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MAR 11 1999  
Missouri Public  
Service Commission

A F F I D A V I T

  
Craig R. Hoeflerlin

MARY L. CARPHEART  
Notary Public - Notary Seal  
STATE OF MISSOURI  
St. Louis County  
My Commission Expires: Oct. 1, 1999

Mary L. Capehart

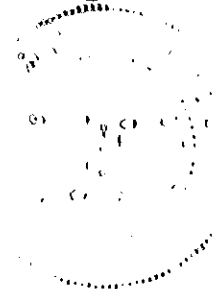


Exhibit No.:  
Issue: Manufactured Gas Plants  
Witness: Craig R. Hoeferlin  
Type of Exhibit: Direct Testimony  
Sponsoring Party: Laclede Gas Company  
Case No.: GR-99-315

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LACLEDE GAS COMPANY

GR-99-315

DIRECT TESTIMONY

OF

CRAIG R. HOEFERLIN



DIRECT TESTIMONY OF CRAIG R. HOEFERLIN

1 Q. Please state your name and business address.

2 A. My name is Craig R. Hoeferlin, and my business address  
3 is 3950 Forest Park Avenue, St. Louis, Missouri 63108.

4 Q. By whom are you employed and in what capacity?

5 A. I am Chief Engineer of Laclede Gas Company.

6 Q. How long have you held this position, and would you  
7 briefly describe your duties?

8 A. I was appointed to this position on December 6, 1996.

9 In this capacity I manage the entire range of Company  
10 engineering functions, including distribution system  
11 design, maintenance and record keeping. My areas of  
12 responsibility also include environmental engineering,  
13 standards and testing, and the chemical laboratory.  
14 The Engineering Department provides most of the design  
15 and cost estimating, and oversees code compliance  
16 within the Operating Departments.

17 Q. What is your educational background?

18 A. I received a Bachelor of Science Degree in Chemical  
19 Engineering in 1984 from the University of Missouri-  
20 Columbia.

21 Q. Please describe your experience with Laclede.

22 A. I have been continuously employed by Laclede since June

1       1984. Prior to my appointment to my current position,  
2       I held a variety of positions in the Engineering and  
3       the Gas Supply and Control Departments.

4   Q.   Have you previously testified before this Commission?

5   A.   Yes. I submitted direct testimony on behalf of Laclede  
6       in Case No. GR-98-374, the Company's last rate case.

7   Q.   What is the purpose of your testimony in this  
8       proceeding?

9   A.   The purpose of my testimony is to provide a general  
10       explanation of manufactured gas plants (MGPs) and the  
11       environmental programs which have been undertaken by  
12       Laclede to address the waste residuals from MGPs. I am  
13       furnishing this information as background for the  
14       Company's proposed treatment of MGP-related costs which  
15       have been deferred pursuant to the accounting  
16       authorizations granted by the Commission in the  
17       Company's last two rate case proceedings, as well as  
18       for the Company's request to obtain accounting  
19       authorization to defer such costs which Laclede  
20       anticipates will be incurred in the future.

21   Q.   Does any other Company witness address this issue?

22   A.   Yes. Company witness J. A. Fallert is sponsoring the

1        accounting adjustment concerning MGP-related costs  
2        incurred by the Company and its request for future  
3        deferral authority.

4    Q.    Please explain the history of MGPs.

5    A.    Prior to the widespread availability of natural gas,  
6        MGPs were used by local distribution companies (LDCs)  
7        to produce gas from coal or oil. The first MGP began  
8        operating in 1816 in Baltimore, Maryland. Gas  
9        manufactured at MGPs soon became the fuel of choice in  
10       the United States for lighting, cooking and certain  
11       heating purposes, and remained so in many parts of the  
12       country, until the 1960's. As a result, nearly all  
13       LDCs that were in business prior to World War II  
14       operated MGPs. To date, approximately 1,500 former MGP  
15       sites have been identified throughout the country.

