

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA**

<b>IN THE MATTER</b>	)	<b>ORDER REQUESTING</b>
<b>OF THE CONSIDERATION OF THE</b>	)	<b>COMMENTS ON STANDARDS</b>
<b>NEW PURPA STANDARDS AS SET</b>	)	<b>DOCKET NO. EL06-018</b>
<b>FORTH IN THE ENERGY POLICY</b>	)	
<b>ACT OF 2005</b>	)	

**COMMENTS OF MIDAMERICAN ENERGY COMPANY**

**Comes now, MidAmerican Energy Company** (“MidAmerican”), and for its written comments responding to questions posed by the South Dakota Public Utilities Commission (“PUC” or “Commission”) regarding Standards 12-15 of the Public Utility Regulatory Policies Act (“PURPA”) as added by the Energy Policy Act of 2005 (“EPACT”), submits as follows:

The Commission initiated this proceeding in order to comply with its obligation under EPACT to consider new PURPA standards. The Commission has previously determined that Standard 11 concerning net metering is not subject to consideration in this docket because it was considered and rejected by the Legislature prior to enactment of EPACT.

MidAmerican is a covered electric utility under Section 102 of PURPA. At the end of 2006, MidAmerican provided electric service to 713,988 customers in the States of Iowa, Illinois, South Dakota, including 3,887 customers in South Dakota. As a covered electric utility, MidAmerican is interested in this proceeding and will be subject to any application of the retail regulatory policies for electric utilities under consideration by the Commission.

MidAmerican respectfully provides the following responses to the Commission’s questions posed in its Order issued December 5, 2006.

## **FUEL DIVERSITY – PURPA STANDARD 12**

### **1. Should the Commission adopt this standard?**

No. The Commission should not adopt this standard. The need to reduce risks and stabilize fuel costs already provides adequate incentive to utilities to maintain fuel and technology diversity. This incentive, coupled with federal and state tax credits for renewable energy, has resulted in many utilities constructing renewable generation or purchasing capacity and energy from renewable resources. If, at some future point, the Commission believes a utility is not incorporating enough diversity in its capacity mix, it still has the opportunity to provide input to that utility as a part of the resource planning process, the facility permitting process, and during rate proceedings. Requiring all utilities to develop a generation diversity plan to regulatory specifications would simply be an administrative burden providing little value. In fact, development of a standard plan could actually be counterproductive and more costly for consumers.

If the Commission decides to develop a planning standard, such standard should function as a guide rather than a mandate, allowing for appropriate planning flexibility. As utilities plan for new capacity, a cost benefit analysis will need to consider the comparative costs and risks of different generation resources and the incremental cost of increasing the diversity of the utility's fuel resources. Any criteria developed in the standards should not focus solely on least costs, but should allow plans to be reasonable and to provide for long term price stability.

### **2. If the Commission adopts this standard, how often should the plan be updated? What time period should the plan encompass?**

If a standard were adopted, a five-year update period should be specified. This would provide a reasonable balance between the need for stability in long-term planning

and the need to keep the plan inputs from becoming dated. A ten-year planning horizon would be reasonable.

**3. What other more specific requirements should be adopted in order to implement this standard?**

See response to Question No. 1. In the event that the Commission does adopt a standard, requirements should be as flexible and broad as possible to not burden utilities with unnecessary filing requirements.

**4. Are there any other issues the Commission should consider?**

MidAmerican does not believe there are other issues that warrant consideration related to the requirement for Commission consideration of generation fuel diversity.

**FOSSIL FUEL GENERATION EFFICIENCY– PURPA STANDARD 13**

**1. Should the Commission adopt this standard?**

No. A mandated requirement for a 10–year plan is an unnecessary step that the Commission should avoid. The *Reference Manual and Procedures for Implementation of the “PURPA Standards” in the Energy Policy Act of 2005*, a guide developed for a broad cross-section of interested parties (the American Public Power Association, the Edison Electric Institute, the National Rural Electric Cooperative Association and the National Association of Regulatory Utility Commissioners),<sup>1</sup> suggests that market forces may be a sufficient replacement for this requirement:

*A state commission may find that while it has the authority, such a standard is unnecessary because there is sufficient competitive pressure to induce generation owners to increase plant efficiency.*

*Id.* at 65.

