereof) for which members attending receive compensation. In 2007, all Board Members were present during the Special Meeting held in Lieu of the 2007 Annual Meeting of Stockholders. The table below describes the Board's committees.

Committee Name	Members	Number of Meetings in 2007	Principal Functions
Audit Committee	U. Henseler M. Magliochetti G. Mayer	7	<ul style="list-style-type: none"> o Oversee the Company's auditing, accounting and financial reporting processes. o Appoint, compensate, evaluate and, where appropriate, replace independent accountants. o Oversee the Company's compliance with tax, legal and regulatory requirements.
Compensation Committee	D. Lipinski G. Mayer R. Redmond	7	<ul style="list-style-type: none"> o Oversee and evaluate the and Company's compensation programs compensation of its executives. o Annually determine Chief Executive Officer's base salary and payments under the annual incentive bonus program and long-term deferred compensation

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plan.

- o Recommend or approve other executive officers' compensation, including annual performance objectives.
- o Recommend to the full Board of Directors compensation of Directors.

THE AUDIT COMMITTEE

The Board of Directors has determined that all members of the Audit Committee are "independent," as independence for the Audit Committee members is defined in the listing standards for the Nasdaq Stock Market. The Company's Board of Directors has determined that Dr. Henseler, Chairman of the Audit Committee, is an "audit committee financial expert" within the meaning of applicable regulations of the Securities and Exchange Commission, based on Dr. Henseler's business experience, as described on Page 1 of this Proxy Statement. For further information regarding the Audit Committee, see the "Audit Committee Report" beginning on Page 12 of this Proxy Statement.

THE NOMINATION PROCESS

The Company does not currently have a standing nominating committee or a charter for the nomination process. The Company does not have a nominating committee because it believes that obtaining opinions and advice from all directors in connection with Board nominations enhances the nomination process. Nominees for directors are recommended for the Board's selection by a majority of the independent directors. The Board of Directors has determined that Drs. Henseler and Magliochetti and Messrs. Lipinski, Mayer and Redmond are "independent," as independence is defined in the listing standards for the Nasdaq Stock Market. In March 2005, the Company adopted a Board resolution addressing the nominations process, which provides substantially as follows:

1. A majority of the independent directors (the "Majority") shall identify individuals believed to be qualified as candidates to serve on the Board and shall recommend that the Board select the candidates for all directorships to be filled by the Board or by the shareholders at an annual or special meeting. In identifying candidates for membership on the Board, the Majority shall take into account all factors it considers appropriate, which may include strength of character, mature judgment, relevant skills and the extent to which the candidate would fill a present need on the Board.
2. The Majority shall conduct all necessary and appropriate inquiries into the backgrounds and qualifications of possible candidates and, in that connection, shall have sole authority to retain any search firm to be used to assist it in identifying candidates to serve as directors.
3. The Majority shall review and make recommendations, as it deems appropriate, regarding the size and composition of the Board in order to ensure that the Board has the requisite expertise and that its membership consists of persons with sufficiently diverse backgrounds. The Majority is aware that one member of the Board should meet the criteria for an "audit committee financial expert" as defined by SEC rules, and that a majority of the members of the Board must be comprised of "independent directors" as defined in the rules of the Nasdaq Stock Market. The Majority also believes

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it appropriate for certain members of the Company's management to participate as members of the Board.

4. The Majority will consider candidates for director recommended by stockholders of the Company. There are no differences in the manner in which the Majority evaluates director nominees recommended by stockholders. Stockholders who wish to recommend director candidates should communicate names of such candidates, with relevant information on their qualifications, to the Secretary, at the address on the first page of this Proxy Statement. The Secretary will forward copies of such stockholder recommendations to the independent directors for their consideration.

As indicated above, the independent directors will consider candidates for director recommended by stockholders of the Company. The procedures for submitting stockholder recommendations are explained below under "Stockholder Proposals" beginning on Page 14.

THE COMPENSATION COMMITTEE

The Compensation Committee of the Board of Directors is composed of three members, all of whom satisfy the independence standards for Compensation Committee members under the rules of the Nasdaq Stock Market, and operates under a written charter. A copy of the Compensation Committee charter is not available to stockholders on the Company's website. A copy of the Compensation Committee Charter is attached as APPENDIX A to this Proxy Statement. For 2007, the Committee was composed of Messrs. Mayer, CHAIRMAN, Lipinski and Redmond. Until May 2007, Mr. Lipinski was not independent under the rules of the Nasdaq Stock Market because within the past three years he was an employee of the Company (he ceased employment with the Company in May 2004). However, the Board of Directors determined that his membership on the Committee was required by the best interests of the Company and its shareholders due to his experience with compensation issues, and complies with the other requirements of the Committee's charter. Beginning in May 2007, Mr. Lipinski was considered independent.

STOCKHOLDER COMMUNICATIONS TO THE BOARD

Stockholders may contact an individual director, the Board as a group, or a specified Board committee or group, including the non-employee directors as a group, by the following means:

Mail: Spire Corporation
One Patriots Park
Bedford, MA 01730-2396
Attn: Board of Directors

Each communication should specify the applicable addressee or addressees to be contacted as well as the general topic of the communication. The Company will initially receive and process communications before forwarding them to the addressee. The Company generally will not forward to the directors a stockholder communication that it determines to be primarily commercial in nature or relates to an improper or irrelevant topic, or that requests general information about the Company.

COMPLIANCE WITH SECTION 16(A) OF THE SECURITIES EXCHANGE ACT OF 1934

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's directors and executive officers, and persons who own more than 10% of a registered class of the Company's equity securities, to file with the Securities and Exchange Commission reports of ownership and changes in ownership of common

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stock and other equity securities of the

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Company. Officers, directors and greater than 10% shareholders are required by SEC regulations to furnish the Company with copies of all Section 16(a) forms they file.

Based solely on review of the copies of such reports furnished to the Company or written or oral representations that no other reports were required, the Company believes that during 2007, all filing requirements applicable to its officers, directors and greater than 10% beneficial owners were complied with.

OWNERSHIP OF SECURITIES

The following table below shows how the Company's common stock is owned by the Company's directors and the executive officers named in the Summary Compensation Table under "Compensation of Officers and Directors" and by owners of more than 5% of the Company's outstanding common stock as of March 3, 2008. Each person or entity, except Federated Investors, Inc. and Quercus Trust, maintains a mailing address c/o Spire Corporation, One Patriots Park, Bedford, Massachusetts 01730-2396.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership (1) (2)	Percent of Common Stock (3)
Udo Henseler (4)	7,250	*
Rodger W. LaFavre (5)	35,500	*
David R. Lipinski (6)	14,078	*
Mark C. Little (7)	142,050	1.7%
Roger G. Little (8)	2,181,255	26.2%
Michael J. Magliochetti (9)	9,752	*
Guy L. Mayer (10)	12,878	*
Roger W. Redmond (11)	20,378	*
Federated Investors, Inc. Federated Investors Tower Pittsburgh, PA 15222-3779 (12)	696,676	8.4%
Quercus Trust 1835 Newport Boulevard, A109-PMB 467 Costa Mesa, CA 92627 (13)	1,037,043	12.5%
Directors and officers as a group (10 persons on March 3, 2008 including those named above)	2,455,891	29.5%

* Less than 1%

(1) Includes shares for which the named person:

- o has sole voting and investment power, or
- o has shared voting and investment power with his spouse, unless otherwise indicated in the footnotes.

(2) Includes shares that can be acquired through stock option exercises through May 2, 2008.

