

LACLEDE GAS COMPANY
720 OLIVE STREET
ST. LOUIS, MISSOURI 63101

AREA CODE 314
342-0532

MICHAEL C. PENDERGAST
ASSOCIATE GENERAL COUNSEL

October 5, 1999

FILED³

OCT 06 1999

Missouri Public
Service Commission

VIA FEDERAL EXPRESS

Mr. Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge
Missouri Public Service Commission
Harry S Truman Building
301 W. High Street
Jefferson City, MO 65101

RE: Case No. GO-99-155

Dear Mr. Roberts:

Enclosed for filing, please find an original and fourteen copies of the Response of Laclede Gas Company to Staff Memorandum and Proposals in the above referenced case. Please see that this filing is brought to the attention of the appropriate Commission personnel.

Please file-stamp the additional copy of this pleading and return the same in the pre-addressed, stamped envelope provided.

Thank you for your consideration in this matter.

Sincerely,



Michael C. Pendergast

MCP:jaa

cc: All parties of record

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

FILED³

OCT 06 1999

In the matter of Laclede Gas Company regarding)
the adequacy of Laclede's service line replacement)
program and leak survey procedures.)

Missouri Public
Service Commission
Case No. GO-99-155

**RESPONSE OF LACLEDE GAS COMPANY
TO STAFF MEMORANDUM AND PROPOSALS**

Comes Now Laclede Gas Company ("Laclede" or "Company") and for its Response to the Memorandum and Proposals ("Memorandum") filed by the Staff of the Missouri Public Service Commission ("Staff") in the above captioned case, states as follows:

BACKGROUND

1. On August 31, 1999, the Staff filed its Memorandum in the above captioned case in which it discusses Laclede's ongoing efforts to enhance the effectiveness of the Company's safety procedures and programs relating to direct-buried copper service lines and leak survey techniques. As part of its Memorandum, the Staff also presents its proposals for future action in these areas. Specifically, at pages 9 to 10 of its Memorandum, the Staff proposes that Laclede be required to implement a comprehensive direct-buried copper service line replacement program comprised of ten specific items which the Staff identifies in its Memorandum as being essential to such a program.

INITIATIVES ALREADY TAKEN

2. As shown on Attachment 1 to this Response, Laclede is in full agreement with the vast majority of the items that Staff has recommended for inclusion in its proposed replacement program. Indeed, as Staff acknowledges in its Memorandum, Laclede has already implemented many of these items, either on its own initiative or

as a result of previous discussions with the Staff. Many of them were also included as part of the revised copper service plan that the Company presented to Staff on July 22, 1999. (The Company's July 22, 1999 proposal is discussed at length by the Staff at pages 4 and 5 of its Memorandum. For the Commission's convenience, the executive summary of the proposal which was presented to Staff on July 22, 1999, as well as a copy of the correspondence which was sent to Staff in advance of that meeting, have been provided in Attachment 2 to this Response. At the Commission's request, the Company will also furnish any of the details underlying these submissions that the Commission may desire).

3. Notably, many of the items previously implemented or agreed upon by the Company and Staff go well beyond what would otherwise be required of Laclede under the Commission's Gas Safety Rules or the Ringer Road Settlement approved by the Commission in 1991. For example, consistent with Staff Item No. 1, Laclede has for nearly a year now been completely replacing leaking copper service lines from main to meter, regardless of where the leak on the service line may be located. Moreover, Laclede has been doing so even though complete (as opposed to partial) replacements of such lines are not required by either the Commission's Gas Safety Rules or the 1991 Ringer Road Settlement. As recommended by Staff in Item No. 2 (and as previously proposed by the Company), Laclede is also in the process of replacing by January 1, 2000, the copper service lines in Pressure Region 1 which were previously identified as having Class 3 leaks. Once again, Laclede is doing so even though there is nothing in the Commission's Safety Rules or the Ringer Road Settlement that would require such accelerated replacement. (Under the Commission's Gas Safety Rules, a Class 3 leak is defined as a leak that "does not

constitute a hazard to property or to the general public..." 4 CSR 240-030(14)(C) .3

While such a leak must be rechecked twice a year, the utility has five years to repair the leak or replace the facility on which it is located. *Id.*). Laclede's prior proposal and commitment to replace all currently leaking copper services in Pressure Region 2 by January 1, 2001 (as recommended by Staff in Item No. 4) and its recent performance of bar hole surveys on copper service lines (as referenced in Staff Item Nos. 3 and 6) are also measures that go well beyond existing safety requirements.

4. As a result of the Company's and Staff's emphasis on replacing leaking copper service lines on a much faster basis than that required by either the Commission's Gas Safety Rules or the Ringer Road Settlement, Laclede has already replaced substantially more leaking copper services in the past year alone than it would have over the entire term of the Ringer Road Settlement had the Company simply complied with the replacement criteria previously developed and applied under that Settlement nearly nine years ago. Indeed, Laclede estimates that by the end of the ten year replacement period contemplated by the Ringer Road Settlement for certain copper service lines, the Company will have replaced under its revised program at least six times more leaking copper services than it would have under the previously applied criteria. In Laclede's view, this accomplishment, as well as the other initiatives outlined above, are emblematic of the Company's and Staff's prior efforts to formulate an effective program for monitoring and replacing copper services in a prioritized manner that both protects and enhances public safety. In that same spirit, Laclede is also prepared, as discussed below, to move forward on the remaining items proposed by Staff, subject only to a few modifications and/or

clarifications that the Company believes are necessary to ensure the most effective copper service program possible.

