

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of)
USW Local 11-6,) GC-2006-0390
Complainant)
and)
Laclede Gas Company,)
Respondent)

AFFIDAVIT OF STEVEN A. MCFARLANE

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) ss

Steven A. McFarlane, of lawful age, on his oath states: that he has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 4 pages of Direct Testimony to be presented in the above case, that the answers in the following Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Steven A. McFarlane
Steven A. McFarlane

Subscribed and sworn to before me this 22nd day of September, 2006.

Linda A. Skarda
Notary Public

My commission expires

May 25, 2008

NP

DIRECT TESTIMONY
OF
STEVEN A. MCFARLANE
SUBMITTED ON BEHALF OF USW 11-6
LACLEDE GAS COMPANY
CASE NO. GC-2006-0390

1 Q. Please state your name and address.

2 A. My name is Steven A. McFarlane and my address is **

3 Green Bay, WI 54313.

4 Q. Do you have any union affiliation?

5 A. I am the treasurer of Operating Engineers Local 310.

6 Q. Have automatic meter reading devices been installed in Wisconsin?

7 A. Yes. Numerous Wisconsin utilities have switched to an automatic meter reading
8 system.

9 Q. Are gas utilities in Wisconsin governed by a public agency?

10 A. Yes.

11 Q. What agency?

12 A. The Wisconsin Public Service Commission.

13 Q. What review, if any, has the Wisconsin Public Service Commission taken
14 regarding the installation of AMR devices?

15 A. The Wisconsin Public Service Commission reviewed the installation of AMR
16 devices in the Case 6690-CG-148. In that case, the Wisconsin Public Service

1 Commission required stipulations by the utility company before allowing them to
2 install an AMR device.

3 **Q. What are some of those stipulations?**

4 A. Under an Order dated April 8, 2003, Wisconsin Public Service Corporation
5 (WPSC), a company whose employees my union represents, is required to
6 perform a leak survey of the service line and meter assembly every three years
7 where the AMR system is used, despite the fact that the code only requires them
8 to perform this survey on a five year basis. A true and accurate copy of the
9 Wisconsin Public Service Commission order dated April 8, 2003 is attached and
10 incorporated here as Exhibit 1. The Public Service Commission also required
11 WPSC to work with members of Local 310 to develop a maintenance plan for the
12 continuing surveillance of its facilities for unsafe and unusual maintenance
13 conditions. The Public Service Commission further required WPSC to inspect the
14 facilities at the time of AMR conversion and correct any unsafe conditions.

15 **Q. What resulted from the union-utility maintenance plan negotiations ordered**
16 **by the Public Service Commission?**

17 A. As a result of the maintenance plan negotiations, there is now a hazard survey
18 performed on one third of all meters every year. The hazard survey looks for a
19 variety of unsafe conditions, including leaks, vehicular damage, settling/stress,
20 signs of diversion, and the attachment of objects to a meter (for instance, a bicycle
21 or a dog chain that could cause corrosion). Diversion might have occurred if the
22 plastic caps holding the AMR device on the meter are broken (showing that
23 someone may have tried to remove the AMR device), the paint is chipped on the

1 meter fittings (showing that someone may have tried to move the meter), or if
2 there are any pipes or hoses coming off the gas meter (possibly showing an
3 attempt to bypass the meter and steal gas).

4 **Q. Who performs the hazard surveys and surveys of the service line and meter**
5 **assembly?**

6 A. Union employees perform these surveys.

7 **Q. What other surveys are performed?**

8 A. Other surveys performed include the walking flame ionization (FI) survey, the
9 business district survey and the corrosion survey. Finally, we also perform
10 surveys pursuant to federal law.

11 **Q. How many meters are inspected each year for at least one survey?**

12 A. Counting the hazard surveys, every meter is reached in a given year.

13 **Q. Have you encountered leaking AMR devices?**

14 A. Yes. I work as a distribution mechanic at WPSC. My job duties include working
15 on leaking and nonfunctional AMR meters. Before changes were made in the
16 training of the installers, there were over one thousand leaks reported in a 1 month
17 period in 2004 resulting from recent AMR installations. However, WPSC tried to
18 hide the fact that the leaks occurred and the amount of time we spent replacing
19 meters with recently installed AMR devices by directing employees to record
20 AMR leaks as "maintenance to the system."

