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BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Annual Application of Duke Energy Ohio for an Adjustment to Rider AMRP Rates	)))	RDR Case No. 10-2788-GA-~~UNC~~
In the Matter of the Application of Duke Energy Ohio for Tariff Approval	)))	Case No. 10-~~2788~~-GA-ATA 2789

DIRECT TESTIMONY OF

GARY J. HEBBELER

ON BEHALF OF

DUKE ENERGY OHIO

February 28, 2011

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Gary J. Hebbeler. My business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. WHAT IS YOUR CURRENT POSITION?

A. I am employed by the Duke Energy Business Services, a subsidiary of Duke Energy Corporation (Duke Energy) as General Manager, Gas Field and Systems Operations.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

A. I am a graduate of the University of Kentucky, where I obtained my Bachelor of Science in Civil Engineering. In 1994, I obtained my license as a Professional Engineer in the Commonwealth of Kentucky and by reciprocity later in the State of Ohio.

Q. PLEASE SUMMARIZE YOUR BUSINESS EXPERIENCE.

A. I began working for The Cincinnati Gas & Electric Company (CG&E), now known as Duke Energy Ohio, Inc. (Duke Energy Ohio or Company), in 1987 as an engineer in the Gas Engineering Department. I initially worked as a project engineer. I was responsible for designing gas mains and water lines, coordinating projects with governmental agencies and consulting firms, calculating pipe capacity and stress, and evaluating company paving standards and designs. Until 1998, I worked for CG&E and then Cinergy Services, Inc., both of which were subsidiaries of Cinergy Corp. I was Vice President for Michels Concrete

Construction, Inc. during 1998 and returned to Cinergy Corp.'s Gas Engineering Department in 1999. In 2000, I was promoted to Manager, Contractor Construction. In this position, I helped design the Accelerated Main Replacement Program (AMRP). I also managed the construction activities for replacing the cast iron/bare steel pipe under the AMRP. In 2002, I was promoted to Manager, Gas Engineering. In this position, I was responsible for managing the engineering activities and the capital expenditures for Gas Operations in Duke Energy Ohio's and Duke Energy Kentucky, Inc.'s (Duke Energy Kentucky) gas distribution systems. In 2006, I was promoted to General Manager, Gas Engineering. In addition to my continued responsibilities for gas engineering activities and capital expenditures, I was responsible for construction activities for the AMRP, street improvements, pressure improvements and major projects. In September 2010, I was promoted to my current position of General Manager, Gas Field and Systems Operations. I am responsible for managing the construction, installation, operation and maintenance of Duke Energy Ohio and Duke Energy Kentucky's natural gas distribution system. Approximately 1000 company and contractor personnel are involved in these activities on behalf of Duke Energy Ohio and Duke Energy Kentucky.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, I have testified in several rider filings before the Public Utilities Commission of Ohio (Commission).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to explain the construction and management practices of Duke Energy Ohio as they relate to the AMRP and Riser Replacement Program (RRP) for construction activities during calendar year 2010. In addition, Duke Energy Ohio is requesting to incorporate certain large diameter cast iron and bare steel mains and the associated metallic services to improve the safety and reliability of Duke Energy Ohio's natural gas distribution system.

II. DESCRIPTION OF THE AMRP

Q. PLEASE GENERALLY DESCRIBE THE AMRP.

A. Duke Energy Ohio adopted the AMRP in 2000, with construction beginning in 2001, to accelerate its replacement schedule for cast iron and bare steel mains and associated service lines in order to improve the safety and reliability of Duke Energy Ohio's natural gas distribution system.

When Duke Energy Ohio adopted this program, its cast iron pipe in service dated back to 1873 and its bare steel pipe in service dated back to 1884. Cast iron and bare steel pipe, however, are more prone to leaks than plastic and coated, cathodically protected steel, which are now the material of choice for main construction throughout the United States. In 1971, the U.S. Department of Transportation (DOT) adopted regulations removing cast iron from its list of approved materials for new pipe construction.