RESPONSE TO STAFF'S NEAR TERM RECOMMENDATIONS

5. With regard to those items that Staff has proposed be completed in the near term (i.e., by January 1, 2001), Laclede agrees with Staff's recommendation in Item No. 3 that the Company conduct a second bar hole survey over its direct-buried copper service lines in Pressure Region 1 in the year 2000 in lieu of the annual SSI survey that would otherwise be conducted over such lines. Rather than perform the more invasive bar hole survey only in Pressure Region 1, however, the Company believes it would be most effective to again conduct such a survey on all of its direct-buried copper service lines during 2000. This system-wide bar hole survey would be conducted in lieu of the annual SSI leak survey and would be completed no later than July 1, 2000. Since it has been shown that bar hole surveys, at least in the case of direct-buried copper service lines, are substantially more effective in identifying even minutely leaking service lines (i.e., when compared to the SSI surveys previously used pursuant to the Ringer Road Settlement), Laclede believes that this substitution of leak survey procedures in the year 2000 will clearly enhance public safety. Moreover, such a substitution will also permit an identical and thorough comparison of how the leak experience on Laclede's direct-buried copper service lines has changed from 1999 to 2000.

6. Laclede also agrees with Staff's recommendation in Item No. 3 that the Company replace, by January 1, 2001, all copper service lines with Class 3 leaks that are identified as a result of the year 2000 bar hole survey, provided that such service lines are located in Pressure Region 1. Based on previous discussions with the Staff,

Laclede believes that this focus on Pressure Region 1 (for purposes of determining which of the leaking service lines identified as a result of the year 2000 bar hole survey must be replaced by the end of that year) is consistent with what Staff intended in making the recommendations set forth in Item No. 3 of its Memorandum.

RESPONSE TO STAFF'S LONGER TERM RECOMMENDATIONS

7. Laclede is also in substantial agreement with most of the long-term items addressed by Staff in its Memorandum (i.e., those items that are proposed to be commenced or completed on or after January 1, 2001). First, Laclede agrees with Staff's recommendation in Item No. 5 that, beginning January 1, 2001, the Company conduct an enhanced bar hole survey over all copper service lines, unless a superior method is identified. In evaluating such methods, Laclede would again note that it will complete its second bar hole survey by July 1, 2000. Laclede believes that all available data from this survey, as well as the recommendations submitted by Laclede and Staff based on their own analyses, should be carefully evaluated for the purpose of assessing and directing future copper survey methods in the most optimal manner.

8. Second, Laclede intends to comply fully with its obligations under the Ringer Road Settlement, as recommended by Staff in Item No. 6, unless or until such time as those obligations are modified by the Commission. In fact, for the reasons previously discussed, Laclede anticipates that by March 15, 2001, the number of leaking copper services actually replaced by the Company will exceed, by sixfold or more, the number of leaking services that would have otherwise been replaced under the previously applied Ringer Road replacement criteria. Moreover, such replacements will be completed on a main to meter basis, rather than on the partial, segmented basis contemplated by the Ringer Road Settlement. Laclede would note,

however, that the significant additional resources required to replace leaking service lines under the new prioritization approach agreed upon by the Company and Staff, as well as unexpected weather conditions or leak-related replacement requirements, could require a modest four month extension of the ten year replacement program established under the Ringer Road Settlement. In the event that occurs, Laclede will notify the Commission for its consideration of the need for such an extension by July 1, 2000.

9. Finally, with regard to Item No. 7 of Staff's Memorandum relating to a ten year replacement program for direct-buried copper service lines beginning in 2001, Laclede agrees that it will acquire, or make arrangements to have in place, the resources necessary to commence a replacement program of this magnitude, should the Commission ultimately determine that such a program is necessary and appropriate. Moreover, Laclede commits to acquiring such resources, or making arrangements to have them in place, in order to permit such a program to be commenced by January 1, 2001 or, if later, within six months of the date the Commission directs Laclede to commence such a program.

10. In return for this commitment, the Company simply requests that the Commission have the benefit of considering the results of the second bar hole survey that the Company has proposed to complete by July 1, 2000, as well as any additional information developed through the evaluations of those results and other data by the Company, Staff and any outside experts, before it makes a final determination of whether an annual blanket replacement rate of 10%, or some other amount, is most appropriate. Laclede strongly believes that such an approach will provide the Company, the Staff and the Commission with an opportunity to compare, for the first

time, the results of these more intensive copper service surveys and to assess how such results have changed from one year to the next. It will also afford Laclede an opportunity to present to both the Staff and the Commission any additional engineering analyses performed by the Company or its outside experts regarding the significance of these survey results and other factors that may affect the design of any future copper service line program. All of this information may shed valuable light on how, and at what rate, such service lines should be monitored and replaced in the future. At the same time, however, such an approach will not hinder or cause any material delay in the Commission's ability to adopt Staff's recommended replacement program in the event the additional information provided to the Commission as a result of these efforts ultimately justifies such a program.