16   Q.    Please describe how MGPs operated.

17   A.    The process for manufacturing gas involved heating  
18        certain combustibles such as coal and fuel oil in a low  
19        oxygen atmosphere. This process produced by-products  
20        and residuals, including hydrocarbons such as lamp  
21        black and coal tar. LDCs (including Laclede) commonly  
22        used the carbureted water gas process which employed  
23        coke (or coal), steam and various oil products to

1       produce gas of a low Btu value. Steam was fed into the  
2       generator through a bed of heated coke, producing gas  
3       containing hydrogen and carbon monoxide (blue gas).  
4       This gas was then passed through two chambers (a  
5       carburetor and a superheater) containing hot firebrick,  
6       where oil was sprayed into the gas and thermally  
7       cracked into gaseous hydrocarbons and tar. More oil  
8       was then added to increase the heating and illumination  
9       value of the gas. The resulting new gas was cooled in  
10      a condenser to remove water vapor and tars, and then  
11      temporarily stored in a relief gas holder. Additional  
12      cleaning of the gas was accomplished in purifier boxes  
13      using iron oxide to remove hydrogen sulfide. The  
14      resulting purified gas was then stored on the property  
15      of the MGP in gas holders that fed the gas distribution  
16      system.

17   Q.   What became of the by-products of this process?

18   A.   Most by-products and residues were sold for commercial  
19       use, although some materials were typically stored on  
20       site at the MGP. Most former MGP sites contain  
21       remnants of tar, oil and other residuals.

22   Q.   Why have LDCs begun to incur costs in connection with  
23       the investigation and remediation of these MGP sites?



1 A. In the 1970's and 1980's, environmental laws and  
2 regulations were enacted which required the remediation  
3 of various wastes previously not considered to be  
4 hazardous, including residual wastes from MGPs. On the  
5 federal level, there are three environmental laws which  
6 may apply to the potential hazards created by MGPs.  
7 These are: the Comprehensive Environmental Response,  
8 Compensation and Liability Act of 1980, (CERCLA), which  
9 is commonly referred to as "Superfund"; the Resource  
10 Conservation and Recovery Act of 1976 (RCRA); and the  
11 Clean Water Act of 1977 (CWA). Each of these three  
12 statutory programs is implemented and enforced  
13 primarily by the United States Environmental Protection  
14 Agency (EPA) at the federal level and by the Missouri  
15 Department of Natural Resources (MDNR) at the state  
16 level. There are also statutes enacted by the State of  
17 Missouri which impose additional requirements which may  
18 be applicable to MGP sites.

19 Q. How have these various environmental requirements  
20 applicable to MGP sites affected Laclede?

21 A. As a result of a survey conducted by the EPA in 1991,  
22 the EPA notified Laclede of the presence of MGP  
23 residuals on Laclede's Shrewsbury Operating Center

1 property (Shrewsbury Site), which is owned by Laclede  
2 and which had been the site of an MGP operated by the  
3 Company and others. The Company began working with the  
4 EPA soon thereafter to develop a sensible response to  
5 this former MGP site. After extensive negotiations,  
6 the Company entered into an Administrative Order on  
7 Consent (Consent Order) with the EPA on March 1, 1994,  
8 under which Laclede agreed to conduct an extensive  
9 investigation of the site. Among other measures, this  
10 investigation included detailed water and soil studies  
11 to determine the extent of any risk posed by  
12 contamination at the site.

13 Q. What is the current status of the investigation at the  
14 Shrewsbury Site conducted by the Company pursuant to  
15 this Consent Order?

16 A. Laclede has conducted extensive soil and groundwater  
17 sampling at the Shrewsbury Site and sampled the surface  
18 water in Deer Creek, which is located adjacent to the  
19 site. Based on the results of these samples, Laclede  
20 developed a Risk Assessment for the site.