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<sup>1</sup> [http://www.naruc.org/associations/1773/files/PURPA\\_Manual\\_webversion.pdf](http://www.naruc.org/associations/1773/files/PURPA_Manual_webversion.pdf)

The electric wholesale market is extremely competitive. MidAmerican competes daily for reasonably priced wholesale energy to purchase. To the extent that MidAmerican can produce energy for less than the wholesale market price, the lower the energy costs are for our retail customers and the more our customers and company are insulated from volatile wholesale prices. MidAmerican is extremely focused on improving plant performance (reducing length of outages, reducing number of outages, improving plant availability, etc.) due to this competitive pressure. For example, in the normal course of business, heat rates, (defined as net generation per amount of fuel heat input in Btu per kilowatt-hour) are reviewed on a periodic basis and variances from defined goals are analyzed to identify ways to improve performance. Over the years, MidAmerican has reduced the amount of coal and gas required to produce a unit of energy through this improvement process.

MidAmerican suggests that there is sufficient competitive pressure as well as other conditions that make a mandated generation efficiency requirement unnecessary. There are many significant reasons why it is in the interest of utilities to maintain a focus on reducing generation costs. In addition to wholesale market pressure for increased plant efficiency, there is an incentive for utilities to remain efficient operators arising from:

- customer choice (in South Dakota, this takes the form of the choice of supplier for some customers over 2 MW per SDCL 49-34A-56);
- a desire to maintain or improve the economic development climate of the state;
- the potential for adverse customer reaction to possible rate increases;

- the pressure from public utility commissions to ensure just and reasonable retail rates, and:
  - a desire by public utilities to improve customer satisfaction, which is certainly related to rate levels.
2. **If the Commission adopts this standard, how often should the 10-year plan be updated?**

If a standard is adopted, a two-year, or longer, update period should be specified.

3. **What other more specific requirements should be adopted in order to implement this standard?**

In the event that the Commission does adopt a standard, requirements should be as flexible and broad as possible to not burden utilities with unnecessary filing requirements. Additionally, any standards developed to improve fossil fuel generation efficiency should be focused on improving the efficiency of proposed new generation to appropriately focus on the area where the largest and most cost-effective gains are possible.

#### **SMART METERING – PURPA STANDARD 14**

In responding to questions regarding this standard, MidAmerican notes that the terms smart metering, time based rates, advanced metering infrastructure (AMI) and automated meter reading (AMR) are often used interchangeably. MidAmerican provides the following definitions for AMR, AMI and Smart Meters for use in responding to these questions:

- AMR System
  - A system that automates the manual meter reading process.
  - Delivers accurate and reliable monthly meter readings to billing on a cycle

basis.

- Direct load control is available through a separate system (paging etc.).
- No automated communication from the utility to the meter.

- AMI System

- In addition to above, AMI is capable of delivering interval data from all the meters.
- Provides outage detection and restoration messages via the system.

- Smart Metering System

- In addition to above, Smart Metering is capable of integrating demand response elements within the system.
- Has capability to offer “in home display” of information to customers.
- Is capable of integrating direct load control where the utility sends signals to cycle loads (A/C).
- Is capable of integrating indirect load control where utility sends pricing signal and consumers’ program behavior of individual appliances as a response.
- Provides two-way communication with the meter.

1. **Describe any Smart Metering programs that you have already implemented or are in the process of implementing. Include programs that are conducted in states other than South Dakota. Please list the customer classes eligible for each program and how many customers are in each program for each year beginning with the inception of the program.**

MidAmerican currently offers both time-based rate schedules and credits for load reductions.

## I. Time-of-Use Rates

### A. Optional time-of-use

Optional time-of-use rates are available to all electric residential customers in all states where MidAmerican offers electric service. Currently MidAmerican has about 57 customers being served on these rates with no South Dakota customers opting to be served on time-of-use rates.

Optional time-of-use rates are available to all electric general service customers in all states where MidAmerican offers electric service.

MidAmerican also offers optional time-of-use rates to large general service customers in its South Dakota and north and south Iowa service territories. Currently MidAmerican has about 340 customers being served on optional non-residential time-of-use rates with three being served in South Dakota.

### B. Mandatory time-of-use

Time-of-use rates are mandatory for large general service customers in MidAmerican's Illinois and eastern Iowa service territories. About 150 customers are enrolled in these mandatory time-of-use rates. Time-of-use rates are not mandatory for large general service customers in South Dakota.