RECOMMENDED SCHEDULE

11. With these few modifications and/or clarifications, Laclede believes that the proposals submitted by Staff in its August 31, 1999 Memorandum are generally workable and consistent with what is required to protect and enhance public safety. To ensure that the parties' important efforts in this regard remain on track, however, Laclede recommends that the Commission issue an Order establishing specific milestone dates for the commencement or completion of the critical components of the parties' recommendations. Specifically, Laclede recommends that the Commission issue an Order:

(a) directing Laclede to file, on or before December 31, 1999, a report showing that the Company has successfully completed the replacement of all direct-buried copper services located in Pressure Region 1 that were identified as having Class 3 leaks as a result of the Company's 1999 bar hole survey;

(b) directing Laclede to file, on or before July 1, an initial report showing that the Company has successfully completed the year 2000 bar hole survey of all direct-buried copper service lines on the Company's system and advising the Commission whether it will request a four month extension to complete the ten year replacement program established by the Ringer Road Settlement for certain copper service lines;

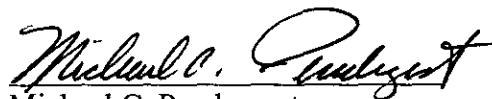
(c) directing the Company and Staff to submit (either individually or jointly) a final report and recommendations by August 1, 2000, detailing: (i) the results of the Company's year 2000 bar hole survey of direct-buried copper service lines; (ii) the results of any other analyses performed by the Company, Staff or any outside experts they have engaged relating to the monitoring and replacement of such lines; (iii) each of the parties' specific recommendations, if any, on what revisions should be made in light of this new information to the comprehensive copper service replacement program which Staff has proposed be implemented in the year 2001; (iv) any other recommendations that the parties believe are appropriate or necessary to the proper implementations of such a program; and (v) recommendations for an expedited procedural schedule, if required, to resolve any remaining differences between the parties;

(d) directing the Company to file, on or before January 1, 2001, a report showing that the Company has successfully completed the replacement of: (i) all direct-buried copper service lines located in Pressure Region 2 that were identified as having Class 3 leaks as a result of the Company's 1999 bar hole survey; and (ii) all direct-buried copper service lines located in Pressure Region 1 that were identified as having Class 3 leaks as a result of the Company's 2000 bar hole survey;

(e) directing the Company to acquire, or make the necessary arrangements to have in place, the resources required to commence a replacement program by January 1, 2001, or, if later, within six months of the date the Commission directs Laclede to commence any future copper service replacement program, in the event the Commission determines that such a program is appropriate.

WHEREFORE, for the foregoing reasons, Laclede Gas Company respectfully requests that the Commission issue its Order adopting the recommendations set forth herein.

Respectfully Submitted,

A handwritten signature in cursive script, reading "Michael C. Pendergast".

Michael C. Pendergast
Associate General Counsel
Laclede Gas Company
720 Olive Street, Room 1520
St. Louis, MO. 63101
(314) 342-0532
Missouri Bar No. 31763

ATTACHMENT 1

Attachment 1

Staff Recommendations and Laclede Responses

1. Excluding emergency repairs, all underground leaks attributed to corrosion on direct-buried copper service lines should be replaced main-to-meter, regardless of the underground leak's location on the service line.

Response:

Laclede implemented main-to-meter replacements beginning in the fall of 1998.

2. Replace, main-to-meter, the 700 plus currently leaking copper service lines in Pressure Region 1 by January 1, 2000.

Response:

As of July 23, 1999, Laclede has implemented the replacement of leaking services in Pressure Region 1 found during the 1999 bar hole survey. As of September 30, 1999, 412 have been completely replaced.

3. Conduct a bar hole leak survey, incorporating a bar hole over the service tee connection, over all direct-buried copper service lines in Pressure Region 1 during Spring 2000. All Class 3 leaks found during this leak survey will be replaced prior to January 1, 2001.

Response:

Laclede strongly believes that a comprehensive bar hole leak survey identical to the one performed in 1999 should be conducted during the same time period commencing in spring 2000 in order to accurately assess the overall condition of all existing direct-buried copper service lines. Comparison of this survey to the previous year's survey is critical to the analyses and assessment of any material change in the condition of the copper service lines. In addition, Laclede is committed to replacing any leaking services in Pressure Region 1 discovered during the 2000 survey prior to January 1, 2001.

4. All other currently leaking copper service lines in Pressure Region 2 must be replaced by January 1, 2001.

Response:

Laclede will begin replacements of leaking services in Pressure Region 2 found during the 1999 bar hole survey as soon as the Pressure Region 1 replacements are completed.

5. Continue to leak survey annually all direct-buried copper service lines, incorporating a bar hole over the service tee connection. A bar hole over the service tee connection should be implemented unless other leak survey practices are determined to better enhance the leak survey.

Response:

As stated above, Laclede will complete its bar hole leak survey in 2000. The Company believes that all available data should be evaluated to fully focus and direct future copper service survey methods. Unless a superior survey method is identified, Laclede will implement the proposed enhanced bar hole leak survey incorporating a bar hole over the service tee connection beginning in calendar 2001.

6. Implement a replacement rate of direct-buried copper service lines that replace approximately 5,900 total by March 15, 2001, as identified as satisfying the Ringer Road Settlement.

