MONTANA-DAKOTA UTILITIES CO.
A Division of MDU Resources Group, Inc.

Before the South Dakota Public Utilities Commission

Docket No. NG15-__

Direct Testimony
of
Patrick C. Darras

Q. Please state your name and business address.

A. My name is Patrick C. Darras and my business address is 400 North Fourth Street, Bismarck, North Dakota 58501.

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

A. I am the Vice President - Operations of Montana-Dakota Utilities Co. (Montana-Dakota) and Great Plains Natural Gas Co., Divisions of MDU Resources Group, Inc.

Q. Please describe your duties and responsibilities with Montana-Dakota.

A. I have executive responsibility for the development, coordination, and implementation of Company strategies and policies relative to all areas of distribution operations.

Q. Please outline your educational and professional background.

A. I hold a Bachelor's Degree in Construction Engineering from North Dakota State University and Master's Degrees in Business Administration and Management from the University of Mary. I have worked for Montana-Dakota for thirteen years and have been in my current capacity

since January 2015. Prior to that, I was Region Director for the Dakota Heartland Region for six years overseeing gas and electric crews, service technicians, and office personnel in constructing and maintaining our gas and electric systems. This region includes the cities of Mobridge and Pierre and surrounding communities. I held other management, engineering and operations positions; including Gas Superintendent prior to that. Before joining Montana-Dakota, I worked in project management and engineering for an industrial contractor for seven years.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide an overview of the Company's South Dakota natural gas operations and organizational structure. I am sponsoring Exhibit No. ___(PCD-1)

Q. Would you provide a summary of Montana-Dakota's gas operations in South Dakota?

A. Montana-Dakota provides natural gas service to approximately 57,600 customers in 25 communities, operating over 1,401 miles of distribution mains and approximately 1,058 miles of service lines. The customer base is 88 percent residential customers and 12 percent commercial and industrial customers. As of December 31, 2014 the Company had 73 full and part time employees who live and work throughout the South Dakota electric and gas service area. Montana-Dakota's South Dakota gas service area is divided into two operating regions with regional offices located in Rapid City, South Dakota, and

Bismarck, North Dakota. In addition to the Rapid City regional office, there are two other fully staffed operations centers located in the communities of Spearfish and Mobridge along with an office/warehouse in Pierre. There are gas related service technicians and construction employees headquartered in 10 other South Dakota communities deemed strategic to the safe and reliable operation of the Company's distribution system. There are also electric-only personnel in additional locations in South Dakota. Service technicians and construction employees in North Dakota also support operations in South Dakota communities close to the state border. A map of the gas distribution system in South Dakota is included as Exhibit No. ___(PCD-1).

Montana-Dakota's customers have toll-free access to the Customer Service Center located in Meridian, Idaho, with a backup center in Bismarck, North Dakota, to place routine utility service requests and inquiries from 7:00 am to 7:00 pm local time, Monday through Friday and emergency calls on a 24-hour basis. A Scheduling Center, located in the Meridian, Idaho, facility, transmits electronic service orders to the mobile terminals placed in the Company's service and construction vehicle fleet. This network allows the Company to respond quickly to customer requests and emergency situations.

Q. Mr. Darras, would you explain how Montana-Dakota strives to efficiently provide safe and reliable service to its South Dakota customers?

A. Montana-Dakota has been successful in finding efficiencies in serving South Dakota customers by continually reviewing its field operations. Much of this has been possible due to the advancement of cost effective technology. Automated management and recordkeeping projects expanded upon or implemented since the last rate case include: Automated Meter Reading (AMR), a new mobile dispatch system called Pragma CAD and a compliance monitoring program called GL Essentials.

Since the last rate case, AMR technology was added to gas meters in Bowdle, Gettysburg, Ipswich, Roscoe, Glenham, and Selby. The Company's gas meter reading process is now fully automated in South Dakota.

Montana-Dakota also completed the implementation of Pragma CAD. This computer aided dispatching system for utility service orders replaced the previous system, Mobile Up which was no longer supported by the provider. Pragma CAD will ensure that Montana-Dakota is able to maintain and improve upon the current level of customer service and operational efficiency gains. By installing this product at all of the companies within the MDU Resources Utility Group, the purchase, installation and ongoing maintenance costs have been reduced by sharing the costs of the technology over a larger base.

Montana-Dakota has always worked to provide a safe and reliable natural gas distribution system. In recent years, the predominant view, by both regulators and utilities, is to enhance data collection and analysis in

order to further improve safety and reliability. The implementation of a compliance software package called GL Essentials has helped to automate, track, and manage distribution operations work flows. It has also allowed for the effective central sharing of data with the appropriate operations groups to make better evaluations and decisions to enhance the safety of customers, the general public, and employees.