Duke Energy Ohio adopted formal cast iron and bare steel main replacement programs in 1988 and 1989, respectively. Each formal program consisted of an internally developed program used in conjunction with two

commercially available programs; namely, the Cast Iron Maintenance Optimization System (CIMOS®) and the Bare Steel Maintenance Optimization System (BSMOS®), respectively. These programs identified certain factors associated with cast iron and bare steel main activities, such as year installed, operating pressure, length of pipe and number of prior activities. The programs then generated a ranking system that Duke Energy Ohio used to determine which sections of cast iron and bare steel main to replace. The in-house program is still being used to target these types of pipe replacement projects.

Under the CIMOS® and BSMOS® programs, Duke Energy Ohio was replacing the cast iron and bare steel mains on a replacement schedule that would have taken approximately 90 years to complete. By that time, the mains that Duke Energy Ohio would have been replacing would have been over 200 years old.

Q. PLEASE DESCRIBE THE PROGRESS DUKE ENERGY OHIO HAS MADE IN INSTALLLING NEW MAIN AND SERVICE LINES SINCE INITIATING THE AMRP.

A. Duke Energy Ohio's gas distribution system consists of approximately 5,541 miles of distribution mains. Prior to commencing the AMRP, Duke Energy Ohio had approximately 1,200 miles of cast iron and bare steel main in service. As reflected in the following table, Duke Energy Ohio has replaced approximately 866 miles of cast iron and bare steel mains since starting the AMRP construction in 2001:

Year	Miles Replaced

2001	70
2002	102
2003	103
2004	99
2005	99
2006	86
2007	77
2008	76
2009	80
2010	70

Duke Energy Ohio has also replaced approximately 82,480 main-to-curb service lines. Duke Energy Ohio estimates that it has approximately 303 remaining miles of cast iron and bare steel mains of twelve-inch and smaller diameter according to Duke Energy Ohio plant information. However, Duke Energy Ohio has completed a preliminary plan projecting the miles to be complete by year to the end of the program using the record information. The preliminary review reveals fewer miles on the maps than we have recorded in plant. Therefore, we will be auditing the mapping system to confirm the number of miles to be replaced. Duke Energy Ohio has therefore replaced nearly 72% according to Duke Energy Ohio plant records of its cast iron and bare steel mains, measured in terms of pipe length, since the AMRP has been in effect.

Q. WHY HAVE THE MILES OF MAIN REPLACED DECLINED SINCE 2005?

A. Duke Energy Ohio has managed to keep costs at the lowest possible levels because over approximately 95% of the annual AMRP work is done using outside

contractors selected through a competitive bidding process. The competitive bidding process allows Duke Energy Ohio to award contracts to the lowest and best bidder. The Company has made investments for the AMRP each year, consistent with the rate cap levels established by the Public Utilities Commission of Ohio's (Commission) May 30, 2002, Order in Case No. 01-1228-GA-AIR and Case No. 07-589-GA-AIR. There are three basic reasons why the number of miles Duke Energy Ohio can replace with this level of investment has declined recently.

First, general inflation has prevented the Company from replacing the same number of miles of main with the same level of investment. Costs for construction materials and labor have increased significantly since 2005. In my opinion, these cost increases result from other utilities adopting main and riser replacement programs similar to the AMRP and Riser Replacement Program (RRP) and also adopting integrity management programs in response to new gas pipeline safety regulations promulgated by the U.S. DOT.

Second, the Company adopted new installation procedures in 2006 in response to an incident in Middletown, Ohio, where a gas line breached a sewer line. This circumstance was not discovered until a plumber augered out the clogged sewer line. The plumber's auger pierced the gas line and caused an explosion. Prior to this incident, Duke Energy Ohio relied on municipalities to provide it with records of where their sewer lines were located. After this incident, however, the Company's investigation revealed that some municipalities do not maintain reliable records of sewer locations. To promote the safety of the

general public and Duke Energy Ohio's customers and employees, the Company changed its installation practices to perform a pre-locate of the sewer lines before and to videocamera the location of the sewers after the gas main installation. This additional work allows the Company to confirm that no sewer line is breached during the gas main installation process. The Company also limited the situations where it will allow installation of curb-to-meter service lines using directional drilling. These new installation procedures have increased AMRP costs but safety compels that the Company follow these additional procedures.