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- (3) Based on 8,321,188 shares of common stock outstanding as of March 3, 2008. Shares of common stock which an individual or group has a right to acquire within 60 days are deemed to be outstanding for purposes of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for purposes of computing the percentage ownership of any other person shown on the table.
- (4) Includes 7,250 shares that can be acquired through stock option exercises through May 2, 2008.
- (5) Includes 35,500 shares that can be acquired through stock option exercises through May 2, 2008. Amount does not include 56 unitized shares indirectly held by the Spire Corporation 401(k) Profit Sharing Plan.
- (6) Includes 14,078 shares that can be acquired through stock option exercises through May 2, 2008.

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- (7) Includes 44,250 shares that can be acquired through stock option exercises through May 2, 2008. Also includes 4,065 shares that are held by spouse, with respect to which Mr. Mark Little disclaims beneficial ownership, and 1,115 shares held by Mr. Mark Little as custodian for his minor son. Amount does not include 1,396 unitized shares indirectly held by the Spire Corporation 401(k) Profit Sharing Plan.
- (8) Includes 2,152,355 shares of common stock held in a Trust of which Mr. Roger G. Little is the primary beneficiary. Mr. Little is the Chairman of the Board, Chief Executive Officer and President of the Company. Amount does not include 19,893 unitized shares indirectly held by the Spire Corporation 401(k) Profit Sharing Plan.
- (9) Includes 9,752 shares that can be acquired through stock option exercises through May 2, 2008.
- (10) Includes 12,878 shares that can be acquired through stock option exercises through May 2, 2008.
- (11) Includes 20,378 shares that can be acquired through stock option exercises through May 2, 2008.
- (12) All information relating to beneficial ownership of common stock was obtained from the Schedule 13G/A, Amendment No. 2 filed on February 12, 2008, filed with the Securities and Exchange Commission, filed by Federated Investors, Inc. (the "Parent"), the parent holding company of Federated Equity Management Company of Pennsylvania and Federated Global Investment Management Corp., which acts as investment advisers to registered investment companies and separate accounts that own shares of common stock in Spire Corporation. The investment advisers are wholly owned subsidiaries of FII Holdings, Inc., which is wholly owned subsidiary of Federated Investors, Inc., the Parent. All of the Parent's outstanding voting stock is held in the Voting Shares Irrevocable Trust (the "Trust") for which J. Christopher Donahue, John F. Donahue and Rhodora J. Donahue act as trustees (collectively, the "Trustees"). The Trustees have joined in filing because of the collective voting control that they exercise over the Parent. In accordance with Rule 13d-4 under the Securities Act of 1934, as amended, the Parent, the Trust, and each of the Trustees declare that Schedule 13G statement should not be construed as an admission that they are the beneficial owners of the reported securities, and the Parent, the Trust, and each of the Trustees expressly disclaim beneficial ownership of the

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reported securities. These shares were purchased for investment purposes.

- (13) All information relating to beneficial ownership of common stock was obtained from the Schedule 13D/A, Amendment No. 6 dated February 19, 2008, as well as a subsequent Form 4 filed on February 26, 2008, all filed with the Securities and Exchange Commission, jointly filed by The Quercus Trust, David Gelbaum, as co-trustee of The Quercus Trust, and Monica Chavez Gelbaum, as co-trustee of The Quercus Trust. These shares were purchased by The Quercus Trust for investment purposes.

EXECUTIVE OFFICERS

The following table provides information on the executive officers of the Company. All the executive officers have been elected to serve until the Board meeting following the next annual meeting of stockholders (or Special Meeting in Lieu thereof) and until their successors have been elected and qualified.

Name	Age	Position
Christian Dufresne	44	Chief Financial Officer and Treasurer
Stephen J. Hogan	56	Executive Vice President and General Manager, Spire Solar
Rodger W. LaFavre	58	Chief Operating Officer
Mark C. Little	46	Chief Executive Officer, Spire Biomedical
Roger G. Little	67	Chairman of the Board, Chief Executive Officer and President

CHRISTIAN DUFRESNE, PH.D. joined the Company in 2000 as Assistant to the Chief Executive Officer and President. He was named Chief Financial Officer of Spire Biomedical in June 2002, Vice President, Corporate Planning in 2005 and appointed Chief Financial Officer and Treasurer in May 2006. Prior to joining Spire, Dr. Dufresne was a consultant for Stratford Associates, a market research firm that performs economic market modeling for Fortune 500 companies.

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STEPHEN J. HOGAN joined the Company in 1984 as Manager, Process Development. He was named Sales Manager, Photovoltaic Equipment, in 1988; Manager, Engineering and Manufacturing in 1990; Director of Photovoltaic Business Development in March 1997; Vice President and General Manager, Photovoltaics, in November 1997; and Executive Vice President and General Manager, Spire Solar in November 2000.

RODGER W. LAFAVRE joined the Company in 2000 as Vice President, Utility Marketing of Spire Solar Operations. He was named Vice President and Chief Financial Officer of Spire Solar in June 2002, and Chief Operating Officer of Spire Solar in November 2002 and Chief Operating Officer of Spire Corporation in February 2005. Prior to joining Spire, Mr. LaFavre was Vice President of Stone & Webster Engineering Corporation, a worldwide engineering and construction company, where he was responsible for business development, corporate planning and the Asia subsidiary.

MARK C. LITTLE is Chief Executive Officer, Spire Biomedical. His business experience is summarized on Page 2.

ROGER G. LITTLE has an ongoing five-year employment contract with the Company effective as of January 1, 2002. See "Compensation of Officers and Directors - Employment Contracts, Termination of Employment and

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Change-in-Control Arrangements." His business experience is summarized on Page 2.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Related Party Transactions

The Company subleased 77,000 square-feet in a building leased by Mykrolis Corporation, who in turn leased the building from SPI-Trust, a Trust of which Mr. Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company, is the sole trustee and principal beneficiary. The 1985 sublease originally was for a period of ten years, was extended for a five-year period expiring on November 30, 2000 and was further extended for a five-year period expiring on November 30, 2005. The sublease agreement provided for minimum rental payments plus annual increases linked to the consumer price index. Effective December 1, 2005, the Company entered into a two-year Extension of Lease Agreement (the "Lease Extension") directly with SPI-Trust.

The Company assumed certain responsibilities of Mykrolis, the tenant under the former lease, as a result of the Lease Extension including payment of all building and real estate related expenses associated with the ongoing operations of the property. The Company will allocate a portion of these expenses to SPI-Trust based on pre-established formulas utilizing square footage and actual usage where applicable. These allocated expenses will be invoiced monthly and be paid utilizing a SPI-Trust escrow account of which the Company has sole withdrawal authority. SPI-Trust is required to maintain three (3) months of its anticipated operating costs within this escrow account. On December 1, 2006, the Company and SPI-Trust amended the Lease Extension to include the lease of an additional 15,000 square feet from SPI-Trust for a one-year term.

On November 30, 2007, the Company entered into a new Lease Agreement (the "New Lease") with SPI-Trust with respect to 144,230 square feet of space comprising the entire building in which the Company has occupied since December 1, 1985. The term of the New Lease commenced on December 1, 2007 and continues for five years until November 30, 2012. The Company has the right to extend the term of the New Lease for an additional five (5) year period. The annual rental rate for the first year of the New Lease is \$12.50 per square foot on a triple net basis, whereby the tenant is responsible for operating expenses, taxes and maintenance of the building. The annual rental rate increases on each anniversary by \$0.75 per square foot. If the Company exercises its right to extend the term of the New Lease, the annual rental rate for the first year of the extended term will be the greater of (a) the rental rate in effect immediately preceding the commencement of the extended term or (b) the market rate at such time, and on each anniversary of the commencement of the extended term the rental rate will increase by \$0.75 per square foot. The Company believes that the terms of the New Lease are commercially reasonable.