21 **Q. Where are leaks usually located on an AMR meter?**

22 A. AMR meter leaks are typically found on the faceplate.

23 **Q. What brand of AMR device has been installed?**

1 A. The AMR device model is manufactured by Hexagram, Inc. It uses a remote
2 receiver system.

3 Q. Who installed the Hexagram AMR?

4 A. Sargent Electric Company.

5 Q. Does this conclude your direct testimony?

6 A. Yes.

Date Mailed
April 8, 2003

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Public Service Corporation, as a
Gas Public Utility, for Authority to Construct, Install and
Place Into Operation an Automated Meter Reading System
In its Natural Gas Service Territory

6690-CG-148

**FINDINGS OF FACT, CONCLUSIONS OF LAW,
CERTIFICATE OF AUTHORITY
AND ORDER**

This Order APPROVES, subject to conditions, the application of Wisconsin Public Service Corporation (WPSC or company) for authority to install and place in operation an automated meter reading system in its natural gas service territory.

Background

On February 19, 2002, the Commission received an application from WPSC, a gas public utility, for authority under Wis. Stat. § 196.49 and Wis. Admin. Code § PSC 133.03(1) to install and place in operation an automated meter reading (AMR) system for its natural gas operations (proposed project).

Although previously considered by the Commission in dockets 6690-UR-111 and 6690-UR-112, WPSC had not applied for a certificate of authority as required under Wis. Admin. Code § 133.03(1). WPSC ceased installation of the natural gas AMR devices while the Commission reviewed the company's application.

The issuing of the Notice of Investigation for this docket was delayed to pursue issues associated with the operation of the proposed AMR system and its impact on the company's electric system and possible stray voltage effects. After satisfying itself that these issues were being addressed appropriately, the Commission issued a Notice of Investigation on January 2, 2003.

On January 21, 2003, the Commission received a request for hearing from the International Union of Operating Engineers (IUOE), Local 310, citing concerns regarding the diminution of safety inspection that occurs with the implementation of AMR and that WPSC had failed to adequately address these concerns in its application. No hearing is required under Wis. Admin. Code § PSC 133.05(2) to be held in this docket. At its open meeting of March 12, 2003, the Commission reviewed IUOE, Local 310's request and found that the Commission may establish appropriate conditions on any order issued in this docket with information presently available and denied the request for hearing.

Under Wis. Stat. §§ 15.02(4) and 196.02 the Commission has delegated the authority to the administrator of the Natural Gas Division to issue orders for routine certificates of authority.¹ The acting division administrator referred this matter to the Commission for its review. The gas-portion of WPSC's AMR system represents a capital expenditure of \$52,409,979. In addition, although only the gas portion of the AMR equipment requires construction authorization, the project is both a gas and electric project. Therefore, review and approval of this proposed project is being done by the Commission itself.

¹ Approval of construction of gas utility facilities is item 26 in the delegated items chart in the Practice and Procedure Manual. Under Practice and Procedure 10.04, delegated decisions should be, among other things, routine and noncontroversial.

Findings of Fact

1. WPSC currently provides natural gas service in various areas across northeastern Wisconsin.
2. No significant environmental consequences are associated with the proposed project.
3. No significant risk of flooding is associated with the proposed project.
4. The installation of the proposed project will not affect any historic properties.
5. When the proposed project is placed in operation, the addition to WPSC's cost of service associated with the proposed project will be proportionate to the increase in value or available quantity of service.
6. The completion of the proposed project will not substantially impair the efficiency of the service that WPSC provides.
7. The completion of the proposed project will not provide facilities unreasonably in excess of WPSC's probable future requirements.

Conclusions of Law

1. WPSC is a public utility as defined in Wis. Stat. § 196.01(5)(a) and is required to obtain a certificate of authority for its proposed project under Wis. Stat. § 196.49(3) and Wis. Admin. Code § PSC 133.03(1)(i).
2. The Commission has authority under Wis. Stat. §§ 1.11, 29.604, 44.40, 196.02, 196.395, 196.40, and 196.49 and Wis. Admin. Code § PSC 133.03 to issue a certificate of

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authority and order without or with conditions authorizing WPSC to install and place in operation an automated meter reading system, as described in the opinion section of this order.

3. No hearing under Wis. Admin. Code § PSC 133.05(2) was required to be held in this docket.

4. The proposed project is reasonable and appropriate in all respects under Wis. Stat. § 196.49.

Opinion

WPSC is a gas public utility as defined in Wis. Stat. § 196.01(5)(a) and is engaged in the business of selling and distributing natural gas to the public in various areas throughout northeastern Wisconsin.