Third, the Company is now replacing gas mains in more urban locations, where more of the gas lines tend to be located under paved surfaces. This increases the labor, material and restoration costs necessary to replace the gas mains and to restore the construction site to an acceptable condition. In addition, Duke Energy Ohio is encountering more gas service lines in unacceptable locations. The U.S. DOT's Gas Pipeline Safety regulations require that gas service lines be installed in locations that will not present safety hazards if a leak occurs. Relocating the new gas service lines to a different, accessible location often increases costs.

Q. PLEASE DISCUSS THE BENEFITS OF THE AMRP PROGRAM TO CUSTOMERS.

A. The AMRP has been quite successful in allowing Duke Energy Ohio to reduce the amount of cast iron and bare steel mains in its distribution system. This has resulted in substantial benefits to Duke Energy Ohio's customers and to the public at large.

Customers and the public at large benefit from the improved safety and reliability of Duke Energy Ohio's natural gas distribution service. One key safety measure of the AMRP's success is the leak rate for Duke Energy Ohio's gas distribution system. The incidence of leaks repaired has decreased significantly, from 6,223 in 2002 to approximately 5,194 in 2010. In addition, the severity of leaks reported has been reduced. Customer outages resulting from water infiltration have also been reduced, thereby mitigating costly emergency repairs and minimizing inconvenience to customers.

This reduced incidence of leaks has caused Duke Energy Ohio's maintenance accounts associated with leaks to decline from approximately $6.4 million in 2001 to $ 3.9 million in 2010. To date, customers have realized approximately $16.3 million in maintenance savings through Rider AMRP. These maintenance savings have been returned to customers through the Rider AMRP tracking mechanism. Additionally, the maintenance savings were reflected in the 2007 rate case. Customers also benefit from Rider AMRP because Duke Energy Ohio has not had to file frequent and costly general gas rate cases to recover its capital expenditures for the AMRP. The Commission has conducted annual Rider AMRP proceedings for Duke Energy Ohio to update this tracking mechanism in an efficient and expeditious manner.

In addition to these significant benefits, Duke Energy Ohio has been able to coordinate certain construction activities with governmental agencies, thereby reducing costs and limiting the inconvenience to the public. By way of example, Duke Energy Ohio coordinates the replacement of natural gas facilities with governmental agencies' road improvement projects. It also provides a long-term construction schedule, which enables these agencies to identify those future projects that may benefit from coordinated effort. The Company has also been able to better integrate the existing natural gas distribution system. Prior to starting the AMRP, Duke Energy Ohio's natural gas service territory included areas where pressures were lowered to reduce leaks resulting from deteriorated facilities. This, in turn, resulted in the system being segregated. The AMRP allows Duke Energy Ohio to increase pressures without having to incur costs associated with the construction of pressure improvements.

Finally, Duke Energy Ohio assumes ownership of the curb-to-meter services when installing new services, replacing an existing service, or renewing a riser. Given its expertise, as compared to the customer, Duke Energy Ohio is better positioned to determine when equipment needs to be replaced.

Q. PLEASE EXPLAIN DUKE ENERGY OHIO'S INTEGRITY MANAGEMENT PROGRAM.

A. Duke Energy Ohio developed its Integrity Management Program in response to federal legislation issued in 2002 and accompanying regulations issued by the U.S. DOT Office of Pipeline Safety. These regulations require operators of hazardous liquid pipelines and natural gas transmission pipelines to provide

enhanced pipeline safety inspection and testing activities for their facilities. The regulations also require the hazardous liquid pipeline and natural gas transmission pipeline operators to develop a program to identify all heavily populated areas traversed by their pipelines, develop a baseline assessment plan, conduct periodic risk assessments, and implement certain maintenance procedures.

