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LACLEDE GAS COMPANY

GC-2006-0390

REBUTTAL TESTIMONY

OF

PATRICK A. SEAMANDS

~~header~~ Exhibit No. 42 NP  
Case No(s) GC-2006-0390  
Date 2-26-07 Rptr KS

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**REBUTTAL TESTIMONY OF PATRICK A. SEAMANDS**

1 Q. What is your name and address?

2 A. My name is Patrick A. Seamands, and my business address is 3950 Forest Park  
3 Avenue, St. Louis, Missouri 63108.  
4

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

6 A. I am employed by Laclede Gas Company ("Laclede" or "Company") as Chief  
7 Engineer.

8 Q. How long have you been at Laclede?

9 A. I joined Laclede in 1999 as Chief Engineer.

10 Q. Please describe your career and educational background.

11 A. Prior to joining Laclede, I was Vice-President of Engineering and Chief Engineer  
12 for Southern Union Company, the parent company of Missouri Gas Energy. I  
13 joined Southern Union in 1996, after serving as a Senior Process Engineer for  
14 Roddey Engineering Services from 1993-96. Before starting with Roddey, I  
15 worked for Arkla Pipeline Group (now known as CenterPoint) from 1986 to 1993  
16 as its Director of Operations and Planning. I have earned four degrees from  
17 Louisiana Tech. I received a Bachelor's degree in Chemical Engineering in 1971,  
18 a master's degree in that same field in 1978. I earned an MBA in 1980, and was  
19 awarded a Doctorate in Engineering in 1993.

**PURPOSE OF TESTIMONY**

20  
21 Q. What is the purpose of your rebuttal testimony?

1 A. The purpose of my rebuttal testimony is to respond to the unsupported assertions  
2 made on behalf of USW Local 11-6 (the "Union") regarding the safety of  
3 Laclede's Automated Meter Reading ("AMR") project.

4 **BACKGROUND ON AMR**

5 Q. What is the AMR project?

6 A. In March 2005, Laclede signed a long-term contract with CellNet Technology,  
7 Inc. ("CellNet") to automate the reading of all of its meters in both its Laclede and  
8 Missouri Natural ("MoNat") service territories, a total of more than 650,000  
9 meters. Deployment of AMR modules began in July 2005. As of November 6,  
10 2006, about 600,000 new AMR modules have been installed. Laclede expects  
11 this project to be substantially completed by early 2007, at which time the vast  
12 majority of Laclede's meter reading function will be automated.

13 Q. Why has Laclede chosen to implement AMR?

14 A. AMR will improve customer service and reduce the cost of service. Customer  
15 service will be improved by making meter reading more convenient for  
16 customers, while at the same time greatly reducing estimated bills and  
17 reconciliations. In addition, Laclede has arranged with CellNet, a company with  
18 broad experience in utility meter reading, to provide Laclede these meter readings  
19 at rates that will cap the cost of this function during the 15-year term of the  
20 contract. Finally, when Laclede customers transfer service at a location where the  
21 flow of gas has not been interrupted, they will no longer have to wait for, or pay a  
22 service initiation charge for, a Laclede representative to come out and read the  
23 meter.

1 Q. How will AMR reduce estimated bills and reconciliations?

2 A. Laclede has approximately 250,000 inside meters in its system. Reading those  
3 meters on a regular monthly basis has become increasingly difficult for customers  
4 to accommodate and difficult for Laclede to achieve. When Laclede fails to get a  
5 meter reading, it must estimate the customer's bill, subject to a later reconciliation  
6 when Laclede obtains an actual reading. If a billing estimate has been inaccurate,  
7 for example, if it was too low, the reconciliation will mean that the customer must  
8 make up for the undercharge in addition to paying the current bill. AMR will  
9 greatly improve the likelihood that each month's billing is accurate, and virtually  
10 eliminate the instances where the inability to gain access to a customer's home to  
11 read the meter over an extended period of time results in a significant adjustment.

12 Q. The advantages that AMR will bring to customers with inside meters are obvious.  
13 What benefits does AMR provide to customers with outdoor meters?