Rent expense under the New Lease and the Lease Extension, as amended, for the year ended December 31, 2007 was \$1,415,000. In connection with the Lease Extension, as amended, the Company was invoiced and paid certain SPI-Trust related expenses, including building maintenance and insurance. The Company invoiced SPI-Trust on a monthly basis and SPI-Trust reimbursed the Company for all such costs.

In conjunction with the May 2003 acquisition of Bandwidth Semiconductor, LLC (now known as Spire Semiconductor, LLC) by the Company, SPI-Trust, purchased from Stratos Lightwave, Inc. (Spire Semiconductor's former

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owner) the building that Spire Semiconductor occupies in Hudson, New Hampshire for \$3.7 million. Subsequently, the Company entered into a lease for the building (90,000 square feet) with SPI-Trust whereby the Company agreed to pay \$4.1 million to SPI-Trust over an initial five-year term expiring in 2008 with a Company option to extend for five years. In addition to the rent payments, the lease obligates the Company to keep on deposit with SPI-Trust the equivalent of three months rent (\$304,000 as of December 31, 2007). The lease agreement does not provide for a transfer of ownership at any point. Interest costs were assumed at 7%. For the year ended December 31, 2007, interest expense was approximately \$76,000.

Edward D. Gagnon, General Manager of the Company's subsidiary, Spire Semiconductor, LLC, is a son-in-law of Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company. For the year ended December 31, 2007, Mr. Gagnon received salary and bonus of \$160,702, incentive stock options to purchase 5,000 shares of Spire common stock at an exercise price of \$9.60 per share with a grant date fair value of \$29,097 (computed in accordance with FAS 123(R)), and had value realized of \$178,946 from the sale of Spire common stock acquired through the exercise of incentive stock options.

COMPENSATION OF OFFICERS AND DIRECTORS

The following table describes the compensation awarded to the Chief Executive Officer and the Company's two most highly compensated executive officers of the Company (other than the CEO) who were serving as executive officers on December 31, 2007 (the "named executive officers"):

SUMMARY COMPENSATION TABLE

Name & Principal Position	Year	Annual Compensation				
		Salary (\$)(1)	Bonus (\$)	Option Awards (\$)(3)	Non-Equity Incentive Plan Compensation (\$)(2)	Non-Qualified Deferred Compensation Earnings(\$)
Roger G. Little Chairman of the Board, CEO & President	2007	\$493,000	\$4,700	--	\$24,300	--
	2006	\$487,000	\$4,450	--	\$59,250	--
Rodger W. LaFavre Chief Operating Officer	2007	\$175,000	\$13,000	\$26,627	--	--
	2006	\$150,000	\$6,000	\$12,131	--	--
Mark C. Little CEO, Spire Biomedical	2007	\$155,000	\$8,000	\$22,931	--	--
	2006	\$145,000	\$4,000	\$17,301	--	--

(1) For Mr. Roger G. Little, salary includes payment of \$250,000 under a non-qualified deferred compensation plan paid on behalf of Mr. Little for 2006 and 2007. See "Non-Qualified Deferred Compensation Plan" below.

(2) In 2008, Mr. Roger G. Little received a bonus of \$24,300 as a percentage of his annual incentive bonus program for the year ended December 31, 2007. In 2007, Mr. Roger G. Little received a bonus of \$59,250 as a percentage of his annual incentive bonus program for the year ended December 31, 2006.

(3) The amounts in this column reflect the dollar amount recognized for

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financial statement reporting purposes for the fiscal year ended December 31, 2007, in accordance with FAS 123(R) and thus includes amounts from awards granted in and prior to 2007. Assumptions used in the calculation of these amounts are included in Note 9 in the notes to the Company's audited consolidated financial statements for the fiscal year ended December 31, 2007 included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2008.

- (4) Includes compensation for premiums paid by the Company on term life insurance policies provided to all executive officers. Mr. Mark C. Little's other compensation also included \$11,383 and \$3,128, of compensation from personal use of a company vehicle for the years ended December 31, 2007 and 2006, respectively. In 2007, Mr. Roger G. Little's other compensation also included \$648 of compensation from personal use of a company vehicle.

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NON-QUALIFIED DEFERRED COMPENSATION PLAN

Effective January 1, 2002, the Company adopted the Spire Corporation Non-Qualified Deferred Compensation Plan (the "Deferred Compensation Plan") for Mr. Roger G. Little, Chairman of the Board, Chief Executive Officer and President of the Company. Under the Deferred Compensation Plan, the Company makes equal monthly contributions to the Spire Corporation Non-Qualified Deferred Compensation Trust (the "Trust") up to the annually required amount of \$250,000. The Company records these contributions as selling, general and administrative expense when made. The Trustee makes all investment decisions for the Trust on behalf of Mr. Little. The Company has not guaranteed a return on investment for Mr. Little. All earnings and losses on the Deferred Compensation Plan assets are borne by Mr. Little. All contributions and earnings are fully vested to Mr. Little when made but are subject to the Company's creditors in the event of bankruptcy. The Company makes contributions only if it has "available cash" to meet its operational needs as determined by the Compensation Committee. If the Compensation Committee determines that there is not enough "available cash" then it may defer funding for a particular plan year only until cash becomes available. As of December 31, 2007, the Company has fully funded its obligations as called for by Mr. Little's employment agreement.

EMPLOYMENT CONTRACTS, TERMINATION OF EMPLOYMENT AND CHANGE-IN-CONTROL ARRANGEMENTS

The Company has an employment agreement with Roger G. Little, Chairman of the Board, Chief Executive Officer and President. For 2007, he received the following pursuant to the agreement: a base salary of \$243,000, payment under an annual incentive bonus program of up to 50% of base salary (depending on attainment of specified performance goals as set by the Compensation Committee), which amounted to \$24,300, and payment under the Deferred Compensation Plan in the amount of \$250,000. For subsequent years, base salary will be no less than \$205,000; and payments under the annual incentive bonus program and the Deferred Compensation Plan will be determined annually. The agreement also provides for a Company vehicle for Mr. Little and for life insurance for which he may designate a beneficiary in the face amount of \$500,000. Further, the agreement provides for the payment of 12 months' base salary in the event he is terminated without cause or if he terminates the agreement for "good reason." The agreement also precludes Mr. Little from competing with the Company during his employment and for a period of one year thereafter, and from disclosing confidential information. The agreement also entitles Mr. Little to paid vacations in accordance with the regular policy of the Company for the executive officers.

If Mr. Little's employment is terminated by the Company without cause or by Mr. Little for "good reason" within six months prior to a change-of-control or

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within one year thereafter, then in lieu of payment of 12 months' base salary, the Company shall pay Mr. Little in 24 monthly installments a cash severance amount equal to three times his average annual compensation, including base salary and bonuses.

The agreement was originally executed on January 1, 2002 and had a five-year term. On each anniversary of the agreement, the agreement is automatically extended for an additional five-year term unless the parties have renegotiated the agreement or one of the parties has given the other party notice of non-renewal.

STOCK OPTIONS

The following table describes stock options granted during 2007 to the named executive officers:

2007 INDIVIDUAL GRANTS				
Name	Number of Securities Underlying Options Granted (#) (1)	Exercise or Base Price (\$/Share)	Expiration Date	Grant Date Fair Value (2)
Roger G. Little	--	--	--	--
Rodger W. LaFavre	5,000	\$9.60	5/17/17	\$29,097
	5,000	\$9.15	8/16/17	\$27,305
Mark C. Little	5,000	\$9.60	5/17/17	\$27,305

(1) The options granted to Mr. LaFavre were granted in May and August 2007 under the Company's 2007 Stock Equity Plan and expire ten years from the date of grant. Mr. LaFavre's options vest with respect to 1,250 shares in each of 2008, 2009, 2010 and 2011. The options granted to Mr. Mark Little were granted in May 2007 under the Company's 2007 Stock Equity Plan and expire ten years from the date of grant. Mr. Mark Little's option vests with respect to 1,250 shares in each of 2008, 2009, 2010 and 2011.