Response:

Laclede intends to fully comply with its obligations under the Ringer Road Settlement, unless or until modified by the Commission. Laclede would note, however, that the additional resources required to replace leaking services under the new prioritization approach agreed upon by Staff and Company, as well as an anticipated weather conditions or leak-related replacement requirements, could require a modest four month extension of the ten year replacement program established under the Ringer Road Settlement. In such event, Laclede will notify the Commission of the need for such an extension by July 1, 2000.

7. Implement a comprehensive replacement program, comprised of all direct-buried copper service lines, at a replacement rate of 10% annually. The 10% annual rate will be based upon the remaining direct-buried copper service lines in operation as of January 1, 2001.

Response:

Laclede agrees to acquire, or make arrangements to have in place, the resources necessary to commence, if required by the Commission, a

comprehensive replacement program for direct-buried copper service lines beginning January 1, 2001 or, if later, within six months of the date the Commission directs Laclede to commence such a program. Before the Commission makes a final determination in this regard, however, Laclede strongly believes that the Commission should require, and have the benefit of, certain additional information. Specifically, Laclede recommends that the Company and Staff be directed to submit a report and recommendations to the Commission by August 1, 2000 detailing: (a) the results of the Company's year 2000 bar hole survey of all direct-buried copper service lines; (b) the results of any other analyses performed by the Company, Staff or any other outside experts they have engaged relating to the monitoring and replacement of copper services; (c) each of the parties' specific recommendations, if any, on what revisions should be made in light of this new information to the copper service replacement program which Staff has proposed be implemented; (d) any other recommendations that the parties' believe are appropriate or necessary to the proper implementation of such a program; and (e) recommendations for an expedited schedule, if necessary, to resolve any remaining differences between the parties.

8. Through data gathering and engineering analysis continue to develop a method for defining active corrosion on direct-buried copper service lines. Based upon this information, prioritize the replacement of direct-buried copper service lines.

Response:

Laclede has implemented a program of gathering and analyzing field data to attempt to develop a means of identifying active corrosion. Laclede is in the process of finalizing arrangements to acquire the services of a nationally recognized corrosion company to assist in its evaluation and determination of the Company's future copper service program.

9. Submit annual status reports to the Commission pertaining to the replacements of direct-buried copper service lines.

Response:

Laclede will submit such status reports on an annual basis as well as on the dates specifically indicated herein.

10. Reserve the right to submit a reevaluation of the 10% annual replacement program after five years of completing replacements at the initial 10% annual rate.

Response:

Laclede agrees that any copper service program that may be ordered by the Commission should be subject to reevaluation on a periodic basis. The exact timeframe for such an evaluation, however, should be decided at the time the Commission makes a final determination on the scope and nature of such a program.

ATTACHMENT 2

**AGENDA FOR MEETING WITH MISSOURI PUBLIC SERVICE COMMISSION GAS
SAFETY STAFF ON LACLEDE GAS COMPANY'S DIRECT BURIED COPPER
SERVICE REPLACEMENT AND MAINTENANCE PROGRAM**

I. Review of Recent Actions related to the current Copper Service Replacement Program (Ringer Road).

- Since 1998 Laclede has directed its efforts toward replacing direct buried copper service lines in perceived areas of active corrosion utilizing a blanket replacement program. The following outline and support data details Laclede's efforts up through the present.

A. Actions Taken in Calendar 1998.

- S.A.I.D. procedural enhancements: (See Exhibit A)
 1. Leak investigation procedure modified to stress the importance of leak checks in sanitary sewers during leak investigations.
 2. Leak investigation procedure modified to include asking customers reporting outside leak odors whether the odor of natural gas has been detected inside.
- Systematic Service Inspection (SSI) enhancements: (See Exhibit B)
 1. Addition of main and tee locations to inspection forms to allow for a more accurate leak survey.
 2. Print the words "Annual Copper" on the inspection form for all direct buried copper service lines to ensure a complete leak survey over the entire length of the service. This change was made to guarantee that all long-sided copper service lines are surveyed over their entire length including the portion under the road surface.
- All personnel have been equipped with cellular telephones allowing for the immediate logging of all leaks discovered in the field into the Leak Control System.

B. Actions Taken in Calendar 1999 to date. (See Exhibit C)

- S.A.I.D. procedural enhancement: Barholes at the service tee and riser are made during visits to all premises that have a direct buried copper service line regardless of the last survey or S.A.I.D. visit. (See Exhibit D)
- The Leak Control System has been modified to allow for the identification of all leaking direct buried copper service lines. (See Exhibit E)
- A thorough service record review was conducted to identify all existing direct buried copper service lines on Laclede's distribution system.
- Barhole Survey Results and Analysis: A comprehensive leak survey was conducted on over 85,000 direct buried copper services from March 24, 1999 through July 15, 1999. Bar holes were made at all service tee and riser locations. Additionally, for long-sided direct buried copper service lines, a third bar hole was made at the curb on the side of the street opposite the tee. (See Exhibit F)
- Existing Copper Service Replacement Program (Ringer Road) Status Report. (See Exhibit G)
- Direct Buried Copper Service Line Leak Summary (Replacement rate of leaking direct buried copper service lines). (See Exhibit H)

- Analysis of Copper Condition Reports prepared in the field by Construction & Maintenance crews.
 1. Identify services reported with moderate to deep pitting.
 2. Identify leaks resulting from copper corrosion compared to leaks on fittings at the tee location.
 3. Conduct an engineering analysis to help determine the cause and effects of corrosion on direct buried copper service lines.