21 Q. What did the Risk Assessment for the Shrewsbury Site  
22 show?

23 A. The Risk Assessment showed that the risks to the public

1 and the environment posed by the site are within  
2 acceptable limits under EPA guidelines.

3 Q. What additional actions has Laclede taken in connection  
4 with the Shrewsbury Site?

5 A. In accordance with the terms of the Consent Order,  
6 Laclede has developed an Engineering Evaluation/Cost  
7 Analysis (EE/CA) for the site. Among other things, the  
8 EE/CA summarizes Laclede's characterization of the  
9 site, lists regulatory requirements which may  
10 potentially apply to the site, and evaluates various  
11 remedial actions which may be appropriate for the site.

12 Q. What remedial actions are recommended in the EE/CA for  
13 the Shrewsbury Site?

14 A. Two types of remedial actions are recommended in the  
15 EE/CA. The first category of recommended remedial  
16 actions is designed to maintain conditions at the site  
17 as they existed at the time the Risk Assessment was  
18 performed. These include implementation of a deed  
19 restriction which would restrict the future use of the  
20 site by Laclede or a future owner of the property;  
21 maintenance of erosion controls, and perimeter fencing;  
22 limitations on any future excavations; restriction of  
23 access by Laclede employees to the site; and

1 maintenance of the bank of Deer Creek which forms a  
2 border of the site.

3 The second category of remedial actions proposed  
4 in the EE/CA are measures designed to provide an extra  
5 degree of protection for the public and the environment  
6 beyond that addressed by the Risk Assessment. These  
7 measures include the removal of source material from  
8 the tar well and tar separator, the planting of poplar  
9 trees (which have been shown to facilitate the chemical  
10 uptake of MGP constituents) and the resurfacing and  
11 maintenance of the asphalt and concrete surfaces at the  
12 site.

13 Q. Has the EE/CA for the Shrewsbury Site been approved by  
14 the EPA?

15 A. Yes. The EE/CA was conditionally approved by the EPA  
16 on September 25, 1998. Final approval is contingent  
17 upon input received from the public in accordance with  
18 the National Contingency Plan.

19 Q. Have any public comments been received concerning the  
20 EE/CA?

21 A. Laclede conducted a 30-day community relations program,  
22 which commenced on November 18, 1998, and ended on  
23 December 17, 1998. The EE/CA was made available for

1 public viewing during the 30-day period at the  
2 Shrewsbury Civic Center. A public information meeting  
3 was held at the civic center on the evening of December  
4 2, 1998. The EPA has informed Laclede that no adverse  
5 comments have been received as a result of the  
6 community relations program to date.

7 Q. What additional steps must be taken before  
8 implementation of the remedial actions recommended in  
9 the EE/CA?

10 A. A revised Consent Order is being developed between  
11 Laclede and the EPA, which will provide Laclede  
12 authorization to move forward with the remedial actions  
13 recommended in the EE/CA. A work plan will also be  
14 submitted to the EPA outlining exactly how each  
15 remedial action will be performed. Following the  
16 execution of the Consent Order by Laclede and the EPA,  
17 and approval of the work plan by the EPA, Laclede will  
18 commence work on the remedial actions.

19 Q. Will the EPA provide final approval of the remediation  
20 measures, and if so, when do you estimate this will  
21 occur?

22 A. After all of the action items outlined in the EE/CA are  
23 completed, a final inspection of the site will be

1 conducted by EPA before a memorandum of completion is  
2 issued. Completion of the action items will take an  
3 estimated six to nine months after the new Consent  
4 Order is executed by Laclede and the EPA.

5 Q. How much money has Laclede spent thus far in  
6 investigating the Shrewsbury Site?

7 A. Thus far Laclede has spent a total of \$630,600 in  
8 investigating the Shrewsbury Site and preparing the  
9 Risk Assessment and EE/CA.