(2) The amounts in this column reflect the grant date fair value of each option award computed in accordance with FAS 123(R). Assumptions used in the calculation of these amounts are included in Note 9 of the notes to the Company's audited consolidated financial statements for the fiscal year ended December 31, 2007 included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2008.

The following table provides information about outstanding equity awards held by the named executive officers at the end of fiscal 2007:

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR END

Option Awards

Number of		Equity Incentive Plan Awards:
Number of	Number of	

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Name	Securities Underlying Unexercised Options (#) Exercisable (1)	Securities Underlying Unexercised Options (#) Unexercisable (1)	Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date (2)	Number of Shares or Units of Stock that have not Vested (\$)	Share Units of Stock have not Vested (\$)
Roger G. Little	--	--	--	--	--	--	--
Rodger W. LaFavre	17,000	--	--	\$4.03	11/30/10	--	--
	10,000	--	--	\$3.90	5/22/12	--	--
	6,000	6,000	--	\$4.33	5/17/15	--	--
	2,500	7,500	--	\$8.32	11/16/16	--	--
	--	5,000	--	\$9.60	5/17/17	--	--
	--	5,000	--	\$9.15	8/16/17	--	--
Mark C. Little	36,750	--	--	\$3.90	5/22/12	--	--
	5,000	5,000	--	\$4.33	5/17/15	--	--
	2,500	7,500	--	\$8.32	11/16/16	--	--
	--	5,000	--	\$9.60	5/17/17	--	--

(1) Unless otherwise noted, options become exercisable in four equal annual installments beginning on the first anniversary of the date of grant.

(2) Unless otherwise noted, the expiration date of each option occurs ten years after the date of grant of such option.

The table below describes the securities authorized for issuance under the Company's equity compensation plans as of December 31, 2007:

EQUITY COMPENSATION PLAN INFORMATION

	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Shares Available Under the Plan
Equity compensation plans approved by security holders	495,177	\$7.10	
Equity compensation plans not approved by security holders	--	--	
Total	495,177	\$7.10	

(1) Consists of shares that may be granted under the Company's 2007 Stock Equity Plan (the "2007 Plan"), the Company's only active equity compensation plan.

(2) In addition to being available for future issuances upon exercise of options that may be granted after December 31, 2007, a maximum of 500,000 shares under the 2007 Plan may instead be issued in the form of restricted stock, deferred stock, performance awards or other stock-based awards.

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DIRECTORS' COMPENSATION

Spire Corporation does not pay its directors who are also officers of the Company any additional compensation for services as directors. In December of 2006, the Compensation Committee engaged Francois Quinson, an independent consultant, to review the compensation paid to the Company's Board of Directors. Based upon Mr. Quinson's recommendations, on March 15, 2007, the Compensation Committee approved the following as elements of compensation for non-employee directors and the Board of Directors passed a resolution approving the compensation package. Accordingly, in 2007, the compensation for non-employee directors included the following:

- o Cash Board meeting attendance fee of \$1,000 per meeting attended in person and \$500 for each meeting by telephone;
- o Non-incentive stock options under the 2007 Plan for 2,000 shares for each Board meeting attended either in person or by telephone, with the awards being for one meeting per quarter and four quarterly meeting per year, to a maximum of 8,000 shares per annum. These options vest immediately and are considered a long term incentive;
- o Cash meeting attendance fee of \$1,000 for each formal meeting of the Audit Committee and of the Compensation Committee attended either in person or by telephone, with the payments subject to an annual maximum of \$5,000 per member of each such committee;
- o No additional compensation when committee meeting is held in conjunction with a Board meeting;
- o \$12,000 annual retainer for all directors, payable quarterly;
- o \$5,000 annual retainer for the Chairman of the Audit Committee, payable quarterly;
- o \$4,000 annual retainer for the Chairman of the Compensation Committee, payable quarterly;
- o \$2,000 annual retainer for other members of the Audit and Compensation Committees, payable quarterly; and
- o Expense reimbursement for all reasonable expenses incurred in attending meetings and tending to Spire business.

The following table shows non-employee director compensation in 2007:

Name (1)	Fees Earned or Paid in Cash(\$)	Stock Awards(\$)	Options Awards (\$)(2)	Non-Equity Incentive Plan Compensation Earnings	Non-Qualified Deferred Compensation Earnings	A Com
Udo Henseler	\$23,250	--	\$53,194	--	--	
David R. Lipinski	\$17,750	--	\$53,194	--	--	
Michael J. Magliochetti	\$20,750	--	\$53,194	--	--	
Guy L. Mayer	\$25,750	--	\$53,194	--	--	
Roger W. Redmond	\$17,750	--	\$53,194	--	--	

(1) As noted above, Messrs. Roger G. Little and Mark C. Little are not included in this table as they are officers of the Company and, accordingly, receive no compensation for their services as directors. The compensation received

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by Messrs. Roger G. Little and Mark C. Little as officers of the Company is shown in the Summary Compensation Table above.

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- (2) The amounts in this column reflect the dollar amount recognized for financial statement reporting purposes for the fiscal year ended December 31, 2007, in accordance with FAS 123(R) and thus includes amounts from awards granted in and prior to 2007. Assumptions used in the calculation of these amounts are included in Note 9 in the notes to the Company's audited consolidated financial statements for the fiscal year ended December 31, 2007 included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2008. As of December 31, 2007, each non-employee director had the following number of options outstanding: Udo Henseler: 12,872; David R. Lipinski: 18,500; Michael J. Magliochetti: 15,374; Guy L. Mayer: 18,500; and Roger W. Redmond: 26,000.

AUDIT COMMITTEE REPORT

THIS AUDIT COMMITTEE REPORT SHALL NOT BE DEEMED TO BE "SOLICITING MATERIAL" OR TO BE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION OR SUBJECT TO REGULATION 14A OR 14C UNDER THE EXCHANGE ACT, OR TO THE LIABILITIES OF SECTION 18 OF THE EXCHANGE ACT. NOTWITHSTANDING ANYTHING TO THE CONTRARY SET FORTH IN ANY OF THE COMPANY'S PREVIOUS FILINGS UNDER THE SECURITIES ACT OF 1933 OR THE EXCHANGE ACT THAT MIGHT INCORPORATE FUTURE FILINGS, INCLUDING THIS PROXY STATEMENT, IN WHOLE OR IN PART, THIS REPORT SHALL NOT BE INCORPORATED BY REFERENCE INTO ANY SUCH FILINGS.

COMPOSITION AND CHARTER

The Audit Committee of the Board of Directors is currently composed of three directors, all of whom satisfy the independence standards for Audit Committee members under the rules of the Nasdaq Stock Market, and operates under a written charter. A copy of the Audit Committee Charter is not available to stockholders on the Company's website. A copy of the Audit Committee Charter is attached as APPENDIX B to this Proxy Statement. For 2007, the Committee was composed of Drs. Henseler, CHAIRMAN, and Magliochetti, and Mr. Mayer.

RESPONSIBILITIES

The responsibilities of the Audit Committee include engaging an accounting firm to serve as Spire's independent registered public accounting firm. Management is responsible for Spire's internal controls and financial reporting process. The independent registered public accounting firm is responsible for performing an independent audit of Spire's consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB) and for issuing an opinion thereon. The Audit Committee's responsibility is to oversee these processes and Spire's internal controls. The Audit Committee does not prepare or audit the Company's financial statements or certify their accuracy.