C. Summary of Resources Dedicated to the Copper Service Replacement and Maintenance Program.

- Additional engineers have been added to Maintenance Engineering to support the Copper Service Replacement and Maintenance Program.
- October 1998: Approximately 35 Construction & Maintenance employees were dedicated to full, main-to-meter, copper service replacements.
- March 1999: Twenty-five SAID contract employees and one management supervisor were assigned to the Construction & Maintenance Department to supplement the manpower required by the Copper Service Replacement and Maintenance Program.
- March 24, 1999: An additional 31 SAID employees were assigned to complete a comprehensive leak survey including barholes at every tee location on over 85,000 direct buried copper service lines.
- April 1999: An additional 6 employees from Gas Supply & Control were assigned to Construction & Maintenance to further supplement the Copper Service Replacement and Maintenance Program.
- April 1999 through July 1999: Construction & Maintenance increased the manpower dedicated to the Copper Service Replacement and Maintenance Program to approximately 40 contract employees and 4 supervisors.
- July 1999: Thirty-one additional employees are being hired into the Construction & Maintenance Department to replace the SAID and Gas Supply & Control employees who are scheduled to return to their respective departments on October 1, 1999. Twenty of the thirty-one are scheduled to begin work prior to August 1, 1999.
- July 1999: Construction & Maintenance is in the process of establishing and equipping mobile crews dedicated to main-to-meter replacements of leaking direct buried copper service lines.
- Seasonal transfers into Construction & Maintenance will continue in future years in order to optimize availability of manpower dedicated to the Copper Service Replacement and Maintenance Program.

D. Results of Expanded Efforts relating to the Copper Service Replacement and Maintenance Program.

- Between February 1, 1998 and April 1, 1999, 2,665 direct buried copper services have been replaced from main-to-meter.
- Between March 24, 1999 and July 15, 1999, approximately 85,000 direct buried copper services were surveyed by placing barholes at the tee locations. Based on the survey results, .06% or 52 were Class 1 leaks which have been repaired or replaced, .35% or 294 were Class 2 leaks which, likewise, have been repaired or replaced, and, 3.30% or 2,799 were identified as Class 3 leaks.

- Since April 1, 1999, an additional 1,100 direct buried copper services have been replaced from main-to-meter. ONLY 142 OR LESS THAN 13% OF THESE WERE LEAKING SERVICES. This low percentage of leaking services replaced is the result of the current blanket replacement program.

II. Action Plan related to the Revised Copper Service Replacement and Maintenance Program.

- The Revised Copper Service Replacement and Maintenance Program will focus on aggressively replacing leaking direct buried copper service lines from main-to-meter. This effort will not only be more cost effective since only those services that are actually leaking will be replaced, but will also allow for increased public safety due to the more expedient elimination of those leaking services. The following outline details the Engineering and Construction & Maintenance efforts within the Revised Copper Service Replacement and Maintenance Program.
- A. Defining "Pressure Regions" within Laclede's Distribution System. (See Exhibit I)**
- Replacement priority based on distribution pressure gradients serves to identify areas of potential gas migration. This does NOT specifically identify areas where corrosion is most likely to occur.
 - Specifics and similarities of all six incidents. (See Exhibit J)
 - Maps identifying Pressure Regions including locations of all six incidents involving direct buried copper service lines. (See Exhibit K)
 - Distribution system studies defining the various Pressure Regions. (See Exhibit L)
 - Total services and existing leaks within the Pressure Regions. (See Exhibit M)
- B. Engineering Analysis. (See Exhibit N)**
- Continued analysis of Copper Condition Reports prepared in the field by Construction & Maintenance crews.
 - Detailed investigation and analysis of various copper services throughout the distribution system.
 1. Metallurgical analysis of selected copper service lines. (See Exhibit O)
 2. Survey for possible galvanic corrosion. (See Exhibit P)
 3. Soil analysis. (See Exhibit Q)
 4. Gas Industry Survey.
 - Discussions with various municipalities on salting practices. (See Exhibit R)
 - Development and testing of enhanced SSI. (See Exhibit S)
 1. Newly designed Barhole Tool.
 2. Proposed testing of enhanced SSI methods.
 - Develop an effective profile to attempt to identify direct buried copper services undergoing active corrosion.
- C. Laclede Gas Company Revised Copper Service Replacement and Maintenance Program (See Attached).**

LACLEDE GAS COMPANY REVISED COPPER SERVICE REPLACEMENT AND MAINTENANCE PROGRAM.