Wis. Admin. Code § PSC 133.03(1)(i), requires that a gas public utility obtain Commission authorization under Wis. Stat. § 196.49 for the installation of any equipment, property, apparatus, building, facility, or addition thereto, the cost of which exceeds \$600,000 or four percent of the utility's gross gas operating revenue received during the previous calendar year, whichever is less. The total capital cost of the AMR project with respect to gas operations is estimated by WPSC to be \$52,409,979.

WPSC proposes to complete the construction and installation of AMR equipment for all of the company's gas meters - involving approximately 270,000 gas customers in Wisconsin.

The proposed project will allow WPSC to obtain natural gas customer usage data via electronic communication between the meter and a data collection device. WPSC states the AMR system will provide the ability to gather more frequent and more accurate natural gas

customer usage and eliminate manual meter reading methods and the associated costs. AMR will also provide WPSC the ability to create new, innovative pricing programs, develop the infrastructure that will allow for customer choice, and provide enhanced customer services.

The electronic communication and data collection equipment WPSC proposes to install will utilize several technologies, each of which WPSC states is already currently in use in the company's gas and/or electric system. These four different technologies are necessary to address different needs and service configurations (*e.g.*, electric only service, natural gas service only, combined gas and electric service).

For the majority of WPSC residential and small commercial combination natural gas and electric customers, WPSC states that a power-line carrier technology, Two-Way Automated Communications System (TWACS), will be used. TWACS uses existing electric distribution power line infrastructure to communicate with the meter. When prompted, a module installed on each meter sends usage data over electric distribution power lines to transmitting and receiving units located at the substation end of the distribution feeders. The substation collection devices then transmit the data via multi-point land based and telephone circuits. WPSC states the power line system is the only practical network solution for providing service benefits of expanded meter reading capability and efficiency in rural areas because it uses existing components that are everywhere combination natural gas and electric service exists.

Three other technologies will also be used. NERTEC is a telephone-based AMR system currently in use for WPSC residential and commercial combination natural gas and electric customers, and for some residential, commercial and small industrial natural gas-only customers, and for some natural gas transportation customers, including customers participating in WPSC's

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Gas Choice Program. This AMR device shares the customer's telephone line to communicate meter readings to the company.

DENET is also a telephone-based AMR system which uses shared or dedicated telephone lines. It is currently the WPSC standard meter reading device for interruptible gas customers and gas transportation customers. WPSC states the DENET technology will likely be used to provide AMR for large volume commercial and industrial customers.

For some WPSC residential and small commercial combination gas and electric customers, and for some residential and small commercial gas-only customers, a radio-based system is being used. Meters are equipped with a radio module that sends usage data to transceivers mounted on utility poles or rooftops. The transceivers then pass the data on to a central location.

The Commission authorized WPSC to proceed with the Phase I installation of the AMR system as a pilot program in docket 6690-UR-111 and with the system-wide installation in docket 6690-UR-112. These rate proceedings covered both electric and gas operations. The total cost of both gas and electric AMR facilities is estimated to be approximately \$118,000,000. This Order does not address the electric portion of this project.

WPSC completed the installation of Phase I of its natural gas AMR system on December 31, 2001, with approximately 20,000 natural gas AMR installations in the Antigo, Stevens Point, Sturgeon Bay, Wabeno and Wausaukee areas. The total capital cost of Phase I was \$2,795,320.

WPSC began installing Phase II of its natural gas AMR system in May 2001. Phase II includes approximately 219,197 natural gas AMR installations in the remaining portions of the

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WPSC service territory, excluding the former Wisconsin Fuel and Light Company (WF&L) service areas. The installation of Phase II is still in progress. The total capital cost of Phase II is expected by WPSC to be \$37,114, 659.

Phase III will include approximately 52,100 natural gas AMR installations in the former WF&L urban areas. WPSC estimates the total capital cost of Phase III to be \$12,500,000.

During the installation of Phase II of the project concerns were raised by the Commission and the Department of Agriculture, Trade and Consumer Protection about the use of the power line communication technology on dairy farms.² In March 2002, WPSC voluntarily suspended deployment of its AMR program and limited use of the power line communication technology for meter reading pending further study to determine what effect, if any, the TWACS signal has on dairy cows in the WPSC service territory.

WPSC recently resumed deployment of its AMR program in accordance with new Commission guidelines which require WPSC to modify its rural deployment strategy and to use an alternative AMR solution for dairy farms as described in a letter to WPSC from the Commission dated November 26, 2002. Nothing in this Order modifies or eliminates any of the agreements, practices or expectations noted in that letter.