REVIEW WITH MANAGEMENT AND INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

In this context, the Audit Committee has met and held discussions with management and the independent registered public accounting firm. Management represented to the Audit Committee that Spire's consolidated financial statements were prepared in accordance with generally accepted accounting principles, and the Audit Committee has reviewed and discussed the audited consolidated financial statements with management and the independent registered public accounting firm. The Audit Committee has discussed with the independent

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registered public accounting firm the matters required to be discussed by the statement on Auditing Standards No. 61 as amended, as adopted by the Public Company Accounting Oversight Board in Rule 3200T.

Spire's independent registered public accounting firm also provided to the Audit Committee the written disclosures and the letter required by Independence Standards Board Standard No. 1, "Independence Discussions with Audit Committees," and the Audit Committee discussed with the independent registered public accounting firm, Vitale, Caturano & Company, Ltd., the firm's independence.

SUMMARY

Based upon the Audit Committee's discussions with management and the independent registered public accounting firm and the Audit Committee's review of Spire's audited consolidated financial statements and the representations of management, and the report of the independent registered public accounting firm to the Audit Committee, the Audit

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Committee recommended that the Board of Directors include the audited consolidated financial statements in Spire's Annual Report on Form 10-K for the year ended December 31, 2007, as filed with the Securities and Exchange Commission.

This report is submitted by the Audit Committee.

Udo Henseler, CHAIRMAN
Michael J. Magliochetti
Guy L. Mayer

DISCLOSURE OF PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table presents aggregate fees billed to the Company for professional services rendered by Vitale, Caturano & Company, Ltd. for each of the last two fiscal years.

	2007 Fees	2006 Fees
Audit Fees	\$191,750	\$165,000
Audit-Related Fees	1,245	59,500
Tax Fees	2,500	25,000
All Other Fees	15,500	--
Total Fees	\$210,995	\$249,500

AUDIT FEES were for professional services rendered for the audit of the Company's annual consolidated financial statements and review of consolidated financial statements included in the Company's Quarterly Reports on Form 10-Q and services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.

AUDIT-RELATED FEES were for assurance and related services that are reasonably related to the performance of the audit or review of the Company's financial statements and are not reported under "Audit Fees."

TAX FEES were for professional services rendered for federal, state and

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international tax compliance, tax advice and tax planning.

ALL OTHER FEES were for services other than the services reported above and include agreed-upon procedures in 2007.

POLICY ON AUDIT COMMITTEE PRE-APPROVAL OF AUDIT AND PERMISSIBLE NON-AUDIT SERVICES OF INDEPENDENT AUDITORS

The Audit Committee pre-approves all audit and permissible non-audit services provided by the independent registered public accounting firm. These services may include audit services, audit-related services, tax services and other services. Pre-approval is generally provided for up to one year, and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent registered public accounting firm and management are required to periodically report to the Audit Committee regarding the extent of services provided by the independent registered public accounting firm in accordance with the pre-approval, and the fees for the services performed to date. The Audit Committee may also pre-approve particular services on a case-by-case basis.

INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

The Audit Committee of the Board of Directors of Spire Corporation has engaged Vitale, Caturano & Company, Ltd. as the Company's independent registered public accountants for the current fiscal year. They have served as accountants for the Company since January 7, 2004.

As the Company's independent registered public accountants, Vitale, Caturano & Company, Ltd. was engaged to conduct quarterly reviews of the Company; to conduct an audit of the consolidated financial statements of the Company for the full year 2007; and to prepare the federal and state tax returns of the Company for the year ended December 31, 2007. Representatives of Vitale, Caturano & Company, Ltd. are expected to attend the Meeting in order to respond to questions from stockholders and will have the opportunity to make a statement.

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PROXIES AND VOTING AT THE MEETING

Each signed and returned proxy will be voted in accordance with any instructions of the stockholder(s) executing the proxy. A proxy signed without instructions will be voted in accordance with the Board's recommendations. If a stockholder attends the Meeting and votes in person, his or her proxy will not be counted. A signed proxy may be revoked at any time before it is exercised, either in person or by giving written notice of revocation to the Secretary of the Company at the address on the first page of this Proxy Statement.

Each share of common stock is entitled to one vote on all matters submitted to the stockholders for approval. No vote may be taken unless a quorum (I.E., a majority of the common stock issued, outstanding, and entitled to vote) is present at the Meeting in person or by proxy. The seven nominees for election as directors at the Meeting who receive the greatest number of votes properly cast for the election of directors shall be elected the directors of the Company. The approval of any other matter as may properly come before the meeting requires the affirmative vote of a majority in interest of the stock represented and entitled to vote at the meeting. Broker non-votes are counted for purposes of determining the presence of a quorum, but are not counted for purposes of determining the result of any vote. Abstentions are counted in determining the presence of a quorum and have the effect of a vote against a proposal.

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The Board has fixed March 28, 2008, as the record date for determining the stockholders entitled to vote at the Meeting. On that date there were 8,328,688 shares of common stock issued, outstanding, and entitled to vote.

OTHER MATTERS

The Board knows of no other matters that may come before the Meeting. If any other matters should properly come before the Meeting, it is the intention of the persons named in the accompanying proxy to vote in accordance with their judgment on such matters. Such discretionary authority is conferred by the proxy.

All costs of this solicitation, which is being made principally by mail, but which may be supplemented by telephone or personal contacts by the Company's directors, officers, and employees without additional compensation, will be borne by the Company. Brokers will be requested to forward proxy soliciting material to the beneficial owners of the stock held in such brokers' names, and the Company will reimburse them for their expenses incurred in complying with the Company's request.

In the Company's filings with the SEC, information is sometimes "incorporated by reference". This means that the Company is referring you to information that has previously been filed with the SEC, so the information should be considered as part of the filing you are reading. Based on SEC regulations, the Audit Committee Report specifically is not incorporated by reference into any other filings with the SEC.

The Company's policy is to encourage its Board members to attend the Annual Meeting of Stockholders, and all of the members standing for re-election attended the Special Meeting in Lieu of the 2007 Annual Meeting of Stockholders.

STOCKHOLDER PROPOSALS -- 2009 ANNUAL MEETING

In order to be included in the proxy statement and form of proxy for the 2009 Annual Meeting of Stockholders pursuant to Exchange Act Rule 14a-8, stockholder proposals must be received by the Company at its corporate offices in Bedford, Massachusetts, no later than December 16, 2008 (120 days before the anniversary of the date this Proxy Statement is being mailed to the Company's stockholders). Such proposals must also comply with the requirements as to form and substance established by the SEC if such proposals are to be included in the proxy statement and form of proxy. Stockholder proposals to be presented at the 2009 Annual Meeting, other than stockholder proposals submitted pursuant to Exchange Act Rule 14a-8 for inclusion in the proxy statement and form of proxy for the 2009 Annual Meeting, must be received in writing at the Company's corporate offices no later than March 1, 2009 (45 days before the anniversary of the date this Proxy Statement is being mailed to the Company's stockholders).

Independent directors will consider any director nominees you recommend in writing for the 2009 Annual Meeting if the Secretary receives notice by December 16, 2008, and you are a stockholder of record on the day you provide notice of

your recommendation or nomination to the Company and on the record date for determining stockholders entitled to notice of the meeting and to vote. You may also nominate an individual for election as a director at the 2009 Annual Meeting.