## II. Direct Load Control

MidAmerican offers a residential direct load control program in its Iowa service territory. Customers volunteer to have their air conditioners cycled during peak periods for an annual bill credit of \$40 the first year and \$30 each year thereafter. MidAmerican currently has about 54,000 customers enrolled in the residential

direct load control program. This program is a part of MidAmerican's Energy Efficiency program in Iowa.

### III. Curtailment for Large Loads

MidAmerican offers curtailment rates for non-residential customers in its Iowa and Illinois electric service territories. Customers contract to reduce demand by 250 kW or more during company specified curtailment periods. Once the customer enrolls in the program, curtailment is mandatory during curtailment periods. Customers are paid a range of approximately \$32 to \$39 per kW depending on the state and the length of the contract period. There are currently about 139 customers enrolled in a mandatory curtailment program. There is one South Dakota customer enrolled in the program.

MidAmerican offers a short term voluntary curtailment rate in Illinois, Iowa and South Dakota. This rate is available to customers with the ability to curtail 2 MW or more upon request of the company. Customers are under no obligation to curtail and are paid the price negotiated between the customer and company at the time of request for interruption. Currently there are 27 customers enrolled in this program; however, there have been very few instances where customers have actually curtailed under this program.

### IV. Real-time pricing

MidAmerican offers a voluntary real-time pricing program for non-residential customers in its Illinois territory. No customers have participated in this rate for several years.

MidAmerican does not have customer participation information back to the inception of each program, as some programs date back more than 20 years.



Participation in residential time-of-use pricing has been declining over the last few years. Participation in the residential direct load control program and the non-residential curtailment programs has been steady to moderately increasing over the last several years.

With the exception of the direct load control programs, the pricing programs listed above utilize standard interval recording metering equipment. The direct load control programs utilize one-way paging technology that sends radio signals to controlling devices that cycle residential air-conditioning equipment. MidAmerican does not utilize Smart Metering as defined above in any of its time-based pricing programs.

**2. State whether any Smart Metering programs that currently exist comply with the PURPA Standard 14.**

MidAmerican believes that all of the rates and programs described in Question No. 1 comply with PURPA Standard 14 (with the possible exception of residential direct load control because that program by definition does not apply to large loads), and that the requirements listed under PURPA Standard 14 are effectively met in South Dakota with the tariffs described.

As noted above, MidAmerican does not offer any pricing programs that utilize Smart Metering as MidAmerican has defined the term in this document (meters with two-way communication capabilities).

**3. Describe how the four PURPA time-based rate schedules are most applicable to various classes of customers.**

Time-of-use pricing: Time-of-use pricing is appropriate for customers that can consistently change energy consumption patterns to move usage to lower-cost periods, or whose energy use is already predominantly in lower-cost periods and therefore can

naturally take advantage of time-of-use pricing. A variant of the traditional fixed time-of-use pricing called variable time-of-use pricing could be developed where customers can select their own custom definitions of on-peak/off-peak hours (within specified limits) and have pricing that is reflective of their choice of periods. This variable approach could be attractive to a customer whose energy use falls naturally into well-defined segments during the day and is consistent from day to day. Time-of-use pricing can be best directed to residential, commercial, and smaller industrial customers.

Critical peak pricing: Critical peak pricing can be viewed as a variant of time-of-use pricing where a portion of the “time-of-use” aspect of pricing is in effect only for certain days, and the differential between the critical peak price and the normal price is very large. Critical peak pricing is best suited to customers who want stable rates throughout the year and have limited ability or desire to manage their electricity usage on a daily basis. Critical peak pricing is appropriate for the same customer groups as time-of-use pricing, but can be more attractive to customers that do not have distinct time-oriented trends in their electricity use and can better shift usage to different times of the day on a limited and infrequent basis.

Real-time pricing: Real-time pricing requires daily monitoring of energy prices and is useful in the context of an energy management system that can alter energy usage in response to daily and hourly pricing information. Because of the time and effort that must be directed to take best advantage of these types of pricing programs, real-time pricing is best suited to customers that have a significant energy management and/or purchasing function. These customers must also have the ability to manage their loads on

a daily basis in order to take advantage of price changes. These programs are best directed to large commercial and industrial customer classes.