14 A. There are several benefits. First, even customers with outdoor meters are  
15 expected to experience the benefits of more consistent actual meter readings.  
16 Although meter readers have been successful in obtaining regular reads on most  
17 outdoor meters, some have proved difficult either because of fences, bushes, dogs  
18 or other obstructions. Also, outdoor meters are sometimes inaccessible in  
19 inclement weather such as when there is ice or mud. Finally, meter reader  
20 vacations have historically resulted in most bills being estimated each year in  
21 August. While AMR cannot be expected to provide a reading 100% of the time,  
22 we do expect to receive reliable monthly meter readings close to 100% of the

1 time, in part because AMR will not be subject to these impediments to reading  
2 outdoor meters.

3 Q. Please proceed.

4 A. Second, when questions about billing accuracy do arise, Laclede can retrieve  
5 AMR information on a *daily* basis, as opposed to one reading per month. Finally,  
6 the cost savings that will result from automated meter reading and the virtual  
7 elimination of billing adjustments will be passed through to customers.

8 **CELLNET AND SAFETY**

9 Q. Please provide background on CellNet, the party you have contracted with to  
10 implement AMR within your service area.

11 A. Laclede spent a great deal of time researching the operational requirements of a  
12 universal AMR system, and negotiating AMR terms and performance measures to  
13 obtain the best deal for the Company and its customers. CellNet has a wealth of  
14 experience in this field. Over the past decade, they have installed, and are  
15 obtaining daily meter readings on, roughly 13 million AMR devices on utility  
16 meters, including about 3.5 million on gas meters. Further, CellNet is already  
17 providing AMR service in Missouri, and in fact, in the St. Louis area, as they are  
18 the AMR provider for both AmerenUE's electric and gas utilities.

19 Q. Of all of these gas meters with CellNet modules, are you aware of any explosions  
20 or fires that caused personal injury or property damage, that were attributable to  
21 an AMR-equipped meter?

22 A. During my career in this industry, I don't know of even one incident that has  
23 occurred as a result of the installation of an AMR device on a meter.

1 Q. Of the roughly 600,000 AMR installations in Laclede-service territory, how many  
2 explosions or fires have occurred that caused personal injury or property damage,  
3 attributable to an AMR-equipped meter?

4 A. None.

#### 5 ADDRESSING UNION MEMBER CLAIMS

6 Q. Two Laclede employee Union members stated that any leak is dangerous. Is this  
7 true?

8 A. No. While we always advocate exercising caution around natural gas, certain  
9 conditions must be met before it presents a hazard. Meter manufacturers are very  
10 cognizant of these conditions, and they construct meters such that any leaks that  
11 may occur tend to be tiny, slow leaks that squeeze out of a worn gasket or seal.  
12 They are so small that they dissipate in the atmosphere before they can ever  
13 present a hazard.

14 Q. During your career in this industry, are you aware of any incidents in which there  
15 was an explosion or a fire that caused personal injury or property damage,  
16 attributable to a leak from a meter?

17 A. No.

18 Q. Can an AMR installation cause a leak, as indicated by a number of Union  
19 members who are Laclede employees?

20 A. No. As correctly stated by Mr. Meuting, the former AMR installer, installation of  
21 the AMR module does not access the inside of the meter, where gas is flowing.  
22 Instead, the AMR module is designed to be screwed into a frame on the outside of  
23 the meter and connects to a drive arm outside of the meter. The drive arm is part

1 of an axle that is inside the meter, and extends through a gasket or rubber seal,  
2 that is also inside the meter, to the outside of the meter where, as I stated, it  
3 connects to the AMR module. As the drive axle turns the corresponding part on  
4 the module, the module records usage, which is transmitted to CellNet's network  
5 and delivered to Laclede. Connecting this module to the end of the drive axle on  
6 the outside of the meter cannot cause gas to leak out from inside the meter.