10 Q. Will Laclede incur future costs in connection with its  
11 investigation and remediation of the Shrewsbury Site?

12 A. Undoubtedly yes. Laclede's current estimate of these  
13 costs is \$500,000, consisting primarily of the cost to  
14 design and implement the Deer Creek bank maintenance.  
15 Laclede will also incur additional costs in the future  
16 to maintain the asphalt parking surfaces, fencing and  
17 erosion control.

18 Q. Is the Company currently investigating any other MGP  
19 sites?

20 A. Yes. The Company entered the MDNR's Voluntary Cleanup  
21 Program in March 1996 to address the characterization  
22 of the Carondelet Coke Plant Site located in the City  
23 of St. Louis (Carondelet Site). This facility was

1 owned and operated as a manufactured gas plant by  
2 Laclede from 1917 to 1950 when it was subsequently sold  
3 to another party. The site is currently owned by the  
4 City of St. Louis as a result of a former owner  
5 defaulting on payment of property taxes. It has not  
6 been utilized by or in the control of the Company for  
7 nearly 50 years.

8 Q. What is the current status of the investigation?

9 A. Laclede's environmental consultant drilled several  
10 groundwater observation wells in December 1997 at the  
11 Carondelet Site to begin characterization. Laboratory  
12 analysis of soil and groundwater samples was performed  
13 for various organic compounds, hydrocarbons and metals.  
14 The results of the analysis were submitted to MDNR with  
15 several recommendations from Laclede's environmental  
16 consultant to better assess surface and subsurface  
17 conditions at the site. The follow-up actions included  
18 the completion of quarterly groundwater sampling for a  
19 period of one year, obtaining all relevant information  
20 about the site from MDNR, and gathering all available  
21 historical information, including aerial and site  
22 photographs from the City of St. Louis and former site  
23 operators. Based on the information collected as a

1 result of the follow-up actions, Laclede's  
2 environmental consultant developed and submitted to  
3 MDNR a comprehensive sampling plan designed to fully  
4 characterize the extent of contamination at the site.  
5 This plan requires Laclede to drill additional wells,  
6 conduct surface and subsurface soil sampling, dig test  
7 trenches, and perform an ecological assessment.  
8 Pursuant to the sampling plan, all soil samples, along  
9 with groundwater from new and existing monitoring wells  
10 will be analyzed for organic compounds, hydrocarbons  
11 and metals. This plan was approved by the MDNR on  
12 December 7, 1998, and work began shortly thereafter, in  
13 several sequential mobilizations. A final site  
14 investigation report will be prepared following  
15 Laclede's receipt of laboratory and survey data from  
16 all mobilizations. The report will meet the objectives  
17 of the work plan, which include delineating the extent  
18 of surface soil, subsurface soil and groundwater impact  
19 at the site; providing cleanup objectives for soil and  
20 groundwater; identifying points of compliance for the  
21 site; and identifying potential site development risks  
22 due to impacts from historic coke plant operations.  
23 The draft final investigation report should be



1 submitted to Laclede by its environmental consultant by  
2 Spring 1999.

3 Q. How much money has Laclede spent to investigate the  
4 Carondelet Site?

5 A. Thus far Laclede has spent a total of \$364,470 to  
6 investigate the Carondelet Site.

7 Q. Will Laclede incur future costs in connection with its  
8 investigation and possible remediation of the  
9 Carondelet Site?

10 A. It is a certainty. However, it is difficult to  
11 estimate what the magnitude of these future costs may  
12 be.

13 Q. Has Laclede incurred costs in connection with any of  
14 its other former MGP sites?

15 A. Yes. The Company has been named as a defendant in a  
16 lawsuit initially filed by Superior Oil Company and  
17 Union Pacific Railroad Company against AlliedSignal,  
18 Inc. and Monsanto Company in the United States District  
19 Court for the Eastern District of Missouri. In this  
20 lawsuit, the plaintiffs are seeking contribution from  
21 the defendants for response costs which have been  
22 incurred, and which will be incurred, by the plaintiffs  
23 under CERCLA to remediate a site located in St. Louis

1       which the plaintiffs currently own and/or lease (the  
2       Superior Oil Site). The plaintiffs allege that Laclede  
3       is responsible for coal tar wastes: (a) which have  
4       migrated from a former MGP site located adjacent to the  
5       Superior Oil Site (Station A), which Laclede sold in  
6       1959; and (b) which result from Laclede's disposal of  
7       coal tar at the Superior Oil Site.