Credits for large customers: Credits for large customers (presumably for interruptible loads) are most applicable to classes where customers have sizeable loads that can be interrupted at the direction of the utility on a short-term schedule to ease peak demand pressures on the system. These rate schedules are offered by many utilities, including MidAmerican, in the form of interruptible energy efficiency programs.

**1. Should time-based rates as set forth in PURPA Standard 14 be mandatory for all customers, mandatory for some customers, or voluntary?**

Whether time-based rates should be voluntary or mandatory depends on the customer class. A significant number of MidAmerican's large commercial and industrial customers already take service under time-based rates. Given the widespread installation of interval recorders and other advanced metering technology within these customer groups and the impacts that changes in these customers' usage can have on the electric system, it is reasonable that large commercial and industrial customers be required to take service under some form of time-based rates.

On the other hand, MidAmerican does not believe that implementation of mandatory time-based rates for residential and smaller commercial/industrial customers are appropriate. While some studies indicate there may be net benefits to full customer participation in time-based rates, the evidence is not conclusive and the analysis may be different for each utility. However, MidAmerican believes that even if analyses show that full participation of all customer groups in time-based rates would be beneficial from a cost effectiveness standpoint, time-based rates for residential and small commercial customers do not need to be mandatory. MidAmerican believes they can be fully and

successfully implemented over time on a voluntary basis if the metering infrastructure required for full-scale implementation is put in place up front and all customers pay for the costs of that infrastructure.

MidAmerican believes time-of-use rates can be structured so that most residential and small commercial customers would naturally migrate to time-of-use pricing over time. A starting point for this process would be to establish a set of time-of-use price schedules that would be more customer friendly than current time-of-use pricing and that would be revenue neutral (so that a typical customer with no change in behavior would pay no more on time-of-use rates than on standard rates). Under these pricing schedules, customers that would naturally pay less under time-of-use pricing because they have better usage patterns would migrate to those rates, as would customers who intend to change their usage patterns in response to the rates. Two classes of customers would be created for cost-of-service purposes, with one class being customers on standard rates and the other class being customers on time-of-use rates. When a significant number of low-cost customers have migrated into the time-of-use group, cost-of-service would likely show that rates for the standard group would need to increase relative to the time-of-use group. These increases in standard rates and decreases in time-of-use rates would cause another round of migration of customers from standard to time-of-use rates, which in turn would cause another round of price adjustments, and so on. Eventually, most residential and small commercial customers would naturally take service under time-of-use pricing without a requirement that they do so.

5. **Explain why the Commission should or should not adopt PURPA Standard 14 or any part thereof. In support of your position, provide citations to studies that have been conducted to determine the effectiveness of Smart Metering programs.**

MidAmerican believes the time-of-use rate programs it currently offers in South Dakota address the time-of-use pricing element of the federal standard. MidAmerican believes there is significant uncertainty regarding the cost-effectiveness of both the critical peak pricing and real-time pricing elements of the standard for South Dakota. While some preliminary studies, notably in California, have shown such programs to have potential, there are significant price and demographic differences between South Dakota and California (number of swimming pool pumps, for example) that may not make the results transferable. Because offering either of these programs would involve substantial up-front costs, MidAmerican does not believe Commission adoption of a requirement to offer them makes sense at this time. MidAmerican's Iowa experience indicates that offering credits to consumers with large loads for peak load reductions can be a cost-effective way to achieve demand reductions. MidAmerican would support such a program in South Dakota.

**6. Of the time-based rate schedules listed in PURPA Standard 14, which standard(s) is the most effective in reducing demand? Which is the most cost effective?**

MidAmerican believes that of the time-based rate schedules listed in PURPA Standard 14, the options most effective in reducing demand are those where the price differentials between peak periods and non-peak periods are the greatest, or where reductions in peak demand are most certain. Specifically under PURPA Standard 14, these options would be ii) critical peak pricing, and iv) peak load reduction credits for consumers with large loads. Although not specifically mentioned in Standard 14, MidAmerican believes its residential direct load control program is also very effective in reducing demand.

As indicated in Question 1, MidAmerican has significant experience in Iowa with peak load reduction credits for consumers with large loads and with residential direct load control and has found those programs to be very cost effective. Cost-effectiveness for the other three schedules listed in Standard 14 is uncertain at the present time. The cost of implementing time-of-use pricing is relatively low, but customer response has been limited. Real-time pricing and critical peak pricing programs may provide greater benefits, but are significantly more expensive to implement.