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In either event, your notice must include the following information for each person you are recommending or nominating for election as a director:

- o The name, age, business address and residence address of the person;
- o The principal occupation or employment of the person;
- o The number of shares of Spire common stock which the person owns beneficially or of record; and
- o Any other information relating to the person that must be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors under Section 14 of the Exchange Act and its rules and regulations.

In addition, your notice must include the following information about you:

- o Your name and record address;
- o The number of shares of Spire common stock that you own beneficially or of record;
- o A description of all arrangements or understandings between you and each proposed nominee and any other person or persons, including their names, pursuant to which the nomination is to be made;
- o A representation that you intend to appear in person or by proxy at the meeting to nominate the person or persons named in your notice; and
- o Any other information about you that must be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors under Section 14 of the Exchange Act and its rules and regulations.

The notice must include written consent by each proposed nominee to being named as a nominee and to serve as a director if elected. No person will be eligible for election as a director of Spire unless recommended by a majority of independent directors and nominated by the Board or nominated in accordance with the procedures set forth above.

By Order of the Board of Directors,

/s/ Michael W. O'Dougherty

Michael W. O'Dougherty
SECRETARY

April 15, 2008

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APPENDIX A

COMPENSATION COMMITTEE CHARTER FOR SPIRE CORPORATION (Version Adopted on March 18, 2008)

PURPOSE

The purpose of the Compensation Committee (the "Committee") shall be to

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discharge the responsibilities of the Board of Directors relating to the Company's compensation programs and compensation of the Company's executives.

COMPOSITION

The Committee shall consist of two or more members of the Board of Directors, each of whom is determined by the Board of Directors to be "independent" under the rules of the Nasdaq Stock Market and the Sarbanes-Oxley Act.

Under exceptional and limited circumstances, however, one director who is not independent as defined in the rules and regulations of the Nasdaq Stock Market and who is not a current employee or an immediate family member of an employee of the Company may serve as a member of the Committee, provided that:

1. The Board determines that membership by the individual on the Committee is required by the best interests of the Company and its shareholders;
2. The Company complies with all other requirements of the rules and regulations of the Nasdaq Stock Market with respect to non-independent members of the Committee, as such rules and regulations may be amended or supplemented from time to time; and
3. No such person may serve on the Committee for more than two years.

APPOINTMENT AND REMOVAL

The members of the Committee shall be appointed by the Board of Directors and shall serve until each such member's successor is duly elected and qualified or until such member's earlier resignation or removal. The members of the Committee may be removed, with or without cause, by a majority vote of the Board of Directors.

CHAIRMAN

Unless a Chairman is elected by the full Board of Directors, the members of the Committee shall designate a Chairman by majority vote of the full Committee membership. The Chairman will chair all regular sessions of the Committee and set the agendas for Committee meetings.

DELEGATION TO SUBCOMMITTEES

In fulfilling its responsibilities, the Committee shall be entitled to delegate any or all of its responsibilities to a subcommittee of the Committee.

MEETINGS

The Committee shall meet as frequently as circumstances dictate. The Chairman of the Board or any member of the Committee may call meetings of the Committee.

As part of its review and establishment of the performance criteria and compensation of designated key executives, the Committee should meet separately at least on an annual basis with the chief executive officer and any other corporate officers, as it deems appropriate. However, the Committee should also meet from time to time without such officers present, and in all cases, such officers shall not be present at meetings at which their performance and compensation are being discussed and determined. All meetings of the Committee may be held telephonically.

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All non-management directors who are not members of the Committee may attend meetings of the Committee, but may not vote. In addition, the Committee may invite to its meetings any director, member of management of the Company, and such other persons, as it deems appropriate in order to carry out its responsibilities. The Committee may also exclude from its meetings any persons it deems appropriate in order to carry out its responsibilities.

DUTIES AND RESPONSIBILITIES

The Committee shall carry out the duties and responsibilities set forth below. These functions should serve as a guide with the understanding that the Committee may determine to carry out additional functions and adopt additional policies and procedures as may be appropriate in light of changing business, legislative, regulatory, legal, or other conditions. The Committee shall also carry out any other responsibilities and duties delegated to it by the Board of Directors from time to time related to the purposes of the Committee outlined in this Charter.

In discharging its oversight role, the Committee is empowered to study or investigate any matter of interest or concern that the Committee deems appropriate and shall have the sole authority to retain, without seeking Board approval, outside counsel or other experts for this purpose, including the authority to approve the fees payable to such counsel or experts and any other terms of retention.

SETTING COMPENSATION FOR EXECUTIVE OFFICERS AND DIRECTORS

1. Establish and review the overall compensation philosophy of the Company.
2. Review and approve the Company's corporate goals and objectives relevant to chief executive officer and other executive officers' compensation, including annual performance objectives.
3. Evaluate the performance of the chief executive officer and other executive officers in light of those goals and objectives and, based on such evaluation, review and approve the annual salary, bonus, stock options, and other benefits, direct and indirect, of the chief executive officer and other executive officers.
4. In determining the long-term incentive component of compensation for the chief executive officer and other executive officers, the Committee should consider the Company's performance and relative shareholder return, the value of similar incentive awards to chief executive officer and other executive officers at comparable companies, and the awards given to the Company's chief executive officer and other executive officers in past years. The Committee is not precluded from approving awards (with the ratification of the Board of Directors) as may be required to comply with applicable tax laws, such as Rule 162(m).
5. In connection with executive compensation programs:
 - a. Review and recommend to the full Board of Directors, or approve, new executive compensation programs;
 - b. Review on a periodic basis the operations of the Company's executive compensation programs to determine whether they are properly coordinated and achieving their intended purposes;
 - c. Establish and periodically review policies for the administration of executive compensation programs; and

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d. Take steps to modify any executive compensation program that yields payments and benefits that are not reasonably related to executive and corporate performance.

6. Establish and periodically review policies in the area of senior management prerequisites.

7. Consider policies and procedures pertaining to expense accounts of senior executives.

8. Review and recommend to the full Board of Directors compensation of directors as well as directors and officers' indemnification and insurance matters.

9. Review and make recommendations to the full Board of Directors, or approve, any contracts or other transactions with current or former executive officers of the Company, including consulting arrangements, employment

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contracts, change-in-control, severance, or termination arrangements, and loans to employees made or guaranteed by the Company.

MONITORING INCENTIVE AND EQUITY-BASED COMPENSATION PLANS

10. Review and make recommendations to the Board of Directors with respect to the Company's incentive-compensation plans and equity-based plans, and review the activities of the individuals responsible for administering those plans.

11. Review and approve all equity compensation plans of the Company that are not otherwise subject to the approval of the Company's shareholders.

12. Review and make recommendations to the full Board of Directors, or approve, all awards of shares or share options pursuant to the Company's equity-based plans.

13. Monitor compliance by executives with the rules and guidelines of the Company's equity-based plans.

14. Review and monitor employee pension, profit sharing, and benefit plans.

15. Review and assess the adequacy of this Charter annually and recommend to the Board and amendments or modifications to the Charter that the Committee deems appropriate.

16. Select, retain, and/or replace, as needed, compensation and benefits consultants and other outside consultants to provide independent advice to the Committee. In that connection, in the event the Committee retains a compensation consultant, the Committee shall have the sole authority to approve such consultant's fees and other retention terms.

REPORTS

17. Report regularly to the Board of Directors with respect to matters that are relevant to the Committee's discharge of its responsibilities and with respect to such recommendations as the Committee may deem appropriate. The report to the Board of Directors may take the form of an oral report by the Chairman or any other member of the Committee designated by the Committee to make such report.