In response to the law and regulations, Duke Energy Ohio developed its Integrity Management Program in 2004. This program is a comprehensive systematic approach to maintain and improve the safety of the Company's hazardous liquid and transmission pipeline system. The Integrity Management Program is comprised of five separate plans – Integrity Management Plan, Performance Plan, Communications Plan, Management of Change Plan, and Quality Control Plan – that provide the foundation for the program and include the processes and procedures necessary to comply with the laws and regulations.

The ongoing integrity activities for 2010 include: identifying high consequence areas; evaluating pipeline threats and conducting risk assessments for each covered pipeline segment; identifying and implementing additional preventative and mitigative measures; conducting integrity assessments through pressure testing or direct assessment methods; and remediating conditions found during integrity assessments.

Q. HOW DOES DUKE ENERGY OHIO PLAN FOR CAST IRON AND BARE STEEL MAIN REPLACEMENT UNDER THE AMRP?

A. The AMRP is designed to replace the cast iron and bare steel in the system that is twelve inches in diameter or smaller. For larger diameters, the majority of the

pipe is either coated, or protected steel. There is a relatively small amount of cast iron and bare steel present in the larger diameters. However, in the past few years, Duke Energy Ohio's leaks on certain larger diameter cast iron and bare steel pipes have escalated to an unacceptable rate. Therefore, Duke Energy Ohio is requesting to include under the AMRP the replacement of certain large diameter cast iron and bares steel pipes and the associated metallic services. The balance of the pipes not replaced under this program will be monitored and replaced if necessary in conjunction with other improvement projects. An analysis of the large diameter was performed and the replacement criterion was based on leaks per mile of main. In addition, considerations were made for additional replacement if the large diameter pipe was in a class four location and did not meet the leaks per mile criteria.

The AMRP consist of four types of projects: Modules, CIMOS®, BSMOS® and Street Improvements. The Module work encompasses two- to five-mile replacement segments and is a proactive program to replace cast iron and bare steel. CIMOS® and BSMOS® are responsive programs to replace the cast iron and bare steel in the system with the highest possibility of developing future incidents. Street Improvement work involves replacing cast iron and bare steel pipe as a result of projects initiated by governmental entities. In addition to replacing cast iron and bare steel mains, Duke Energy Ohio replaces associated services as part of the AMRP.

Q. HOW MANY MILES OF CAST IRON AND BARE STEEL MAIN DOES DUKE ENERGY OHIO PLAN TO REPLACE UNDER THE AMRP

DURING THE NEXT SIX YEARS AND WHAT IS THE PROJECTED COST?

A. From 2011 through 2016, Duke Energy Ohio plans to replace 303 miles of cast iron and bare steel mains, main-to-curb services and curb-to-meter services, at an estimated cost of $305 million. A recent analysis of the map mileage reveals we have approximately 255 miles of twelve inch and less of cast iron and bare steel mains to replace. Duke Energy Ohio will be performing an audit of actual map mileage to confirm the remaining twelve inch and less of miles to replace. Therefore, Duke Energy Ohio is currently projecting an under run of 48 miles of cast iron and bare steel mains as compared to plant mileage. Duke Energy Ohio is requesting the use of these dollars and any under run dollars from the small diameter cast iron and bare steel to replace certain large diameter cast iron and bare steel mains and the associated metallic services. The maximum number of large diameter miles of cast iron and bare steal mains to be replaced is approximately 33. **Q. DOES DUKE ENERGY OHIO CONTINUE TO COMPETITIVELY BID THE WORK FOR THE AMRP PROGRAM?**

A. Yes. The competitive bid process has enabled Duke Energy Oho to efficiently execute the AMRP since its inception. This has allowed Duke Energy Ohio to keep its costs at reasonable levels. Additionally, Duke Energy Ohio has operated the program such that it is on schedule and at competitive rates. Duke Energy Ohio has maintained a replacement schedule that would allow it to complete the program in a timely manner.