7 Q. Can an AMR device leak at the faceplate, as indicated by a number of Union  
8 members?

9 A. The AMR modules do not leak. Neither AMR modules nor the standard indexes  
10 that preceded them, are conduits for gas to pass through. Further, they are not  
11 designed to be airtight to completely trap gas, but have vented index covers.  
12 First, the AMR module and its faceplate, or index cover, sit on the outside of the  
13 meter, at a spot known as the center box, while the gas is on the inside of the  
14 meter. A meter is made up of a number of parts that are each attached together  
15 around a gasket to form tight seals and keep the gas inside. So if there is a leak on  
16 the meter, it usually results from wear on one of these gaskets or seals that *is*  
17 designed to keep the gas in the meter. As stated above, one of these seals inside  
18 the meter is attached to the drive axle, which extends outside the meter into the  
19 center box. If this seal becomes worn, a very small amount of gas may pass out  
20 of the meter along the drive axle and into the center box. Second, meter index  
21 covers, including AMR index covers, are vented on the bottom, so they are not  
22 meant to be completely airtight. The index covers do have a gasket where they sit  
23 against the center box, which provides the index with protection from outside



1 elements, such as rain and snow. At the same time, if there is a leak at the seal  
2 behind the center box, the small amount of gas that escapes through that seal and  
3 into the center box can build up in the index cover before it may eventually seep  
4 out of the index cover vents, where it would dissipate in the atmosphere. Again,  
5 this is a leak on the seal behind the center box, and not a leak on the index cover.  
6 Regardless, as stated above, these situations are non-hazardous.

7 Q. If an AMR installation cannot cause a leak, then why are there so many leaks  
8 reported after installations take place?

9 A. The Union's implication that large numbers of meters leak after AMR modules  
10 are installed is simply not true. The fact is that minor leaks from behind the  
11 center box occur on occasion as a result of normal wear and tear on the meters,  
12 and have always existed. As I have noted, the tiny amount of gas that can escape  
13 as a result of such a leak is not hazardous.

14 Q. What support do you have for the conclusion that there are not excessive leaks on  
15 AMR-equipped meters?

16 A. In 2005, we became aware that the Union was likely to contest the AMR  
17 installation in some manner. During October 2005, we began to keep track of the  
18 number of meters with AMR modules that were brought into Laclede's meter  
19 shop. We found that for the ten month period November 2005 through August  
20 2006, there were a total of \*\*\_\_\_\_\_\*\* with AMR devices brought into the  
21 meter shop due to a reported leak, out of a weighted average of approximate  
22 285,000 meters with AMR modules in existence during that period. This equates

1 to a leak rate of about \*\* \_\_\_\_\_ \*\* for the meters on which an AMR module is  
2 installed.

3 Q. How do these figures equate to the experience of leaks on meters that do not have  
4 AMR devices?

5 A. In addition to the AMR meters, we also know how many meters without AMR  
6 devices were brought into the meter shop for leaks during the same time period.  
7 For this period, November 2005 – August 2006, there were a total of \*\* \_\_\_\_ \*\*  
8 meters brought into the meter shop also due to a reported leak. During this period  
9 the weighted average of non-AMR meters was roughly 365,000. This equates to  
10 a leak rate of about \*\* \_\_\_\_\_ \*\* for the meters which did not have an AMR  
11 module. I can conclude that the number of leaks reported on meters without an  
12 AMR module was actually proportionally greater than the number of leaks  
13 reported on meters with an AMR module.

14 Q. What does that indicate?

15 A. That indicates that the installation of AMR modules certainly did not increase the  
16 frequency of meter leaks. All of this information is summarized in Schedule 1,  
17 which is attached to this testimony.

18 Q. When the AMR module is installed, if the gasket is not set properly on the center  
19 box frame, is it more likely that there will be a leak?

20 A. No. Simply mounting the AMR module on the center box does not and cannot  
21 cause a leak, so an improper setting would not affect the likelihood of a leak. If  
22 there is a tiny leak at the seal behind the center box, then a small amount of gas  
23 may seep into the area surrounded by the index cover. Mounting the AMR

1 module gasket improperly will not affect such a leak, which as stated above, is not  
2 hazardous. As has always been Laclede's practice, the meter would nevertheless  
3 be replaced upon discovery of such a leak.

4 Q. Union witnesses have alleged that AMR installers have drilled through meters  
5 causing gas leaks, and Laclede has attempted to cover up this damage? Is that  
6 true?