18. To the extent applicable to the Company, review and discuss with the

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Company's management the Compensation Discussion and Analysis ("CD&A") required by the rules and regulations of the Securities and Exchange Commission (the "SEC") and determine whether to recommend to the Board of Directors that the CD&A be included in the Company's annual proxy statement or annual report on Form 10-K in accordance with the applicable rules and regulations of the SEC.

19. To the extent applicable to the Company, produce a "Compensation Committee Report" for inclusion in the Company's annual proxy statement or annual report on Form 10-K in accordance with the applicable rules and regulations of the SEC.

20. Maintain minutes or other records of meetings and activities of the Committee.

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APPENDIX B

AUDIT COMMITTEE CHARTER FOR SPIRE CORPORATION (Version Adopted on March 18, 2008)

PURPOSE

The purpose of the Audit Committee (the "Committee") shall be as follows:

1. To oversee the accounting and financial reporting processes of Spire Corporation (the "Company") and audits of the financial statements of the Company.

2. To provide assistance to the Board of Directors with respect to its oversight of:

- a. The integrity of the Company's financial statements;
- b. The Company's compliance with legal and regulatory requirements;
- c. The independent auditors' qualifications and independence; and
- d. The performance of the Company's independent auditors.

3. To prepare the report that Securities and Exchange Commission ("SEC") rules require be included in the Company's annual proxy statement.

COMPOSITION

The Committee shall consist of three or more members of the Board of Directors, each of whom is determined by the Board of Directors to be "independent" under the rules of the Nasdaq Stock Market and the Sarbanes-Oxley Act.

QUALIFICATIONS

All members of the Committee shall be able to read and understand fundamental financial statements (or be able to do so within a reasonable period of time after his or her appointment) and at least one member must be a "financial expert" under the requirements of the Sarbanes-Oxley Act. Committee members may enhance their familiarity with finance and accounting by participating in educational programs conducted by the Company or by an outside consultant.

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Under exceptional and limited circumstances, however, one director who is not independent as defined in the rules and regulations of the Nasdaq Stock Market and who is not a current employee or an immediate family member of an employee of the Company may serve as a member of the Committee, provided that:

1. The Board determines that membership by the individual on the Committee is required by the best interests of the Company and its shareholders;
2. The Company complies with all other requirements of the rules and regulations of the Nasdaq Stock Market with respect to non-independent members of the Committee, as such rules and regulations may be amended or supplemented from time to time;
3. No such person may serve as the Chairman of the Committee; and
4. No such person may serve on the Committee for more than two years.

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COMPENSATION

No member of the Committee shall receive compensation other than: (a) director's fees for service as a director of the Company, including reasonable compensation for serving on the Committee and regular benefits that other directors receive; and (b) a pension or similar compensation for past performance, provided that such compensation is not conditioned on continued or future service to the Company.

APPOINTMENT AND REMOVAL

The members of the Committee shall be appointed by the Board of Directors and shall serve until such member's successor is duly elected and qualified or until such member's earlier resignation or removal. The members of the Committee may be removed, with or without cause, by a majority vote of the Board of Directors.

CHAIRMAN

Unless a Chairman is elected by the full Board of Directors, the members of the Committee shall designate a Chairman by the majority vote of the full Committee membership. The Chairman will chair all regular sessions of the Committee and set the agendas for Committee meetings.

DELEGATION TO SUBCOMMITTEES

In fulfilling its responsibilities, the Committee shall be entitled to delegate any or all of its responsibilities to a subcommittee of the Committee.

MEETINGS

The Committee shall meet as frequently as circumstances dictate. As part of its goal to foster open communication, the Committee shall periodically meet separately with each of management and the independent auditors to discuss any matters that the Committee or management or the auditors believe would be appropriate to discuss privately. In addition, the Committee should meet with the independent auditors and management periodically to review the Company's financial statements in a manner consistent with that outlined in this Charter. The Chairman of the Board or any member of the Committee may call meetings of the Committee. All meetings of the Committee may be held telephonically.

All non-management directors who are not members of the Committee may

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attend meetings of the Committee, but may not vote. In addition, the Committee may invite to its meetings any director, member of management of the Company, and such other persons, as it deems appropriate in order to carry out its responsibilities. The Committee may also exclude from its meetings any persons it deems appropriate in order to carry out its responsibilities.

DUTIES AND RESPONSIBILITIES

The Committee shall carry out the duties and responsibilities set forth below. These functions should serve as a guide with the understanding that the Committee may determine to carry out additional functions and adopt additional policies and procedures as may be appropriate in light of changing business, legislative, regulatory, legal, or other conditions. The Committee shall also carry out any other duties and responsibilities delegated to it by the Board of Directors from time to time related to the purposes of the Committee outlined in this Charter. The Committee may perform any functions it deems appropriate under applicable law, rules, or regulations, the Company's By-laws, and the resolutions or other directives of the Board, including review of any certification required to be reviewed in accordance with applicable law or regulations of the SEC.

In discharging its oversight role, the Committee is empowered to study or investigate any matter of interest or concern that the Committee deems appropriate. In this regard, the Committee shall have the authority to retain, without seeking Board approval, outside legal, accounting, or other advisors for this purpose, including the authority to approve the fees payable to such advisors and any other terms of retention.

The Committee shall be given full access to the Company's Board of Directors, corporate executives, and independent accountants as necessary to carry out these responsibilities. While acting within the scope of its stated purpose, the Committee shall have all the authority of the Board of Directors, except as otherwise limited by applicable law.

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Notwithstanding the foregoing, the Committee is not responsible for certifying the Company's financial statements or guaranteeing the auditors' report. The fundamental responsibility for the Company's financial statements and disclosures rests with management and the independent auditors. It also is the job of the chief executive officer and senior management rather than that of the Committee to assess and manage the Company's exposure to risk.

DOCUMENTS/REPORTS REVIEW

1. Discuss with management and the independent auditors prior to public dissemination the Company's annual audited financial statements and quarterly financial statements, including the Company's disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations" and discuss with the independent auditors the matters required to be discussed by Statement of Auditing Standards No. 61.

2. Discuss with management and the independent auditors prior to the Company's filing of any quarterly or annual report:

a. Whether any significant deficiencies in the design or operation of internal controls exist that could adversely affect the Company's ability to record, process, summarize, and report financial data;

b. The existence of any material weaknesses in the Company's internal controls; and

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c. The existence of any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls.

3. Discuss with management and the independent auditors the Company's earnings press releases (paying particular attention to the use of any "pro forma" or "adjusted" non-GAAP information), as well as financial information and earnings guidance provided to analysts and rating agencies. The Committee's discussion in this regard may be general in nature (I.E., discussion of the types of information to be disclosed and the type of presentation to be made) and need not take place in advance of each earnings release or each instance in which the Company may provide earnings guidance.

4. Discuss with management and the independent auditors the Company's major financial risk exposures, the guidelines and policies by which risk assessment and management is undertaken, and the steps management has taken to monitor and control risk exposure.

INDEPENDENT AUDITORS

5. Retain and terminate independent auditors and have the sole authority to approve all audit engagement fees and terms as well as all non-audit engagements with the independent auditors.

6. Inform each public accounting firm performing work for the Company that such firm shall report directly to the Committee.

7. Oversee the work of any public accounting firm employed by the Company, including the resolution of any disagreement between management and the auditor regarding financial reporting, for the purpose of preparing or issuing an audit report or related work.

8. Approve in advance any significant audit or non-audit engagement or relationship between the Company and the independent auditors, other than "prohibited non-auditing services," as may be specified in the Sarbanes-Oxley Act of 2002 or applicable laws or regulations.

