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Missouri Public
Service Commission

MEMORANDUM

TO: Missouri Public Service Commission Official Case File
Case No. GO-99-155, Laclede Gas Company

FROM: Michael J. Loethen, Gas Department – Gas Safety *mt* *RL* *BM*
Wes Henshaw 10-24-99 *Thomas R Schwanz, Jr. 10/29/99*
Utility Operations Division / Date General Counsel's Office / Date

DATE: October 28, 1999

SUBJECT: Staff Response to Laclede Gas Company Response to Staff Final Report Memorandum
Dated August 31, 1999.

PURPOSE OF MEMORANDUM

The Missouri Public Service Commission (Commission) Gas Department – Gas Safety (Staff) and Laclede Gas Company (Laclede or Company) have been actively and cooperatively addressing many of the issues encompassed by Case No. GO-99-155, or "Case." Two previous Staff case file memorandums and respective Company responses have addressed many of the issues involved in the Case. Many mutually acceptable solutions have been developed as a result of our efforts. There are some issues, however, where mutually acceptable solutions have not been reached. Consequently, the Staff requests the Commission establish a hearing schedule for the purpose of addressing the remaining unresolved issues in the Case. In addition, the Staff will address in this memorandum several clarifications it believes are warranted with regard to Laclede's October 5, 1999, filing in this case.

INTRODUCTION

In March 1998, two natural gas incidents involving corrosion on direct-buried copper service lines occurred. Two individuals were burned in one of those incidents. As a result of these two incidents, the Commission established this case on October 30, 1998. Case No. GO-99-155 was established for the purpose of receiving information relevant to the adequacy of Laclede's copper service line replacement program and the effectiveness of the Company's leak surveys and investigations. During the Staff's investigation into Case No. GO-99-155, another natural gas incident involving a corroded direct-buried copper service line occurred on February 22, 1999, resulting in the death of one person.

In addition to the three incidents mentioned above, three other natural gas incidents involving Laclede's direct-buried copper service lines occurred prior to 1991. Through settlement discussions among the parties, an agreement was reached. The Commission approved the settlement in 1991,

which is commonly referred to as the Ringer Road Settlement (Settlement). The Settlement was to adequately address the issues in the three pre-1991 natural gas incidents involving corrosion on direct-buried copper service lines and to prevent similar future occurrences. The Staff believes many of the established parameters in the Settlement, particularly the replacement of service lines, need significant modifications to resolve the problem with corrosion on direct-buried copper service lines within the Company's operations and to promote public safety.

As a result of the two March 1998 natural gas incidents, the Staff and Laclede have worked together in developing mutually acceptable and workable enhancements to the Settlement. The Staff looks upon these and other enhancements as necessary improvements to existing policies and procedures, even though they extend beyond the minimum pipeline safety regulations and the original Settlement. While subtle changes in certain procedures may yield benefits and enhance safety, the Staff believes at the moment that a focused and prioritized replacement of leaking direct-buried copper service lines and those with the potential of leaking in the future is necessary. Unfortunately, identifying those future leaks is nearly impossible. Therefore, a hearing is requested, which the Staff believes is necessary at this time, to order Laclede to commit to the Staff's proposed systematic replacement schedule contained in the August 31, 1999, memorandum.

NEED FOR PROMPT HEARING

The existing potential of corrosion occurring on active direct-buried copper services and the possible consequences, as seen in the six incidents mentioned previously, are of great concern. The Staff's investigations into the last three Laclede incidents have not clearly revealed the exact factors involved with identifying corrosion on direct-buried copper service lines. This opinion is held by the Staff even after reviewing the results of tests conducted by an outside testing laboratory hired by the Company (Bodycote Industrial Testing, LTD., identified in Case No. GS-98-422 and Case No. GS-98-423). Several important factors, including those undetermined factors, that are of concern to the Staff are listed below:

1. The corrosion rate on direct-buried copper service lines prior to and after a leak exists.
2. How much time can safely elapse before replacing a leaking direct-buried copper service line once the leak has been identified.
3. The only direct-buried copper service lines that can be identified as potentially corroding, prior to excavating the service line, are those that are leaking.
4. Identification of areas "prone" to corrosion is made more difficult by the fact that soil conditions vary with locations and the different types of backfill used, and the use of road salts and lawn fertilizers may promote corrosion. Any combination of these, or other factors, could change the rate of any existing corrosion on a direct-buried copper service line.
5. Laclede has been accumulating data on corrosion failures of copper service lines since 1975, and has been modifying its leak survey practices since 1982 to adequately identify those leaking copper service lines. While the steps in developing better leak surveys have been progressive, the Staff has concerns with the effectiveness of leak surveys under various weather conditions and soil types.

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The Staff believes it is time to move forward and establish a replacement plan as proposed by the Staff. Laclede indicated in its October filing that the Company is also prepared to move forward, but with modifications to the Staff's proposed 10% replacement rate. Laclede indicated in paragraph 9 of its October filing that it is committed to acquiring necessary resources, or making arrangements to have them in place, in order to commence a replacement program by January 1, 2001, **or, if later, within six months** of the date the Commission directs Laclede to commence such a program. Laclede later indicated that it requests the Commission to wait for the results of the Company's bar-hole survey, proposed to be completed by July 1, 2000, and for a additional analysis to be presented in a August 1, 2000, report to the Commission.