7 A. To my knowledge, one meter was damaged in that manner, and Laclede made no  
8 attempt to hide it.

9 Q. Please explain.

10 A. In installing an AMR module, the installer must first remove the original index by  
11 unscrewing it from the index frame. On occasion, these screws will not turn  
12 easily, and the screw threads break or become stripped. With Laclede's  
13 concurrence, CellNet contractors formed a team specializing in removal of these  
14 stripped screws by drilling into them to "catch" the screw, and then backing it out.  
15 This practice has been used by at least one other utility. In January 2006, there  
16 was one occurrence where a meter was damaged through this process. There was  
17 no other damage to persons or property from this event. Upon further review, we  
18 decided to discontinue this practice, and it has not been used since. Regarding the  
19 damage report, the document referred to by the Union witness is a third-party  
20 damage report, which is used for the purpose of billing a third-party for the  
21 damage caused. Since CellNet is performing these installations on Laclede's  
22 behalf, as contractors of Laclede, there is no reason to fill out a "third-party"

1 damage report. For the same reasons, we do not fill out a third-party damage  
2 report when our own employees damage a meter in the course of their duties.

3 Q. Two Union members in Laclede's Construction and Maintenance Department  
4 claim that an AMR installer failed to notice a badly rotting pipe when installing  
5 an AMR module at 203 Woodland. How do you respond?

6 A. First, we do not have an address of 203 Woodland in our system, so I have not yet  
7 been able to identify it. Regardless, it is not the job of the AMR installer to  
8 inspect Laclede facilities. Instead, this is the purview of Laclede through its leak  
9 and corrosion inspection programs. These programs require Laclede to perform  
10 leak surveys and corrosion inspections at least once every three years. These  
11 programs are required by Commission rules, which are already more strict than  
12 their federal counterparts. As such, these programs are unaffected by the AMR  
13 installation project. Rather than criticize a worker trained to install AMR  
14 modules for not identifying a corroded pipe, I am much more interested in  
15 determining how the pipe got to be in that condition, and ensuring that Union  
16 workers who are trained to perform corrosion inspections are properly doing their  
17 jobs.

18 Q. Union President Pat White opined that Laclede's policy of replacing leaking  
19 meters deprives overbilled customers of the evidence of overbilling. Do you  
20 agree?

21 A. No. It is an utterly ridiculous statement. First, there is no link between a meter  
22 leak and an overbilled customer. Second, although meter leaks are not hazardous,  
23 any meter that is found to be leaking is, and has always been, replaced. A meter

1 read is taken and recorded at the time of replacement. If the meter has an AMR  
2 device, those readings are also available, and in fact, with AMR, more  
3 information will be available to Laclede than ever before. In addition, removed  
4 meters are tested in the meter shop and the results recorded. So there is plenty of  
5 evidence to ensure that customers are correctly billed.

6 Q. A few of the Union members also claimed that AMR dials move erratically, such  
7 as jumping or stalling, and that they sometimes click. Is this true, and does it  
8 affect safety?

9 A. First, there is no issue of safety associated with the movement of dials. Second, a  
10 clicking sound can occur if the AMR module is not properly aligned with the end  
11 of the drive axle. In these situations, our policy is to replace the module, even  
12 though there may be nothing wrong with it.

13 Q. Why is the module being replaced if the problem could be rectified without  
14 replacing the module?

15 A. In order to minimize customer inconvenience, we have chosen to not try to repair  
16 or re-install the same module. If we did try to repair it, and it turns out that the  
17 repair failed to remedy the issue, we must visit the home again. Rather than  
18 repeatedly inconvenience customers, we have chosen to simply replace modules  
19 in these cases.

20 Q. How often are you replacing AMR modules that aren't performing properly?

21 A. Through October 2006, the module replacement rate is just under 2%, including  
22 such replacements made simply as a matter of customer convenience. We

1 understand that this is in line with the 1-3% error rate experienced by other  
2 Missouri utilities in previous AMR installations.

3 Q. Please address the Union's allegations, as represented in the testimony of Dean  
4 Carlton, that dials are moving erratically, affecting meter reading, billing and leak  
5 detection.