**7. If the Commission adopts PURPA Standard 14, how should the costs for time based rates or programs be allocated and recovered?**

If South Dakota investor-owned utilities are required to provide time-based rates coupled with advanced metering and communication services, *the costs should be recovered from all customers. Similar to energy efficiency programs required by regulatory authority in other states, while not all customers may participate in the program, all customers will benefit. This is especially true if time-of-use pricing is designed to encourage customers to voluntarily select that option consistent with the scenario described in Question 4. The alternative would be to charge all costs to only those customers who participate in time-based rates. However, charging all costs to only those who participate will almost certainly make the costs high enough to limit participation to a very few customers. Costs that are clearly associated with a particular customer class (residential, commercial, industrial, for example) should be charged only to that class.*

**8. Are there any other issues the Commission should consider?**

It is MidAmerican's opinion that the Commission should allow utilities to adopt various types of "smart metering" as they believe it makes sense to do so, based upon

their particular set of circumstances. More information pertinent to South Dakota regarding the potential cost-effectiveness of new time-based pricing approaches is likely to be available within the next few years, which may make the preferred course of action more clear. New real-time pricing programs have been legislatively mandated in Illinois, for example, and MidAmerican has committed to consider a pilot program for time-based pricing in Iowa as part of a series of rate design workshops to be held during 2007.

MidAmerican believes that if it becomes clear that investments in “smart metering” are the lowest-cost way to meet customer electricity needs, utilities will voluntarily implement such programs.

#### **INTERCONNECTION STANDARD FOR DISTRIBUTED RESOURCES- PURPA STANDARD 15**

In reviewing the issue of interconnection requirements for distributed resources, MidAmerican encourages the Commission to consider that in the final analysis, each utility has an obligation to provide safe and reliable electric service to all of its customers. Compromising safety and reliability in the interest of standardization of interconnection requirements is not acceptable and should be avoided.

- 1. Do you currently have tariffs, agreements, procedures, or schedules regarding interconnection of customer-owned generating facilities? If so, please describe them in general terms, including any limits on the capacity of customer-owned generating facilities. In addition, provide a copy or electronic link to the tariff, agreement, procedure or schedule.**

The phrase “customer-owned generating facilities” is broad, and potentially encompasses self-generation, on-site generation, and cogeneration facilities of all sizes, using all energy sources and interconnected with both the distribution and the transmission system, whether or not operating in continuous parallel with the utility system. MidAmerican has a number of documents and requirements that would be

relevant to these interconnections, which are included as links or attachments at Appendix A.

All generation interconnections require a generation interconnection review/study to be performed. *The analysis of a proposed interconnection differs depending on whether or not it is proposed to be operated in parallel with the MidAmerican system.*

For customer-owned generation installations in which the generation is not intended to be operated in parallel with the MidAmerican system, MidAmerican reviews the installation to insure the generation is prevented (through mechanical interlocks) from parallel operation.

For customer-owned generation in which the generation is intended to operate in parallel with the MidAmerican system for only a brief time (less than 100 milliseconds), sometimes referred to as a “momentary parallel” or a short-term parallel”, MidAmerican reviews the equipment to verify that the generation will operate as intended and will reasonably coordinate with the MidAmerican system.

Due to the increased risk of the generation causing safety or reliability issues, MidAmerican requires an interconnection agreement for customer-owned generation installations that can operate in parallel with the MidAmerican system for more than 100 milliseconds.

For generators rated at 10 kVA or less, MidAmerican will apply a streamlined generation interconnection process as outlined in its small Qualifying Facilities (“QF”) agreements and procedures. These requirements apply to all interconnecting generators meeting this size criteria that are capable of parallel operation as the QF designation only



affects the compensation terms and conditions for the energy transmitted to MidAmerican.

For units rated at 11 kVA – 20,000 kVA, MidAmerican would apply either its own Small Generation Interconnection Procedures and Agreements (“SGIP”) or the Federal Energy Regulatory Commission (“FERC”) Small Generation Interconnection Procedures and Agreements as appropriate. The MidAmerican SGIP would be used for generation customers wanting to sell all of their power directly to MidAmerican and interconnecting to non-FERC jurisdictional facilities (primarily facilities rated at less than 100 kV). The MidAmerican SGIP was designed to be very similar to the FERC process. The FERC SGIP process would be used for customers wanting to make sales for resale and/or connecting to FERC jurisdictional transmission facilities.

