

July 25, 2014

Karen G. Wayland, Ph.D
Deputy Director, State, Local and Tribal Cooperation
Office of Energy Policy and Systems Analysis
U.S. Department of Energy
Washington, DC 20585

**Re: Quadrennial Energy Review, Public Meeting #6: Gas-Electricity
Interdependence, Monday July 28, 2014**

Dear Karen Wayland, Ph.D,

Xcel Energy shares these comments for the consideration of interested parties in the
Quadrennial Energy Review (QER).

Panel 2: Infrastructure Needs through 2030 (11:00 am MT)

The natural gas industry and the electric industry use different processes to plan, finance and build their respective infrastructures. In some areas of the nation, those disparate processes are causing concerns about the lack of adequate gas infrastructure to meet the evolving needs of both the electric industry and gas industry, from a reliability and affordability stand point, over the coming decades. What is the state of efforts to assure the appropriate amount and type of natural gas infrastructure, or alternatively, appropriate changes in electricity infrastructure, operations or end use, now, and through 2030?

Introduction:

- Good morning, I'm David Eves, President and Chief Executive Office of Public Service Company of Colorado an Xcel Energy Company.
- Xcel Energy appreciates the opportunity to participate in this QER meeting and to provide input to the Department of Energy as they outline Federal energy policy objectives, legislative proposals to Congress, Executive actions, and an agenda for research programs.
- Regarding the future of the natural gas systems in the areas we serve and their ability to meet future needs, I plan to discuss our continuous improvements in safety, reliability and the environmental profile of natural gas and the importance of gas electric coordination including our state-of-the-art renewable energy integration program on the electric side of our business.
- Xcel Energy is an investor-owned integrated electric and natural gas utility serving eight states including Colorado. We are the sixth largest natural gas local

- distribution company and in Colorado we serve over 1.3 million natural gas customers through our Colorado operating company.
- In our electric generation business, Xcel Energy has a strong track record of emissions reduction through the incorporation of renewable energy, energy efficiency and coal plant retirements. We are the #1 provider of wind energy in the United States.
 - Natural gas is an important part of our strategy to reduce emissions and current low, stable prices of natural gas are allowing us to accelerate a number of system improvements, providing value to our customers today and beyond 2030. Our flexible natural gas system contributed to our ability to deliver 19% of our electricity from wind to our Colorado customers in 2013.

Continuous Improvement:

- Our focus in our natural gas transmission and distribution business today is on safety and reliability and I expect that to continue beyond 2030. We continuously improve our operations in these areas, but that is not without challenges.
- Historical state and federal regulatory models are not conducive for safety and integrity initiatives on the gas system. Regulatory models needs to support safety and integrity initiative and, R&D is needed to improve knowledge of system health all with accelerated replacement of aging pipelines.
- Fortunately, while we are improving the safety and reliability of our gas system, we are also improving its environmental profile.
- The natural gas distribution segment has reduced methane emissions by over 20 percent since 1990 through the implementation of industry best practices and safety-driven pipeline replacement activities, all while this industry has been growing. (based on Energy Information Administration (EIA) info)
- We are committed to taking a leadership role in modernizing infrastructure to realize the safe, economic and environmental benefits that natural gas provides our customers. We are part of a coalition, the Natural Gas Downstream Initiative, consisting of five other natural gas utilities, that focuses on this effort. In addition, the company has been working with our state regulators to accelerate replacement of some of our older infrastructure.
- We are also working with environmental groups and researchers, such as Environmental Defense Fund, Washington State University and Colorado State University, on initiatives to better quantify methane emissions from natural gas distribution systems.

Gas-Electric Coordination:

- One of the most important things that will need to change is coordinated planning and forecasting between the gas and electric systems. Electric and gas planners and controllers will need an understanding of the key attributes and operational characteristics of each product to best integrate and optimize resources and maintain reliability on both systems.

- This enhanced coordination will need to occur on all time horizons, but particularly in daily operations. Gas control rooms will need the capability to do load planning and modeling to ensure reliability within the day as electric generation needs change on a real time basis.
- Communication will be critical, so we cannot restrict dialogue between gas and electric system operators. Our Gas Controllers and Electric desk talk repeatedly throughout the day as conditions change.
- Decisions to change the start of the Gas Day can provide some increased national reliability benefits but will be complicated to implement and once approved by FERC should stay consistent and include a reasonable time to implement.
- We also believe that a mechanism that allows for a firm pipeline capacity customer to reserve empty capacity for the entire gas day would improve energy reliability and make intraday gas nomination cycles more valuable. A similar service is already available on a pipeline that Xcel Energy uses, and we believe that it provides assurance that the contracted capacity will be available if needed.
- Also, the country will need to build more pipelines, but more importantly it will need to design a system that uses that equipment differently than it does today and also plans for emergency supply and peak demand events differently. These plans will be very utility-specific and based upon the type of infrastructure available to them.

Renewable Energy Integration and Natural Gas:

- At Xcel Energy, we are leaders in the integration of large scale intermittent renewable generation on our electric system. I mentioned that last year 19% of the electricity we delivered was from wind generation and in one particular hour last year we served 60% of our customers load with wind generation. This is a complex forecasting and dispatch effort, and as our wind generation capacity grows, it will require increasing coordination with our gas system operators.
- Our ability to integrate large scale intermittent renewable generation in Colorado is aided by several system attributes including our reliable natural gas system and generating plants. As we increase the wind generation capacity on our system we will rely even more on our flexible gas generating resources including the 570MW natural gas combined cycle plant we are currently building just outside of Denver.
- This new asset will be critical to our Colorado system, but it not going to be the last asset we build. Looking out to 2030 it will be important that the plants, pipelines and other infrastructure supporting them be constructed in a timely manner including the siting and right of way needs, which are often across Federal lands in the Mountain West region.
- We are also planning our system today based upon our best understanding of ongoing natural gas availability at reasonable prices. We need to maintain access to the expanded gas reserves unlocked by unconventional production technologies to most cost-effectively and reliably integrate our large and growing supply of

renewable energy. Gas availability is also critical as pressure to retire coal units continues to build nationally through environmental regulations.

- The pace of energy regulation and legislation has accelerated and that makes investment decisions in long term assets a little more risky. It is important that we know that assets we are building today are assets we will be allowed to operate through their useful lives.

Conclusion:

- Our focus will remain on safety, reliability and the environmental profile of the electricity and natural gas we deliver. The state of the art renewable integration process we have developed will become more critical as we add more intermittent renewable energy to our system including enhanced gas-electric operations communications. The further development of our natural gas infrastructure will need policies in place that allow for its expansion. Thank you.

Sincerely,

David Eves
President and CEO
Public Service Company of Colorado