NorthWestern Energy

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Patricia Van Gerpen
Executive Director
SD Public Utilities Commission
500 E. Capitol Ave.
Pierre, SD 57501

RE: Docket EL08-028 – In the Matter of the Consideration of the New PURPA Standards Annual Report

Dear Ms. Van Gerpen:

NorthWestern Corporation, d.b.a. NorthWestern Energy (NorthWestern), hereby submits its Annual Report regarding Smart Grid Investment Deployment Opportunities in compliance with the South Dakota Public Utilities Commission (Commission) order dated December 18, 2009 in the above referenced matter.

NorthWestern will describe our Smart Grid Deployment Opportunities in South Dakota in relation to the questions presented in the Commission's order.

1. Smart Grid Deployment Opportunities.
   NorthWestern is involved in a larger, multi-utility Pacific NorthWest Regional Smart Grid Demonstration Project (PNW-SGDP) that involves a portion of our Montana service area and other utilities from the northwest region of the United States. Information gathered from this pilot program will be used by NorthWestern in evaluating appropriate Smart Grid technologies for future deployment in South Dakota and Nebraska.

2. Why or why not was deployment made?
   As NorthWestern evaluates Smart Grid technologies, it must consider the cost of the technology versus the benefits to system operations or in providing better reliability and services to our customers. Additionally, if NorthWestern identifies a particular operational need that can be satisfied using more than one possible technology, we will use pilot programs to determine which technology meets our needs at the best cost before engaging in full scale deployment. By utilizing this approach, we are able to avoid costly mistakes in adopting a technology that does not deliver as expected. Also, participation in the PNW-SGDP is an excellent opportunity for NorthWestern to learn from the many and varied other

project participants (and their diverse Smart Grid projects) at a fraction of the cost if NorthWestern attempted all of same itself.

3. The extent of deployment.
NorthWestern's participation in the PNW-SGDP is a $4.2 million effort, termed a "subproject" within the larger regional project footprint. NorthWestern's subproject will test advanced metering infrastructure, demand response, time-of-use pricing and energy management systems for at least 200 residential electric customers and 5-7 state government buildings/facilities in its Montana service territory. In addition, the subproject will examine the costs and benefits of smart technologies on the electric distribution system, including conservation voltage reduction and Volt/VAR control. A total of four distribution feeder circuits will be fitted with the smart technology. The project will be built out in 2011 and operated in 2012-13. Evaluation of costs and benefits will occur in 2014.

During 2010 in South Dakota, we installed four SCADA-Mate switches on our 34.5kV transmission system intended to speed outage analysis and restoration. The switches were installed east and west of the Menno City Substation, and east and west of the Freeman 34.5kV tap. The switches will allow system operators monitoring the electrical system from Huron to see where faults are, isolate the fault, and restore service to customers outside of the isolated area. Installing and using these switches will reduce outage time as we will be able to tell which section of line has a problem without having to have a personnel drive and visually inspect the line.

4. Possible deployments that could be made in the forthcoming year.
See item #3 above. Control systems are now in place at the Montana data center (Montana Call and Computer Center) and are being tested. "Go-live" of this control system will happen in late January 2011. With this initial step completed, NorthWestern will then be recruiting 200 residential participants during the first two quarters of 2011. Home energy management systems and interval metering equipment is on order now, with expected delivery in the latter part of the second quarter in 2011. Home installation and training of residential participants will be performed during the third quarter of 2011. Following that, the systems will be placed into full operation. Deployment, testing and operation of the distribution system smart technologies will begin in the second quarter of 2011.

For our South Dakota system, two additional SCADA-Mate switches will be installed east and west of Scotland in 2011. We will see the same benefits as mentioned above. In 2012, Engineering is projecting and planning to install communication devices between the six aforementioned SCADA-Mate switches that will use a logic approach to automatically switching Scotland, Olivet, Menno, and Freeman to alternate sources when a fault occurs. This step will remove the time required by the system control operator to analyze information available from the switches and to take steps to remotely operate switches.

5. What considerations will determine whether or not Smart Grid applications will be deployed, including costs and potential cost savings of deployment?

As stated in Response 2 above, the cost of a technology and the benefits of what that technology can provide to the company and its customers are the two primary considerations for whether to deploy a Smart Grid application or not. Other considerations include customer acceptance of home energy management technology, level of response to changing energy prices, level of change of those energy prices, cost, performance and reliability of smart grid systems and equipment, and the level of scale needed to support a satisfactory business case for Smart Grid.

NorthWestern appreciates this opportunity to update the Commission on Smart Grid activities in South Dakota or other applicable projects in our three state service area. If you, or any of your staff, have additional questions, please do not hesitate to contact me.

Sincerely,

Pamela A. Bonrud
Director – Government and Regulatory Affairs

Cc: Brian Rounds, Staff Anaylst, SD PUC