In addition to the customer benefits previously described, Duke Energy Ohio's proficient implementation of the AMRP has allowed the Commission to efficiently process the annual filings. Duke Energy Ohio anticipates that these benefits will be realized throughout the remainder of the program.

Q. IS DUKE ENERGY OHIO COMMITTED TO USING UNIT-BASED PRICES FOR THE AMRP PROGRAM, EXCEPT IN SITUATIONS OUTLINED IN PARAGRAPH 6 OF THE 2004 AMRP STIPULATION, AND, IF SO, DID DUKE ENERGY OHIO FOLLOW THIS PRACTICE IN 2010?

A. Yes. Duke Energy Ohio used unit-based prices for the contracts and paid contractors the unit-based prices specified in the contracts, except for the types of situations outlined in the Stipulation: (a) in the case of unanticipated conditions, such as unusual field conditions not contemplated by the parties; (b) where a governmental entity imposed additional construction requirements for work within the right-of-way; (c) where a greater number of units was required for the actual work versus the number of units contemplated in the plan drawings; or (d) for certain types of construction activities where Duke Energy Ohio determined that it would result in lower costs for the contractor to perform the work under other price methods such as on a time and materials basis.

Q. AT PARAGRAPH 11 OF THE 2004 AMRP STIPULATION, DUKE ENERGY OHIO AGREED TO EXPLAIN WHY IT SELECTED THE AREAS SCHEDULED FOR MODULE WORK UNDER THE AMRP IN 2010, INCLUDING THE REASONS WHY DUKE ENERGY OHIO

SELECTED EACH AREA, BASED ON SAFETY, RELIABILITY AND PERMITTING CONSIDERATIONS. PLEASE EXPLAIN HOW DUKE ENERGY OHIO SELECTED THE MODULES FOR THE AMRP FOR 2010 BASED ON THESE CONSIDERATIONS.

A. The module work is divided into nine categories, ranked from the highest potential for reportable incidents first. Duke Energy Ohio also considers system integrity, permit requirements, and public safety. System integrity is taken into account when a large portion of a system is under construction. The Company evaluates system integrity factors such as location of tie-ins, flow, system pressures and the time of year the tie-ins will be performed. Permitting agencies require an orderly construction methodology so an entire municipality will not be directly affected causing hardship throughout for municipal residents and employees. Finally, flow of traffic must be considered for the traveling public. Five of the modules constructed in 2010 were in the priority one category. Twenty three of the modules constructed in 2010 were in the priority two category. The remaining modules were in the priority eight or nine category, which spread the work over more of the system to reduce the hardship on particular communities. This enabled Duke Energy Ohio to address safety considerations, maintain system integrity, abide by permitting requirements and maintain safety to the traveling public for all construction activities.

III. DESCRIPTION OF THE RISER REPLACEMENT PROGRAMS

Q. PLEASE DISCUSS DUKE ENERGY OHIO'S REPLACEMENT OF GAS RISERS PRIOR TO2010.

A. Duke Energy Ohio developed the Riser Optimization Program in 2004 to replace certain types of field-assembled flexible risers. In 2008, Duke Energy Ohio implemented the RRP to complete the replacement of all field-assembled service head adapter (SHA) risers by 2012. The flexible riser is a fitting that connects the service line to the meter assembly on outside meters. One type of flexible riser fitting is known as a SHA-style riser. Duke Energy Ohio developed both replacement programs to replace field-assembled type SHA risers that have a high propensity for leaks.

Q. PLEASE EXPLAIN THE RISER OPTIMIZATION PROGRAM.

A. The Riser Optimization Program is similar to the CIMOS® and BSMOS® programs in that these programs identify criteria associated with past activities to develop a replacement program. In fact, some of the criteria, such as operating pressure, type of pipe material and year of installation, are the same for all of the programs. Under the Riser Optimization Program, Duke Energy Ohio annually evaluates the activities associated with field-assembled SHA risers to determine the number to be replaced. Duke Energy Ohio selects for replacement those risers that have factors similar to risers associated with a high incidence of leaks.