Currently this software system automates operations and maintenance work orders that are then electronically dispatched to technicians and the resulting data is returned to the system and stored in a central database. The data captured within the system is then used to enhance and support the existing safety programs such as the Distribution Integrity Management Plan (DIMP), the Transmission Integrity Management Plan (TIMP), the Damage Prevention Program, the Public Awareness Plan, and Emergency Response Procedures. GL Essentials is deployed for corrosion compliance at this time, with further uses planned but not yet deployed.

Montana-Dakota continues to review all aspects of the utility business to ensure that Company operations are as efficient as possible.

Q. **Has Montana-Dakota made investments in the gas distribution system in South Dakota, and how have these investments affected the cost of operation and maintenance of the system?**

A. Yes, the Company has made significant investments in natural gas distribution infrastructure, primarily related to the ongoing investment for

new customers and the replacement of existing facilities, along with the efficiency investment of AMR mentioned above. The investments in efficiency have contributed to the Company's success in controlling O&M costs per customer, while the investments in infrastructure allow for more efficient, safe, and reliable system operations.

From 2012 to 2014, customer growth was steady in the Black Hills Region, with many new multifamily developments and commercial projects. During this period an average of 79,000 feet of main was installed annually. Approximately 80 percent of this main installation was due to system growth and 20 percent was for replacements necessary to improve the system or relocations as a result of other construction projects, such as road work. Approximately 680 new customers were connected annually during this period. Over $3 million was invested in gas mains during this period for both growth and replacement projects.

Customer growth continues to remain steady in the Dakota Heartland Region comprised of the communities served directly off of the South Dakota Intrastate Pipeline Company. Replacement work is minimal for the area due to the relatively new system and work has been driven by city activities such as street projects. As for growth, from 2012 to 2014 an average of roughly 10,000 feet of new natural gas main was added annually. The average number of new service lines added annually was approximately 235 during this same period. This growth results from a combination of customers converting from another heating source due to

the competitive price of natural gas as well as the addition of new homes and businesses.

The replacement projects improve safety and reliability by replacing older pipe with new pipe and by re-engineering the system when needed. Replacement projects are selected based on prioritizing improvement projects and then choosing the projects that will result in the greatest safety and reliability improvements. As discussed later, the process of selecting areas of the system for replacements has become more standardized and data-driven with the implementation of the Distribution Integrity Management Plan (DIMP).

Q. Would you elaborate on the Pipeline and Hazardous Materials Safety Administration's DIMP rule and how Montana-Dakota has responded to this regulation?

A. DIMP is a Federal requirement issued as Subpart P of 49 CFR 192 pertaining to all gas distribution system operators. DIMP requires operators to know the make-up of their distribution system. The objective of the plan is to develop a model to assist in determining which areas of the gas distribution system to focus operation, maintenance and repair efforts and resources due to known or predicted threats to the distribution system.

The model assesses eight different threat categories: Corrosion, Natural Forces, Equipment Failure, Excavation, Incorrect Operation, Joint Failure, Outside Force, and Other, all equally weighted.

A detailed geographical information system (GIS) map, with every piece or component that makes up the gas distribution system, both above and below ground, and with as much information about each piece as is available is used as the basis of the model. Scores for various factors were determined by a group of subject matter experts including office engineers, field engineers and field technicians.

The model sets a 50 foot by 50 foot grid to analyze all components. Each grid is then analyzed by eight individual sub-models with up to 150 calculations in each sub-model. This in turn produces a very comprehensive look at the entire system with each component compared equally to the others across the entire four state operating areas. In South Dakota, 12.6 million feet of pipe was analyzed with approximately 2.46 million calculations to support the risk model.

The results obtained from the DIMP modeling are consistent with what it was expected to produce by subject matter experts. The components that score the highest are generally located near district regulator stations where there are concentrations of different components such as fittings and valves, above ground piping, and elevated pressures.

Going forward, the DIMP results will be used as an operational tool to aid in directing resources to reduce pipeline risks. The results will be consistently analyzed to determine accelerated actions to the pipeline so that changes to resource planning and budgeting can be made to carry out the reduction in risks from pipeline threats.

Q. Does Montana-Dakota have any large replacement projects identified as a result of its DIMP program?

According to the Company's DIMP program, the Company is replacing highest risk facilities as needed. For example, much of the Belle Fourche system installed before 1960 has either been replaced or there are plans to replace and upgrade that system. In other areas, road and other government infrastructure projects often require the replacement of older facilities at the same time. Montana-Dakota continues to take these opportunities into account as part of the Company's efforts to address infrastructure risks.

Montana-Dakota has identified four specific replacement projects in the Belle Fourche system, where plans are to complete the projects within the next five years. Project costs for these four projects are estimated in the $4 - $5 million range. The Company has also identified two specific projects in the Sturgis area with estimated costs of approximately $1 million. Replacement in other locations is ongoing and will follow more closely to historical costs with estimates of $1 million annually.

Q. Does this complete your direct testimony?

A. Yes, it does.