8   Q.   What is the current status of this lawsuit?

9   A.   Laclede's environmental consultant has determined that  
10       sufficient documentation exists to indicate that coal  
11       gas by-products generated at Station A were  
12       consistently sold to local buyers, including Barrett  
13       Chemical Company, a previous occupant of the Superior  
14       Oil Site which was later purchased by AlliedSignal. We  
15       believe the demonstrable profitability of by-product  
16       sales suggests that it is unlikely that Laclede  
17       disposed of significant quantities of such material on  
18       its Station A property. In addition, there is no  
19       evidence contained in the other available records  
20       reviewed by Laclede's environmental consultant to  
21       suggest that Laclede ever intentionally dumped coal  
22       tar, or any other coal gasification by-products, at

1 Station A, or that such materials have migrated from  
2 Station A to the Superior Oil Site.

3 Q. What costs has Laclede incurred in connection with this  
4 lawsuit?

5 A. Thus far, Laclede has incurred consultant fees and  
6 legal costs related to this lawsuit totaling  
7 approximately \$26,100. However, Laclede expects to  
8 incur additional legal costs and investigation costs in  
9 connection with this lawsuit. In addition, Laclede may  
10 ultimately incur remediation costs related to this  
11 site.

12 Q. Has the Company sought reimbursements of any of its  
13 MGP-related costs from third parties?

14 A. Yes. Pursuant to insurance policies issued as far back  
15 as the 1950's, Laclede has notified its insurers of the  
16 potential claims for reimbursement that may arise with  
17 respect to costs incurred regarding the Shrewsbury and  
18 Carondelet Sites, as well as the Superior Oil Company  
19 litigation. The Company will continue to pursue  
20 insurance proceeds to the extent feasible. In  
21 addition, the Company has sought recovery from other  
22 parties who may be potentially responsible for  
23 contamination at the Carondelet Site.

1 Q. Has Laclede been successful in obtaining  
2 reimbursements?

3 A. No, although Laclede has met with representatives of  
4 SGL Carbon Corporation (SGL), the successor company to  
5 Great Lakes Carbon Corporation, the company which  
6 purchased the Carondelet Site from Laclede in 1950. SGL  
7 has filed for protection under Chapter 11 of the U.S.  
8 Bankruptcy Code, but has indicated that it recognizes  
9 the advantages of cooperating with Laclede in  
10 addressing the site through the MDNR's Voluntary  
11 Cleanup Program. Laclede has filed claims in the  
12 bankruptcy proceeding related to the Carondelet Site,  
13 and continues to negotiate with SGL to arrive at a fair  
14 cost sharing arrangement for the remediation efforts at  
15 the Carondelet Site. Any such arrangement, even if  
16 accepted by SGL, would have to be approved by the  
17 bankruptcy court.

18 Q. MGPs were dismantled many years ago. Why should  
19 Laclede's current customers pay for the environmental  
20 costs associated with plants that operated so long ago?

21 A. It should be recognized that the environmental costs  
22 associated with these former MGPs represent only one  
23 aspect of the financial impact which MGPs have on

1        today's customers. Without the development and  
2        operation of the MGPs, much of the infrastructure  
3        required to serve our customers would not have been  
4        built until much later, if at all. Since current  
5        customers benefit from the infrastructure developed as  
6        a result of MGP operations, it is entirely appropriate  
7        that they pay environmental costs associated with these  
8        plants.

9    Q.   Does this conclude your testimony?

10   A.   Yes, it does.