Q. PLEASE EXPLAIN THE RISER REPLACEMENT PROGRAM.

The RRP is a program designed to methodically replace all-field assembled SHA risers in a designated location, thereby allowing the Company to coordinate the work activity of its outside contractors and schedule the work more efficiently. This will reduce the overall costs of the RRP and minimize disruption and outages for customers.

Q. DID DUKE ENERGY OHIO MAKE ANY CHANGES RELATING TO ITS RISER REPLACEMENT PRACTICES?

A. In February 2008, the Company awarded each potential contractor fifty risers. The risers were grouped together and the work was performed on a time and materials basis with a price cap. This allowed each contractor to establish pricing based upon actual work experience. In April 2008, Duke Energy Ohio bid the remainder of the 2008 riser work. Three contracts were awarded in May and the work began in June.

On September 24, 2008 Duke Energy Ohio bid three packages of risers with a bid due date of October 15, 2008. The bid packages were for two years worth of work 2009 and 2010. The rationale was to sync up with union contracts, thus affording Duke Energy Ohio the ability to obtain the most economical pricing. These projects were broken up by geographical location (North, East, and West). One contractor proved to be the low bidder on all three packages. After discussing the bids and the resource requirements for the RRP and AMRP programs, Duke Energy Ohio determined that one contractor would not have the resources to complete more than one bid package. Therefore, Duke Energy Ohio decided that the packages should be given to three different contractors. The three lowest bidders for each package were evaluated to determine the lowest "Per House Cost" combination of contractors. The lowest "Per House Cost" combination was selected and the packages were awarded. Three contracts were awarded on November 13, 2008 and work began toward the end of February 2009.

In May 2009, Duke Energy Ohio was made aware that additional resources were available to perform RRP work. The decision to add new risers was based on additional contractor resource availability due to other Ohio utilities reducing work. Duke Energy Ohio decided to complete additional RRP risers in 2009. The "Per House Cost" for the five active riser contractors (two in Kentucky and three in Ohio) was evaluated. Four contractors were found to be within a close range. The fifth contractor was on the high end of the spread and therefore was not initially considered. The resources of the four contractors were evaluated through discussions with the contractors and it was determined that three of the contractors could complete additional work. Additional risers were awarded to the three contractors to be completed at the already awarded rates.

Two of the contractors awarded new Ohio risers were working only on risers in Kentucky. Ohio riser work was given to the contractors working in Kentucky only after the contractors working in Ohio had reached the limits of their resources. The prices for the contractors working in Kentucky were established through competitive bidding. Both contractors were low bidders for their Kentucky contracts. The contractors agreed to use their competitively awarded Kentucky prices for the work performed in Ohio.

During the process of evaluating the contractors, the fifth contractor contacted Duke Energy Ohio and offered to resubmit their pricing in order to perform additional riser work in Ohio. The fifth contractor agreed to use the resubmitted pricing for all remaining riser work to be performed in 2009 and

2010. A new contract was created to reflect the new pricing. The new contract with the fifth contractor resulted in an approximate savings of $450,000.

In April 2010, DEO was made aware that additional resources were available to perform additional work. DEO decided to complete additional RRP risers in 2010. The decision to add new risers was based on additional contractor resource availability. The resources of the three active contractors in Ohio were evaluated through discussions with the contractors and it was determined that two of the three contractors could complete the additional work. Additional risers were awarded to the two contractors to be completed at the already awarded rates.

In August 2010, DEO was made aware that additional resources were available to perform even more additional work. DEO decided to complete additional RRP risers in 2010. The decision to add new risers was based on additional contractor resource availability due to the completion of other projects in Ohio. The resources of the three active contractors in Ohio were evaluated through discussions with the contractors and it was determined that one of the three contractors could complete the additional work. Additional risers were awarded to the one contractor to be completed at the already awarded rates.

IV. CONCLUSION

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.