1. Proposed Schedule of Actions.

- Replace, main-to-meter, the 720 currently leaking copper service lines in Pressure Region 1 by January 1, 2000.
- All Class 3 leaks on direct buried copper services in Pressure Region 1 on record as of November 1, 1999, and all Class 3 leaks on direct buried copper services found in Pressure Region 1 from November 1, 1999 through March 1, 2000 will be reinspected every 30 days through March 31, 2000.
- All Class 3 leaking direct buried copper service lines remaining from the 1999 Barhole Survey will be replaced prior to January 1, 2001.
- An enhanced SSI survey, incorporating a modified barhole over the tee connection, will be performed on all direct buried copper service lines in Pressure Region 1 during March, April, and May of 2000. All other direct buried copper service lines will continue to be surveyed annually with an enhanced SSI incorporating a modified barhole over the tee connection.
- All Class 3 leaking direct buried copper service lines found in Pressure Region 1 during the 2000 Barhole Survey will be replaced prior to January 1, 2001.
- Continue to develop a method for defining active corrosion on direct buried copper service lines in order to eliminate unnecessary replacements.
- The highest priority for future replacements will be in Pressure Region 1.
- Meet with Staff in October 1999 and early March 2000 to review status of leaks found and services replaced.
- During the remaining months of calendar year 1999 and through 2000, Staff will be provided monthly updates on the progress of the overall Copper Service Replacement and Maintenance Program.
- Meet with Staff in July 2000 when the enhanced SSI's are complete for Pressure Region 1 and when results of the Company's study of copper corrosion are complete allowing further modifications of this program as necessary.

2. Modifications to Other Current Programs.

- Reduce the requirement of the bare steel replacement program from 1150 per year to 500 per year through December 31, 2001.
- Discontinue performing the remaining SSIs on direct buried copper service lines through December 31, 1999 due to the completion of the comprehensive barhole survey conducted from March 24, 1999 through July 15, 1999.
- By focusing on the replacement of leaking copper service lines, relief from completing the remaining 5,931 blanket replacements by March 15, 2001 is essential. In contrast, the Revised Copper Service Replacement and Maintenance Program will replace at least 3500 leaking direct buried copper services plus all additional leaking direct buried copper services found in the future within the Pressure Regions on a prioritized basis. Replacements of non-leaking services will be suspended pending further data gathering and engineering analysis.

LACLEDE GAS COMPANY
3950 FOREST PARK AVENUE
ST. LOUIS, MISSOURI 63108

CRAIG R. HOEFERLIN
SUPERINTENDENT OF OPERATIONS
(314) 658-6407

July 15, 1999

Mr. Robert R. Leonberger
Assistant Manager - Gas Safety
Missouri Public Service Commission
Post Office Box 360
Jefferson City, MO 65102

Re: Bar Hole Survey Results

Dear Mr. Leonberger:

As you are aware, Laclede Gas Company recently provided Staff with preliminary results of the special bar hole survey of all of its direct buried copper service lines which it conducted over the past several months. Based on the survey results of over 85,000 services, only .06%, or 52 were Class 1 leaks, which have been repaired or replaced, and .35%, or 294 were Class 2 leaks which, likewise, have been repaired or replaced. Finally, only 3.30%, or 2,799 Class 3 leaks were found, and to date, 217 of the Class 3 leaks have been renewed, although current regulations would permit up to five years to repair, assuming they did not progress. An updated summary of results is attached indicating 99.5% completion, based on field counts. Total inspections are currently being cross-matched with the database to ensure full completion of the survey. The Company will provide the final results to you as soon as practical, but believes the attached summary is representative of the final findings.

The overall purpose of the special bar hole survey was to provide Laclede with current and comprehensive, empirical information as to the status of its direct buried copper service system. Bar holes were made at all service tee and riser locations. Additionally, for long-sided direct buried copper service lines, a third bar hole was made at the curb on the side of the street opposite the tee. The results of this survey are being used to develop a supportable program to efficiently and expeditiously upgrade the Company's copper service system. To that end, the survey results are being used to provide the basis:

- For determining a comprehensive approach to the monitoring, maintenance and replacement of direct buried copper service lines that is most likely to promote public safety without incurring significant, unwarranted and unnecessary costs;
- To appropriately identify those specific areas that require prioritized action;
- To define the areas where extended renewal efforts should be undertaken;
- To demonstrate that a blanket renewal effort is unnecessary at this point.

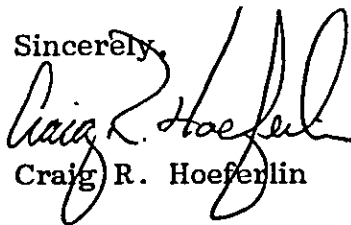
Mr. Robert R. Leonberger

Page 2

July 15, 1999

At our meeting scheduled for July 22 at 9:30 with Staff, we will discuss in detail Laclede's current copper service line replacement and leak survey programs as well as our comprehensive plan for future activities in this area. In the meantime, if you have any questions or require additional information, please call me at (314) 658-5407 or Mr. Mark D. Lauber at (314) 658-5413.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig R. Hoeflerlin". The signature is fluid and cursive, with a large loop at the end.