9. Review, at least annually, the qualifications, performance, and independence of the independent auditors. In conducting its review and evaluation, the Committee should:

a. At least annually obtain and review a report by the Company's independent auditors describing: (i) the auditing firm's internal quality-control procedures; (ii) any material issues raised by the most recent internal quality-control review, or peer review, of the auditing firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the auditing firm, and any steps

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taken to deal with any such issues; and (iii) to assess the auditors' independence, all relationships between the independent auditors and the Company;

b. Ensure the rotation of the lead audit partner at least every five years, and consider whether there should be regular rotation of the audit firm itself;

c. Confirm with any independent auditors retained to provide audit

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services for any fiscal year that the lead (or coordinating) audit partner (having primary responsibility for the audit), or the audit partner responsible for reviewing the audit, has not performed audit services for the Company in each of the five previous fiscal years of the Company; and

d. Take into account the opinions of management and the Company's internal auditors (or other personnel responsible for the internal audit function).

FINANCIAL REPORTING PROCESS

10. In consultation with the independent auditors, management, and the internal auditors, review the integrity of the Company's financial reporting processes, both internal and external. In that connection, the Committee should obtain and discuss with management and the independent auditors reports from management and the independent auditors regarding:

a. All critical accounting policies and practices to be used by the Company and the related disclosure of those critical accounting policies under "Management's Discussion and Analysis of Financial Condition and Results of Operations";

b. Analyses prepared by management and/or the independent auditors setting forth significant financial reporting issues and judgments made in connection with the preparation of the financial statements, including all alternative treatments of financial information within generally accepted accounting principles that have been discussed with the Company's management, the ramifications of the use of the alternative disclosures, and treatments, and the treatment preferred by the independent auditors;

c. Major issues regarding accounting principles and financial statement presentations, including any significant changes in the Company's selection or application of accounting principles;

d. Major issues as to the adequacy of the Company's internal controls and any specific audit steps adopted in light of material control deficiencies;

e. Issues with respect to the design and effectiveness of the Company's disclosure controls and procedures, management's evaluation of those controls and procedures, and any issues relating to such controls and procedures during the most recent reporting period;

f. The effect of regulatory and accounting initiatives as well as off-balance sheet structures on the financial statements of the Company; and

g. Any other material written communications between the independent auditor and the Company's management.

11. Review periodically the effect of regulatory and accounting initiatives, as well as off-balance sheet structures, on the financial statements of the Company.

12. Review with the independent auditors any audit problems or difficulties encountered and management's response thereto. In this regard, the Committee must regularly review with the independent auditors:

a. Any audit problems or other difficulties encountered by the auditors in the course of the audit work, including any restrictions on the scope of the independent auditors' activities or on access to requested information, and any significant disagreements with management; and

b. Management's responses to such matters. Without excluding

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other possibilities, the Committee may wish to review with the independent auditors: (i) any accounting adjustments that were noted or proposed by the auditors

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but were "passed" (as immaterial or otherwise), (ii) any communications between the audit team and the audit firm's national office respecting auditing or accounting issues presented by the engagement, and (iii) any "management" or "internal control" letter issued, or proposed to be issued, by the independent auditors to the Company.

13. Review and discuss with the independent auditors the responsibilities, budget, and staffing of the Company's internal audit function.

LEGAL COMPLIANCE/GENERAL

14. Review periodically, with the Company's counsel, any legal matter that could have a significant impact on the Company's financial statements.

15. Discuss with management and the independent auditors the Company's guidelines and policies with respect to risk assessment and risk management. The Committee should discuss the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.

16. Set clear hiring policies for employees or former employees of the independent auditors. At a minimum, these policies should provide that any public accounting firm may not provide audit services to the Company if the chief executive officer, controller, chief financial officer, chief accounting officer, or any person serving in an equivalent position for the Company was employed by the public accounting firm and participated in any capacity in the audit of the Company within one year of the initiation of the current audit.

17. Establish procedures for (a) the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and (b) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

18. Review all related party transactions for potential conflict of interest situations on an ongoing basis. All such transactions must be approved by the Committee.

19. Prepare all reports required to be included in the Company's proxy statement, pursuant to and in accordance with applicable rules and regulations of the SEC.

20. Report regularly to the full Board of Directors. In this regard, the Committee should review with the full board any issues that arise with respect to the quality or integrity of the Company's financial statements, the Company's compliance with legal or regulatory requirements, and the performance and independence of the Company's independent auditors.

21. The Committee shall provide such recommendations, as the Committee may deem appropriate. The report to the Board of Directors may take the form of an oral report by the Chairman or any other member of the Committee designated by the Committee to make such report.

22. Review and assess the adequacy of this Charter annually and recommend to the Board and amendments or modifications to the Charter that the Committee deems appropriate.

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23. Maintain minutes or other records of meetings and activities of the Committee.

LIMITATION OF AUDIT COMMITTEE'S ROLE

With respect to the foregoing responsibilities and processes, the Committee recognizes that the Company's financial management, as well as the independent auditors has more time, knowledge, and detailed information regarding the Company than do Committee members. Consequently, in discharging its oversight responsibilities, the Committee will not provide or be deemed to provide any expertise or special assurance as to the Company's financial statements or any professional certification as to the independent auditors' work.

While the Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements and disclosures are complete and accurate and are in accordance with generally accepted accounting principles and applicable rules and regulations. These are the responsibilities of management and the independent auditors. It also is not the duty of the Committee to conduct investigations or to assure compliance with laws and regulations and the Company's internal policies and procedures.

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SPIRE CORPORATION

PROXY FOR SPECIAL MEETING IN LIEU OF 2008 ANNUAL MEETING OF STOCKHOLDERS

MAY 22 2008

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS.

The undersigned hereby appoints Roger G. Little and Michael W. O'Dougherty, and either one of them, proxies of the undersigned, with power of substitution, to act for and to vote all shares of Spire Corporation common stock owned by the undersigned, upon the matters set forth in the Notice of Meeting and related Proxy Statement at the Special Meeting in Lieu of 2008 Annual Meeting of Stockholders of Spire Corporation, to be held at Spire Corporation, One Patriots Park, Bedford, Massachusetts at 10:00 a.m. on Thursday, May 22, 2008, and any adjournments thereof. The proxies, and either one of them, are further authorized to vote, in their discretion, upon such other business as may properly come before the Meeting, or adjournments thereof.

(CONTINUED AND TO BE SIGNED ON REVERSE SIDE.)

YOUR SHARES WILL BE VOTED FOR THE FOLLOWING PROPOSAL UNLESS OTHERWISE INDICATED. PLEASE SIGN, DATE AND RETURN PROMPTLY IN THE ENCLOSED ENVELOPE. PLEASE MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE: [X]

1. ELECTION OF DIRECTORS. To fix the number of directors at eight and to elect seven directors, leaving one vacancy, to serve for one year:

- [] FOR ALL NOMINEES
[] WITHHOLD AUTHORITY FOR ALL NOMINEES
[] FOR ALL EXCEPT (See instruction below)

NOMINEES:
O Udo Henseler

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- David R. Lipinski
- Mark C. Little
- Roger G. Little
- Michael J. Magliochetti
- Guy L. Mayer
- Roger W. Redmond

INSTRUCTION: To withhold authority to vote for any individual nominee(s), mark "FOR ALL EXCEPT" and fill in the circle next to each nominee you wish to withhold, as shown here:

To change the address on your account, please check the box at right and indicate your new address in the address space above. Please note that changes to the registered name(s) on the account may not be submitted via this method.
|_ |

Signature of Stockholder _____ Date _____

Signature of Stockholder _____ Date _____

NOTE: Please sign exactly as your name or names appear on this Proxy. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney, trustee or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. If signer is a partnership, please sign name by authorized person.