

## MEMORANDUM

To: Commissioners and Advisors

From: Phil Lusk, Analyst

RE: Docket EL06-018: In the Matter of the Consideration of the New PURPA Standards

Date: 10 July 2006

On 8 August 2005, the Energy Policy Act of 2005 (EPA05) was signed into law. Certain EPA05 provisions amend the Public Utility Regulatory Policies Act (PURPA) of 1978 by adding five new federal standards to PURPA. The five standards regard net metering, fuel diversity, fossil fuel generation efficiency, smart metering, and interconnection for distributed resources. Under the EPA05, the South Dakota Public Utilities Commission (Commission) has varying timelines within which to consider these standards and determine whether to adopt them.

At its 23 May 2006 meeting, the Commission considered how to proceed with its consideration of the new PURPA standards. The Commission has jurisdiction over this matter pursuant to SDCL chapter 49-34A and the EPA05. The Commission voted to open a docket to seek comments from interested persons or entities on how to proceed.

The Commission further determined that written comments would be due on 20 June 2006. Written comments in this matter were received from two parties: 1) The South Dakota Rural Electric Associations, Inc. (SDREA) representing its 31 member generation, transmission and distribution systems, and 2) The South Dakota Electric Utilities Companies (SDEUC), whose members are NorthWestern Energy, Montana-Dakota Utilities, Xcel Energy, Otter Tail Power, Black Hills Power, and MidAmerican Energy. The questions the Commission posed and the responses received from the two parties follow.

### **1) Which electric utilities operating in South Dakota are affected by the standards and are subject to the Commission's jurisdiction?**

The SDREA states that under PURPA, and specifically as it relates to the obligation to consider the new federal PURPA standards, that none of its constituent member systems would be considered jurisdictional utilities obligated to consider the new PURPA standards. They note, however, that although a statutory obligation to consider does not exist, each of their member systems is committed to a coordinated review of the new

standards in their continuing commitment to provide their members with safe, reliable, high quality electric service at the lowest possible cost.

The SDEUC contends that any operating electric utility in South Dakota would be affected by these standards, whether it is an investor-owned, rural cooperative, or municipal electric provider. However, those utilities that come under the Commission's jurisdiction are defined in SDCL § 49-34A-1(12) . It is appropriate for the Commission to determine how the PURPA standards in question from passage of EAct05 would apply to the respective business practices of those utilities in South Dakota.

**2) Should the Commission open a docket for each utility or open a generic docket encompassing all of the affected utilities?**

The SDEUC recommended that the public interest would be better served if one generic docket encompassing all affected utilities were opened, rather than opening individual dockets for each affected utility. This is not to imply, however, that it would be appropriate to adopt only generic standards that would be applicable to all utilities in that docket. In some cases, generic standards may be appropriate. In other cases it may be necessary to recognize that there are differences between the utilities that may make generic standards unworkable.

**3) Should the Commission combine all of the standards, some of the standards, or have separate dockets for each standard?**

Both the SDREA and the SDEUC responded that the Commission should use one docket as the most expedient approach for considering all standards in this proceeding.

**4) Should the Commission hold evidentiary hearings with direct testimony and cross-examination?**

The SDEUC suggested that the Commission consider using a "paper hearing" format. Based upon issues raised by parties in the "paper hearing," if the Commission should subsequently decide that evidentiary hearings are necessary, it could still hold evidentiary hearings related to just those specific issues. The SDEUC believes that using a "paper hearing", if workable, would provide the most expedient approach for considering the new PURPA standards.

**5) If the Commission decides to implement any of the standards, should it do so through a rulemaking?**

The SDEUC supports the use of the rulemaking process to implement any of the standards if the Commission decides to do so. The rulemaking process allows for substantial public input that will be important in developing the Commission's approach in implementing any standards it desires to enact.

**6) With respect to the net metering standard, should the Commission find it is not required to consider this standard given that the Legislature has already considered net metering in a past legislative session?**

Both the SDREA and the SDEUC responded that as the issue has been dealt with by the Legislature, the net metering standard does not require additional Commission consideration.

### **Staff Comments**

This staff member is in general concurrence with the comments made by both the SDREA and the SDEUC, except to question #6 regarding net metering. While I recognize that the Legislature and both respondents feel this item does not require additional Commission consideration, I would like to bring it to the attention of the Commission that net metering agreements are now offered in more than 35 states.

While the specific agreements vary significantly in those 35 states, advocates believe that net metering makes it easier and more cost-effective for farmers and other citizens to generate some of their own electricity. States with net metering laws usually cap the size of net metering generators. For example, this could be set at a micro-scale of no more than 15-kW for residential generation sources such as photovoltaic panels, wind turbines, and fuel cells when fueled by renewable sources. Some states allow farm-based wind turbines of up to 125-kW to qualify for net metering. Likewise, biogas recovered from sewage-treatment plants and landfills, and from the anaerobic digestion or gasification of agricultural wastes (such as livestock manure, farming waste and food-processing wastes) can net meter up to 400-kW in other states. There are also provisions in some states for "group net metering," allowing on-farm systems to credit on-site generation against all meters designated to the farm system.