6 A. Mr. Carlton knows, or should know, that his allegations are not true. First, Mr.  
7 Carlton is wrong when he attempts to portray this issue as an AMR issue. In fact,  
8 it has been several years since meter manufacturers made a design change to  
9 meter indexes that reduced the friction on the drive axle and allowed the test dial  
10 to turn more freely. Long before this AMR project even began, we reviewed this  
11 matter and found that it has absolutely no effect on the accuracy of either  
12 measuring or billing. Second, Laclede also addressed the leak testing issue long  
13 before Mr. Carlton filed his testimony, so again he has reason to know his  
14 testimony is not true. Specifically, as a precautionary measure, service  
15 technicians are told to watch the half-foot and two-foot meter test hands until both  
16 are on the upswing in order to determine if gas is passing through a meter. This  
17 approach may require the technician to wait several extra seconds, but it is  
18 worthwhile to obtain an accurate result.

19 **ADDRESSING THE AMENDED COMPLAINT**

20 Q. Attached to the Union's First Amended Complaint is an exhibit that included  
21 numerous addresses purporting to show various problems relating to AMR  
22 installations. Has Laclede reviewed these addresses?

23 A. Yes.

1 Q. What did Laclede find?

2 A. Laclede's findings are attached hereto in a document marked Schedule 2. There  
3 were more than 300 locations included in the Union's complaint exhibit. Laclede  
4 found and included in Schedule 2 about 220 addresses where entries were made in  
5 Laclede records for the location indicating a problem due to a leak-related issue,  
6 or an equipment issue, such as damage to a CellNet AMR module or faulty AMR  
7 installation. Of the 220 meters at these locations, it appears that 18 of them were  
8 not even equipped with AMR modules at the time a leak or other matter was  
9 reported. Another 60 meters were not changed but left in place, for various  
10 reasons. These reasons included instances such as a minor leak that was  
11 repairable on site, a leak or problem on a facility other than the meter, or no leak  
12 at all. Of the 160 meters that were removed by Union members and brought to  
13 Laclede's meter shop, roughly 22 of these meters were found to have no leak.

14 Q. Who made these findings?

15 A. These meters, along with other meters not listed in the Union's complaint exhibit,  
16 were examined and tested by other members of the Union working in Laclede's  
17 meter shop. These employees input the results of these tests onto a form, which is  
18 summarized on the document attached hereto as Schedule 1. In effect, Schedule 1  
19 is a more complete version of the information submitted by Union members in  
20 support of the Union's case.

21 Q. Did the Union's information also show that meters were leaking as a result of  
22 improper AMR installations?

1 A. No. As stated above, meters do not, and cannot, leak as a result of an AMR  
2 installation. In addition, we looked at the dates when leaks were reported and  
3 found them to be relatively remote and unrelated to when the AMR installations  
4 were posted. For example, the 220 addresses included in Schedule 2 included 78  
5 instances of a meter leak, either from a seal behind the center box, from  
6 somewhere other than behind the center box, or from multiple locations on the  
7 meter. Of these 78 occurrences, 63, or more than 80%, were reported more than  
8 30 days after the installation was posted in Laclede's records.

9 Q. What does this mean?

10 A. I conclude that, just as before the existence of AMR, there is a small percentage  
11 of non-hazardous leaks that develop on meters, and these leaks occur and are  
12 ultimately discovered without regard to whether a meter is equipped with an  
13 AMR module.

14 Q. Are you surprised at the number of meters equipped with AMR devices that are  
15 leaking, based on either the Union's complaint exhibit, or Laclede's own  
16 Schedule 1?

17 A. As stated above, the figures on Schedule 1 demonstrate that the frequency of leaks  
18 on AMR-equipped meters is actually less than the frequency of leaks on meters  
19 not equipped with AMR devices.