Craig R. Hoeflerlin

CRH/lf

Attachment

cc: R. L. Russell
J. G. Smith
M. D. Lauber
B. O. McReynolds
J. A. Vaughn

Copper Service Barhole Survey
Results through 7/15/99

All Surveys																					
Survey Date	Grid	# of men	Total Surveyed	Average Per/Man	Average Per/Hr	Leaks found at Tee				Leaks Found at Curb				Leaks at Riser			Total Leaks Found				
						Class 1	Class 2	Class 3	Total	Class 1	Class 2	Class 3	Total	Class 1	Class 2	Total	Class 1	Class 2	Class 3	Total	
3/24-3/26	Total	31	1113	35.9	6.1	2	0	54	56	0	0	11	11	0	2	2	2	2	65	69	2.2%
3/29 - 4/2	Total	60	2232	37.2	5.9	1	1	94	96	0	0	15	15	0	15	15	1	16	109	126	5.6%
4/5 - 4/9	Total	154	6169	40.1	6.9	3	2	298	303	0	1	42	43	1	44	45	4	47	340	391	6.3%
4/12 - 4/16	Total	175	6942	39.7	6.6	4	4	217	225	1	3	41	45	5	33	38	10	40	258	308	4.4%
4/19 - 4/23	Total	168	6610	39.3	6.4	1	6	225	232	2	2	42	46	2	27	29	5	36	267	308	4.7%
4/26 - 4/30	Total	171	7312	42.8	6.9	5	3	223	231	1	0	21	22	1	21	22	7	28	244	279	3.8%
5/3 - 5/7	Total	170	7636	44.9	7.3	3	2	256	261	1	0	22	23	2	25	27	6	27	278	311	4.1%
5/10 - 5/14	Total	171	7644	44.7	7.2	2	1	253	256	0	2	29	31	0	15	15	2	18	282	302	4.0%
5/17 - 5/21	Total	150	6054	40.4	6.6	4	0	200	204	1	3	33	37	1	16	17	6	19	233	258	4.3%
5/24 - 5/28	Total	154	6586	42.8	7.1	1	3	220	224	2	2	33	37	2	13	15	5	18	253	276	4.2%
6/1 - 6/4	Total	142	6188	43.6	7.3	0	0	105	105	0	1	19	20	0	12	12	0	13	124	137	2.2%
6/7 - 6/11	Total	182	7928	43.6	7.3	1	2	126	129	0	0	22	22	0	10	10	1	12	148	161	2.0%
6/14 - 6/18	Total	175	7673	43.8	7.2	0	2	131	133	0	1	10	11	2	11	13	2	14	141	157	2.0%
6/21 - 6/25	Total	81	2743	33.9	5.6	0	0	36	36	0	1	8	9	1	1	2	1	2	44	47	1.7%
7/9 - 7/15	Total	51	1956	38.0	6.0	0	0	11	11	0	0	2	2	0	2	2	0	2	13	15	0.8%
Overall	Total	2035	84786	41.7	6.9	27	26	2449	2502	8	16	350	374	17	247	264	52	294	2799	3145	3.7%

Barhole Survey is: 99.5% Complete

Copper Service Parhole Survey
Results through 7/15/99

South District Surveys

Survey Date	Grid	# of men	Total Surveyed	Average Per/Man	Average Per/Hr	Leaks found at Tee				Leaks Found at Curb				Leaks at Riser			Total Leaks Found				
						Class 1	Class 2	Class 3	Total	Class 1	Class 2	Class 3	Total	Class 1	Class 2	Total	Class 1	Class 2	Class 3	Total	
3/24 - 3/26	185	13	457	35.2	5.9	1	0	12	13	0	0	1	1	0	1	1	1	1	13	15	3.3%
3/29 - 4/2	185	24	910	37.9	6.4	0	1	24	25	0	0	2	2	0	8	8	0	9	26	35	3.8%
4/5 - 4/9	185	56	2202	39.3	6.8	0	0	52	52	0	0	5	5	0	10	10	0	10	57	67	3.0%
4/12 - 4/16	165	57	1913	33.6	5.7	1	2	31	34	0	0	9	9	1	5	6	2	7	40	49	2.6%
4/19 - 4/23	165	60	2108	35.1	5.8	0	2	61	63	1	0	4	5	1	7	8	2	9	65	76	3.6%
4/26 - 4/30	144,133	60	2425	40.4	6.5	1	0	49	50	0	0	10	10	1	8	9	2	8	59	69	2.8%
5/3 - 5/7	133	60	2541	42.4	6.8	2	0	73	75	0	0	6	6	0	7	7	2	7	79	88	3.5%
5/10 - 5/14	133,134	60	2434	40.6	6.4	1	1	43	45	0	1	7	8	0	5	5	1	7	50	58	2.5%
5/17 - 5/21	154,153,146	60	2222	37.0	6.0	2	0	45	47	0	2	6	8	0	6	6	2	8	51	61	2.7%
5/24 - 5/28	154,155	48	1881	39.2	6.3	0	2	27	29	2	0	3	5	1	3	4	3	5	30	38	2.0%
6/1 - 6/4	155,156	48	1828	38.1	6.2	0	0	23	23	0	0	5	5	0	1	1	0	1	28	29	1.6%
6/7 - 6/11	174,175	60	2325	38.8	6.3	0	0	25	25	0	0	4	4	0	0	0	0	0	29	29	1.2%
6/14 - 6/18	174,175,164	59	2377	40.3	6.6	0	0	16	16	0	0	4	4	1	4	5	1	4	20	25	1.1%
6/21 - 6/25	185,195	49	1721	35.1	5.7	0	0	21	21	0	0	2	2	1	1	2	1	1	23	25	1.5%
7/9 - 7/15	DONE	51	1956	38.0	6.0	0	0	11	11	0	0	2	2	0	2	2	0	2	13	15	0.9%
Overall	Total	765	29300	38.3	6.3	8	8	513	529	3	3	70	76	6	68	74	17	79	583	679	2.3%