The Staff is concerned with the Company's request to wait until August 2000 to produce a report to the Commission before it will consider committing to establishing a much needed enhanced replacement program. With a number of uncertainties still existing such as the rate of corrosion and potential areas of disagreement in interpretation of data in August 2000 which may occur between the Staff and Company, it is likely that case scheduling and preparation will extend a hearing date well beyond August of 2000. As previously mentioned, the Company's October filing suggests a commencement date within six months of the Commission's order date of a replacement program. Adding this to a hearing date scheduled after August 2000 that orders the Company to commence a ratable replacement program at a rate exceeding its current replacement capabilities, the Staff believes the Company's proposed commencement date of January 1, 2001, is unlikely to be met.

Continuing with the enhancements voluntarily made by the Company to the original Settlement should allow ample preparation time for the Company to begin a 10-year replacement program on January 1, 2001. The replacement rate, Company personnel and equipment requirements to meet a replacement rate, and training and preparation time are all directly related. These issues and existing uncertainties are extremely significant factors when considering a realistic commencement date for a replacement program. The Staff believes a program needs to be put in place at this time in order to not only replace those currently leaking direct-buried copper services, but also those direct-buried copper service lines with the potential of leaking in the future. Two of the recent natural gas incidents support Staff's recommendation for this commitment: A leak was detected in the area of a corroded and leaking direct-buried copper service line one day prior to the Case No. GS-98-422 incident occurring; The incident-causing leak in Case No. GS-99-371 was not even detected during prior leak surveys conducted in the area of the main and a corroded and leaking direct-buried copper service line. These examples are evidence that waiting for a leak to occur on direct-buried copper pipelines is not the most effective method in preventing future incidents.

As previously mentioned, the Staff and Laclede have discussed many issues involved with the incident reports and the Case, and will continue to work together on all issues pertaining to the leak survey and copper service line replacement program in the future. The Company should be ordered to implement a systematic replacement program for direct-buried copper service lines, without delay. A replacement program is warranted based upon the information available at this time, and a Commission decision on this issue is needed. The Staff does not want to delay a Commission decision implementing a replacement program while we wait for additional studies and analysis that *may* or *may not* provide additional useful information. As has happened in other replacement programs, the Staff would welcome and will give full consideration to any future updated data that can be utilized to modify and

enhance established replacement programs. Very succinctly, the Commission should order a copper replacement program based on the evidence already presented, and if future evidence from studies, analysis, or investigations suggest a modification of the replacement program, evaluate and adjust the program then.

STAFF CLARIFICATIONS

The Company's October 5, 1999, filing (Filed on October 6, 1999) is structured into paragraphs identified by numbers one through nine, with two attachments. The Staff believes there are some clarifications that are needed and has identified the numbered paragraph and respective Staff clarification below.

Paragraph 3., Last Sentence

Company's Statement:

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.

Staff Response:

The Staff believes the Company intended to reference Staff Items Nos. 3 and 5, not Staff Items Nos. 3 and 6, in addressing bar hole surveys. Staff Item No. 3 indicates a bar hole survey over all direct-buried service lines in Pressure Region 1, while Item No. 5 indicates the Company should continue to conduct annual leak surveys over all direct-buried copper service lines. Staff Item No. 6 discusses a replacement rate associated with the Ringer Road Settlement.

Paragraph 5. First Sentence And Other Locations Where Used

Company's Statement:

With regard to those ... conduct a second bar hole survey over its direct-buried copper service lines in Pressure Region 1 in the year 2000

Staff Response:

In Staff's August 31, 1999, Official Case File Memorandum, Page 4 of 10, the bar hole survey in Pressure Region 1 was phrased as the "Spring 2000" leak survey. Spring 2000 was used to reference the Company's statement in its July 22, 1999, Page 4 of 4, letter to the Staff that a bar hole survey will be conducted in Pressure Region 1 during March, April, and May of 2000. This reference to the months of March, April, and May of 2000, was phrased by the Staff as Spring 2000 survey to the Company's year 2000 survey. The Staff has the understanding that this bar hole survey which incorporates all direct-buried copper service lines will be completed by July 1, 2000. The Staff also understands that leak surveys of some direct-buried copper service lines in Pressure Region 1 will go beyond May 2000, but will be completed by July 1, 2000, as a result of scheduling leak surveys efficiently.

Paragraphs 5, 6, and 7.

Staff Comment:

In each of these paragraphs, the Company discusses scheduled bar hole surveys in 2000 and 2001. It is not clear to the Staff whether the Company's intentions are to continue bar hole surveys over all direct-buried copper service lines beyond 2001. In the Staff's Item No. 5 mentioned above, the Staff believes annual leak surveys over all direct-buried copper lines should continue. Staff did not identify any particular year for the bar hole surveys over all direct-buried copper service lines to cease.

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