20 Q. Do you have any comments on specific examples mentioned in the Union's  
21 amended complaint?

22 A. Yes, I do. In paragraph 10 of the amended complaint, the service meter at 3918  
23 Walsh is referred to at bates no. 1 as having a leak on the face plate, whereas the



1 meter shop found no leak at all. The next location in paragraph 10 is a list of four  
2 meters in the basement of an apartment building at 12 Honey Locust in St.  
3 Charles. AMR installations were performed there in August 2005. A Union  
4 member performed an inspection of Laclede's piping and equipment there in  
5 November 2005, and found no leaks or other problems. The leaks were reported  
6 in January 2006, *after* that inspection by Union personnel. It defies logic for the  
7 Union to suggest that AMR installations caused leaks when an inspection  
8 performed three months after the installations failed to detect any leaks. Nor can  
9 the extensive corroded piping described by Ms. Wilson on bates 3-4 attached to  
10 the amended complaint be attributed to the installation of an AMR module on the  
11 meter.

12 Q. Do you have any other examples in the amended complaint you would like to  
13 address?

14 A. Yes. I am appalled by the Unions' approach to the matter described in paragraph  
15 11 of the amended complaint at 3228 Taft. The meter serving the second floor of  
16 3228 Taft was in place for 18 years without incident when it was replaced by a  
17 Union gas worker in January 2005. The installation was apparently substandard  
18 in that it left the meter in contact with the stone wall, where it was exposed to  
19 corrosion. The corrosion appears to have been so extensive as to have  
20 undermined the integrity of the meter in less than 11 months. Rather than express  
21 regret for the poor quality of the work performed, the Union has the audacity to  
22 not only parade the misinformed customer around in its anti-AMR publications,  
23 but to also lay the blame for this performance at the feet of an innocent AMR

1 installer, who just happened to be doing his job at around the same time the  
2 results of the Union's poor work came to fruition.

3 **ADDRESSING CUSTOMER CLAIMS**

4 Q. The Union has filed testimony on behalf of several Laclede customers, who have  
5 stated that they believe that Laclede Union gasworkers are better trained than  
6 AMR installers, and they believe that an AMR installation by the gasworkers  
7 would be safer. Do you agree?

8 A. No. I do not know the background or training of these customers, or what basis  
9 they have to make these statements. The AMR installers are appropriately trained  
10 to perform their jobs. Deployment of AMR in Laclede's service territory is being  
11 conducted in the same manner as that which has been successfully used by  
12 CellNet in other deployments in Missouri and other areas of the country. There is  
13 no added safety benefit from having gasworkers do the installations. This has  
14 been proven in Laclede service territory by the fact that 600,000 installations have  
15 been performed without one incident.

16 Q. Should customers be able to demand that Laclede use a Union worker?

17 A. Laclede believes in accommodating its customers where possible, and the  
18 Company understands the loyalty that Union supporters wish to show Laclede's  
19 Union workers. However, Laclede has already contracted with CellNet to  
20 perform AMR installations. Laclede has worked with CellNet to plan and  
21 produce extensive training materials for the installers, which is attached to the  
22 deposition of Ms. Deb Redepenning, and incorporated herein. Laclede cannot  
23 efficiently and cost-effectively perform its business serving over 600,000

1 customers, and at the same time permit individual customers to dictate which  
2 workers will perform which tasks. Further, Laclede's existing work force could  
3 not have adequately performed these installations and their other duties and  
4 responsibilities, and it made no sense to hire additional employees for the  
5 relatively short duration of the deployment project.

6 Q. Does this conclude your rebuttal testimony?

7 A. Yes, it does.

City of St. Louis

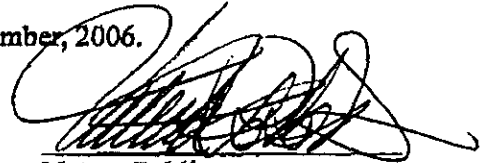
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I, Patrick A. Seamands, being of lawful age state: that I am Chief Engineer of Laclede Gas Company; that I have read the foregoing testimony, that the statements and information set forth in such testimony are true and correct to the best of my information, knowledge and belief; and, that I am authorized to make this statement on behalf of Laclede.



Patrick A. Seamands

Subscribed and sworn to before me this 8th day of November, 2006.



Notary Public

My Commission Expires: 10/27/2007



VALERIE N. ROBERTS  
Notary Public - State of Nevada  
Appointment Recorded in: Washoe County  
No: 03-85240-2 - Expires: October 27, 2007

NP

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**SCHEDULE 2**

**NP**