North District Surveys

Survey Date	Grid	# of men	Total Surveyed	Average Per/Man	Average Per/Hr	Leaks found at Tee				Leaks Found at Curb				Leaks at Riser			Total Leaks Found				
						Class 1	Class 2	Class 3	Total	Class 1	Class 2	Class 3	Total	Class 1	Class 2	Total	Class 1	Class 2	Class 3	Total	
3/24 - 3/26	148	18	656	36.4	6.2	1	0	42	43	0	0	10	10	0	1	1	1	1	52	54	8.2%
3/29 - 4/2	148	36	1322	36.7	5.9	1	0	70	71	0	0	13	13	0	7	7	1	7	83	91	6.9%
4/5 - 4/9	148,138	92	3712	40.3	6.8	3	2	243	248	0	1	37	38	1	34	35	4	37	280	321	8.6%
4/12 - 4/16	127,137,138	100	4061	40.6	6.5	3	2	170	175	1	3	30	34	4	25	29	8	30	200	238	5.9%
4/19 - 4/23	127,137,138	100	4184	41.8	6.7	1	4	161	166	1	2	38	41	1	17	18	3	23	199	225	5.4%
4/26 - 4/30	166,176	100	4389	43.9	7.0	4	3	167	174	1	0	9	10	0	10	10	5	13	176	194	4.4%
5/3 - 5/7	166,176,128	100	4631	46.3	7.4	1	0	177	178	1	0	16	17	2	16	18	4	16	193	213	4.6%
5/10 - 5/14	117,118	100	4676	46.8	7.4	1	0	203	204	0	1	20	21	0	7	7	1	8	223	232	5.0%
5/17 - 5/21	156,117,118	80	3500	43.8	6.8	2	0	153	155	1	1	27	29	0	7	7	3	8	180	191	5.5%
5/24 - 5/28	156,157,158	94	4200	44.7	7.2	1	1	186	188	0	2	29	31	1	7	8	2	10	215	227	5.4%
6/1 - 6/4	157,158,186	79	3593	45.5	7.3	0	0	80	80	0	1	13	14	0	7	7	0	8	93	101	2.8%
6/7 - 6/11	195,204,215	99	4744	47.9	7.7	0	1	100	101	0	0	16	16	0	8	8	0	9	116	125	2.6%
6/14 - 6/18	215,225,125	94	4407	46.9	7.5	0	2	110	112	0	1	5	6	1	2	3	1	5	115	121	2.7%
6/21 - 6/25	DONE	32	1022	31.9	5.5	0	0	15	15	0	1	6	7	0	0	0	0	1	21	22	2.2%
Overall	Total	1124	49097	43.7	7.0	18	15	1877	1910	5	13	269	287	10	148	158	33	176	2146	2355	4.8%

**Copper Service Barhole Survey
Results through 7/15/99**

Midwest Surveys																					
Survey Date	Grid	# of men	Total Surveyed	Average Per/Man	Average Per/Hr	Leaks found at Tee				Leaks Found at Curb				Leaks at Riser			Total Leaks Found				
						Class 1	Class 2	Class 3	Total	Class 1	Class 2	Class 3	Total	Class 1	Class 2	Total	Class 1	Class 2	Class 3	Total	
4/5 - 4/9	Total	6	255	42.5	8.0	0	0	3	3	0	0	0	0	0	0	0	0	0	3	3	1.2%
4/12 - 4/16	Total	18	968	53.8	9.6	0	0	16	16	0	0	2	2	0	3	3	0	3	18	21	2.2%
4/19 - 4/23	Total	8	318	39.8	9.0	0	0	3	3	0	0	0	0	0	3	3	0	4	3	7	2.2%
4/26 - 4/30	Total	11	498	45.3	9.1	0	0	7	7	0	0	2	2	0	3	3	0	7	9	16	3.2%
5/3 - 5/7	Total	10	464	46.4	8.7	0	2	6	8	0	0	0	0	0	2	2	0	4	6	10	2.2%
5/10 - 5/14	Total	11	534	48.5	9.2	0	0	7	7	0	0	2	2	0	3	3	0	3	9	12	2.2%
5/17 - 5/21	Total	10	332	33.2	9.0	0	0	2	2	0	0	0	0	1	3	4	1	3	2	6	1.8%
5/24 - 5/28	Total	12	505	42.1	11.0	0	0	7	7	0	0	1	1	0	3	3	0	3	8	11	2.2%
6/1 - 6/4	Total	15	767	51.1	11.5	0	0	2	2	0	0	1	1	0	4	4	0	4	3	7	0.9%
6/7 - 6/11	Total	23	859	37.3	8.8	1	1	1	3	0	0	2	2	0	2	2	1	3	3	7	0.8%
6/14 - 6/18	Total	22	889	40.4	7.7	0	0	5	5	0	0	1	1	0	5	5	0	5	6	11	1.2%
6/21 - 6/25	DONE	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Overall	Total	146	6389	43.8	9.2	1	3	59	63	0	0	11	11	1	31	32	2	39	70	111	1.7%

CERTIFICATE OF SERVICE

Michael C. Pendergast, Associate General Counsel for Laclede Gas Company, hereby certifies that the foregoing Response of Laclede Gas Company to Staff Memorandum and Proposals has been duly served upon all parties of record to this proceeding by placing a copy thereof in the United States mail, postage prepaid, or by hand delivery, on this 5th day of October, 1999.