WPSC states the AMR system will improve metering technology and accuracy. Approximately 24,000 gas meters, including some of the oldest WPSC gas meters in service, are

² It was also during this time that the Commission notified WPSC that a Certificate of Authority was required for the gas portion of the project.

not compliant with AMR and will be replaced.³ New indexes will be installed on all other meters.

WPSC states the AMR system will improve meter and billing accuracy and reduce estimated meter readings, all of which will result in better customer satisfaction and reduce customer service and account management costs for WPSC. No customer service and account management cost saving estimates were provided by WPSC.

WPSC states the AMR system will allow the company to offer additional services to customers such as preferred billing dates, summary billing and more detailed conservation information. For fixed network systems, WPSC states the ability to query the meter at almost any time will allow employees to handle meter inquiries and special meter read requests while the customer is on the phone, increasing service levels and reducing follow up costs. The expected result will be fewer customer inquiries. These benefits are apparently not available to WPSC customers with non-fixed network AMR systems. WPSC states the special conditions the Commission's guidelines place on the TWACS system will not limit the ability of WPSC to offer additional services such as preferred billing dates.

Data from AMR could be used by WPSC to better understand peak loading on specific portions of the company's distribution system and allow for better planning for sizing of the system and making timely system reinforcements when needed. WPSC states the special conditions the Commission's guidelines place on the TWACS system will not limit the ability of WPSC to gather the data necessary to realize this potential benefit.

³ Not included in the total capital cost of \$52,409,979 is an estimated \$2,340,240 cost for the replacement of approximately 24,000 current WPSC gas meters that must be retired and replaced because they are not compatible with the AMR devices.

The AMR systems will allow WPSC to read gas meters without having to dispatch a meter reader. When the AMR system is operational for all gas meters, WPSC expects manual meter reading costs for natural gas customers to be reduced by approximately \$629,000 annually.

The meter reading cost savings are generated by eliminating meter readers. These meter readers are members of IUOE, Local 310. In addition to reading meters, WPSC's meter readers also perform some pipeline safety related functions, some of which are specifically required by state and federal pipeline safety regulations. Historically, Wisconsin utilities have trained meter readers to recognize and report atmospheric corrosion on meter sets in order to comply with federal pipeline safety code, 49 CFR §192.481. With AMR, the traditional meter reading function is eliminated and an alternate method of inspecting meter sets for atmospheric corrosion will be necessary.

On February 28, 2001, WPSC issued a new operation and maintenance procedure, "Monitoring Atmospheric Corrosion – Meter Sets." The procedure specifies that approximately one third of all meter sets will be inspected each year. A review of WPSC 2001 operation and maintenance records found that in 2001, a separate inspection of gas meter sets for evidence of atmospheric corrosion was conducted in most WPSC gas service territories.

A federal pipeline safety code provision, 49 CFR 192.613(a), requires each operator to have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning leakage, failures or unusual operating and maintenance conditions. To comply with the continuing surveillance requirement, company personnel, including meter readers are trained to recognize and report potential safety hazards. Historically, meter readers have reported potential safety hazards such as gas odor or leaks, meter facilities that appear to have

been damaged or tampered with, service shutoff valves that may not be readily accessible in an emergency, service regulators buried in snow or encased in ice, etc., as part of their regular duties.

Although the continuing surveillance requirement does not specifically require monthly inspections of meter sets, the elimination of the traditional meter reading function could result in the time period between inspections by trained personnel to approach three years. Frequent inspections performed by trained meter readers would appear to provide a safety benefit for customers and the public that will be diminished with the elimination of the traditional meter reading function.

WPSC states that as the AMR equipment is installed, all natural gas facilities will be inspected and any unsafe or unusual conditions noted and corrected. In addition, WPSC has agreed to conduct the leak survey of the gas service lines and meter sets at least once every 3 years, and at intervals not to exceed 39 months in all areas where an AMR system will be in use. Wis. Admin. Code § PSC 135.723(cw)(6) requires a leak survey of all gas services at intervals not to exceed 5 years.

The Commission requires WPSC to work with two or more representatives from IUOE, Local 310, to develop a maintenance plan to be approved by Commission staff by the end of 2003. The maintenance plan shall address procedures for continuing surveillance of its facilities to determine and take appropriate action concerning unsafe or unusual operating and maintenance conditions. The company shall also inspect facilities at the time of AMR conversion and correction of any unsafe or unusual conditions.