Net metered systems must conform to all applicable electrical safety, power quality and interconnection requirements established by the National Electrical Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL). Utilities may not charge customers any additional standby, capacity, interconnection, or other fees or charges, although utilities may charge "reasonable" fees

for interconnection, establishment, special metering, special meter reading and accounting net-metering arrangements for farm systems.

The biggest difference from one net metering agreement to another is what to do with the net excess generated or NEG. NEG is where, over a certain time period, more electricity is produced than is consumed. One of the greatest myths about net metering is that the utility is always forced to pay the customer for the NEG at full retail rates. While NEG can be paid at the full retail rate, it can also be paid for more than the retail rate, paid at an avoided cost, or paid nothing at all. For example, an increasingly preferred tariff is that the NEG must be used within 12 months, or it will be granted to the utility with no compensation for the customer. More complicated NEG tariffs allow a given month to be credited to the next month's bill at the utility's retail rate. At the end of the annual billing cycle, customers are paid at the utility's avoided-cost rate for any unused NEG. Regardless of tariff structure, net metered customers must pay the same customer service charges and other monthly fees required of other consumers.

Another myth about net metering concerns individual utility impacts, where the most extreme example suggests that 100% of the service will eventually become net metered. In most states, utilities must allow net metered systems on a first-come, first-served basis to all customers until the cumulative generating capacity of all the net metering systems on its lines equals a only small fraction of the of the company's peak demand. This is usually a range of 0.1% to one percent, depending on peak demand size.

What's the point? While South Dakota is known to be blessed with a world class wind regime, there is a lesser appreciation for its biomass and solar resource base. Several assessments have rated these two resources in the "Top-10" of all states in the nation. Many, including myself, believe that several hundred megawatts of power potential could be developed from these renewable resources if the right policy signals are used. There would be many direct benefits for its encouragement. Among others, these can simultaneously include economic development and environmental protection.

There are also economic benefits may also accrue from net metering to a third party such as an electric utility. Cost-effective distributed generation (DG) technologies such as farm-based biomass electric generation systems can reduce infrastructure investment and increase the asset use of an electric utility transmission and distribution (T&D) system. They also offer the opportunity to provide enhanced levels of power quality and reliability, tailored energy services, and retail service offerings to the customer. The direct benefits to a T&D system are reported to include grid support (reduced line losses, voltage support, and power conditioning benefits), deferral of upgrades to substations, and power provision in increments matching projected demand patterns.

The DG benefit that may accrue to an electric utility is site specific. Criteria useful to help define candidate substations or feeders that may benefit from DG technology address issues associated with load growth and the need for capital expenditures greater than \$200,000 within a 3-5 year period. Rarely is any credit provided for the benefits of farm-based DG systems usually sited at the “end of the dirt road.” The power conditioning benefits, as well as the possibility of allowing electric utilities to defer upgrading rural T&D systems, can make a significant, yet hard to quantify, impact. However, examples in the DG literature range from \$100/kW/year to as high as \$800/kW/year when the value of generation capacity, energy production, deferred T&D construction, transformer loss reduction, and line loss reductions are fully counted.

An electric utility could use DG technologies as an innovative business opportunity. These could include helping clients (in and out of its service territory) develop projects. These clients frequently require technical and financial services that a utility could readily provide either directly or through a contracting relationship. These types of services are also billable and provide revenue-generating opportunities. Another service could be in the area of providing contracts that provide equipment maintenance and service needs to customers who do not have the time, desire, or ability to conduct routine or emergency services on their equipment. One last service area, financing in the form of leases and rents for key equipment such as generators, engines, and gas handling equipment, does have some potential.

Some net metering advocates believe that only indirect costs are associated with the practice, mainly the customer is buying less electricity from the utility, meaning that less revenue is collected from the customer. In many cases, the revenue loss may be comparable to the customer reducing electricity use by investing in energy efficiency measures, such as compact fluorescent lighting, efficient heating and cooling equipment, or other highly-efficient appliances. As South Dakota has a substantial reserve margin and a public policy promoting its electron-exporting capacity, the issue seems to be moot as every electron not sold locally could find a potentially more valuable market elsewhere.

A market economy is defined as being an economic system in which the production and distribution of goods and services takes place through the mechanism of free markets guided by a free price system rather than by the state in a planned economy. Market economies rest upon the fundamental principle of individual freedom, and one of the key freedoms is for a consumer being able to choose among competing products and services. I believe that avoiding any discussion regarding net metering is removing one more element of a free price system where consumers make decisions by pursuing their own self-interests.