Commission staff has reviewed the plans, specifications, and estimated costs of the proposed project and the costs are consistent with the technology used. The Commission notes that the cost of the TWACS system WPSC is installing approaches twice the cost of a mobile radio-based system, such as the systems installed by Madison Gas and Electric Company and Wisconsin Gas Company. The installation of the automated meter reading system for natural gas operations will result in more accurate meter readings and less reliance on estimated bills. In addition, it may allow WPSC to offer innovative customer choice and pricing options. Although construction approval is required for only the gas portion of the AMR project, the value of the enhanced services is largely dependent upon analysis from a joint gas and electric perspective. When the Commission approved rate recovery for the joint gas and electric AMR project in dockets 6690-UR-111 and 6690-UR-112, it was aware that the project was not justified solely on an economic basis.

Upon review, the plans, specifications, and estimated costs of the proposed project are reasonable. The installation of the automated meter reading system for natural gas operations will result in more accurate meter readings and less reliance on estimated bills.

WPSC's proposed project is needed in the public interest to provide adequate and reliable service to present and future natural gas customers.

All equipment installed for the proposed AMR system will be attached to customer meters or will be installed on or in existing utility poles and buildings. The installation of the proposed facilities would not have any undue adverse impacts on the human or natural environments.

The proposed project has been reviewed by the Commission for environmental impact. This is a Type III action under Wis. Admin. Code § PSC 4.10(3). No unusual circumstances suggesting the likelihood of significant environmental consequences have come to the Commission's attention. Neither an environmental impact statement under Wis. Stat. § 1.11 nor an environmental assessment is required.

The proposed project was reviewed for potential flood hazard exposure per Executive Order 73 (1985). As no flood-sensitive facilities are to be located in or near any designated floodplain or flood prone areas, there is no significant flood risk to the proposed project.

The installation of the proposed facilities is not expected to affect any historic properties under Wis. Stat. § 44.40.

In order to allow WPSC to efficiently schedule installation of the proposed automated meter reading project, it is reasonable for this Order to take effect the day of mailing to or on the day of physical service upon WPSC, whichever is earlier.

Certificate of Authority

WPSC, as a gas public utility, may install and place in operation the automated meter reading system, as described in the opinion section of this Order. The Commission grants WPSC a certificate to proceed with the approved project, subject to the conditions of this Order.

IT IS ORDERED:

1. WPSC may install and place in operation the proposed automated meter reading project (AMR) described in the opinion section of this Order (approved project) and is granted a Certificate of Authority for the approved project subject to the conditions in this Order.
2. WPSC shall use alternative AMR solutions on dairy farms as described in a letter to WPSC from the Commission dated November 26, 2002.
3. WPSC shall conduct the leak survey of gas service lines as required in Wis. Admin. Code § PSC 135.723(cw)(6) at least once every three years, and at intervals not to exceed 39 months thereafter, for all areas where an automated meter reading system is in use.
4. WPSC shall work with two or more representatives from IUOE, Local 310, to develop a maintenance plan as discussed in the opinion section of this Order, to be approved by Commission staff by the end of 2003.
5. WPSC shall conduct an inspection of its facilities at the time of AMR conversion and promptly correct any unsafe or unusual conditions.
6. WPSC shall notify and obtain approval from the Commission before proceeding with any substantial change in the design, size, cost, or location of the approved project.
7. WPSC shall install the approved project in accordance with applicable state law including Wis. Admin. Code § PSC 135, and 49 CFR Parts 192 and 199.
8. This Order shall be effective on the day of mailing to or on the day of physical service upon WPSC, whichever is earlier.
9. WPSC shall notify the Commission within 5 working days of the date actual

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on-site physical installation of the approved project is started and shall also notify the Commission within 20 working days after the approved facilities are placed in service.

10. Upon completion of installation of the approved project, WPSC shall file with the Commission a complete report of the final costs segregated by plant account and shall explain any variances between the authorized and actual costs.

11. Upon completion of installation of the approved project, WPSC shall file with the Commission a complete report of the facilities retired including the book value of the facilities.

12. If WPSC does not begin on-site physical installation within one year of the effective date of this Order, the certificate authorizing the approved project shall become void unless WPSC files a written request for an extension of time with the Commission before the date on which the certificate becomes void and an extension of time is granted by the Commission.

13. If WPSC has not begun on-site physical installation and has not filed a written request for an extension before the date the certificate becomes void, WPSC shall inform the Commission of those facts in writing within 20 working days after the date on which the certificate becomes void for the approved project.

14. Jurisdiction is retained.

Dated at Madison, Wisconsin, _____

By the Commission:

Lynda L. Dorr
Secretary to the Commission
DLS:TAR:pr:g:\order\pending\6690cg148
See attached Notice of Appeal Rights

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

If this decision is an order after rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not an option.

This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

Revised 9/28/98