For units rated larger than 20,000 kVA, MidAmerican would apply the FERC Large Generation Interconnection Procedures and Agreement (“LGIP”). MidAmerican would have the discretion to modify the FERC LGIP if the customer wanted to sell all of its power output directly to MidAmerican and if the facility was interconnecting to non-FERC jurisdictional facilities.

Due to FERC generation coordination requirements and MidAmerican’s participating with TransServ International, Inc. (“TranServ”), an independent transmission services coordinator, all generation interconnections reasonably expected to have an impact on other generation interconnection requests and those under the FERC LGIP are evaluated and queued in a generation interconnection queue. Small generation interconnections under MidAmerican’s jurisdiction are evaluated to determine impacts to other nearby generation. If no impact is found, such as when two small generators are

not connected to the same distribution system facilities, then the generation interconnection studies proceed in parallel with other studies. FERC jurisdictional generation interconnections are performed under TranServ's direction. Large generation interconnection requests are coordinated with TranServ as appropriate.

**Tariffs:** Rider No. 54 of MidAmerican's South Dakota tariffs provides for interconnections with Qualifying Cogeneration and Small Power Production Facilities ("QFs") with a design capacity of 100 kW or less. The Rider provides for sale of customer-generated energy to the utility. The tariff includes some of the requirements that such facilities must meet in order to operate in continuous parallel with the MidAmerican distribution system.

**Unique Contracts for Larger Installations:** For larger (>100 kW) interconnections where the customer is installing generation for the purpose of selling energy and capacity to MidAmerican, a contract would be entered into. In certain cases, MidAmerican would need to accredit the generation in the Mid-Continent Area Power Pool.

For larger (>100kW) interconnections with facilities operated for curtailment or backup purposes, a contract would be required, referencing MidAmerican's technical requirements. The concern with such installations is that the size of the generation and/or the manner in which the customer is connected leads to the possibility of energy flowing into the MidAmerican system.

2. **Explain why the Commission should or should not adopt interconnection standards consistent with PURPA Standard 15 or any part thereof.**

The interconnection of a small generator should not disrupt or in any way diminish the provision of safe and reliable electric service to MidAmerican's other

customers. MidAmerican believes that there is considerable diversity across its system, across the State of South Dakota, and within other individual utility systems as to how distribution is configured. Each utility should be allowed adequate time and resources to properly study or otherwise consider the effects of a small generator interconnection to the utility system. MidAmerican expects that some interested parties may advocate an expedited interconnection process that would require a jurisdictional utility to make certain presumptions and ignore the potential impacts of the specifically requested interconnection on the electric system. While MidAmerican recognizes that there are certain situations in which small generators will have negligible impacts to the electric distribution system, caution is warranted. The result of incorrectly chosen parameters in developing the screening rules will be increased likelihood of the interconnection causing safety and/or reliability issues to other customers.

MidAmerican believes an appropriate balance between the interests of interconnecting customers and public utilities would be struck if utilities were required to maintain documentation of interconnection requirements to furnish to customers as a matter of customer convenience. These documents could be utility-specific to recognize the unique characteristics of each utility system. There should be no requirement to tariff interconnection requirements; nor should the Commission adopt requirements by rule. Interconnection requirements are detailed and subject to change and specifying them by rule or tariff would result in frequent administrative proceedings with no benefit to customers. Requiring utilities to maintain documentation of interconnection requirements to be filed with the Commission on an informational basis would

accomplish the goal of providing better information to interconnecting customers without creating a significant additional administrative burden.

MidAmerican does not believe interconnection procedures should be specified by rule or required to be tariffed; if the Commission does determine to use these processes, they should be limited to interconnections with renewable resources and only those facilities that propose synchronous operations with the utility system.

**3. Should the Commission adopt IEEE Standard 1547?**

Yes, the Commission should adopt IEEE Standard 1547 as an appropriate high level standard, but this should not be the only applicable standard. Interconnecting generators will also need to comply with other standards, such as the ANSI C.50 standards and other IEEE standards. Utilities may also adopt standards for interconnecting customers that take into account the unique characteristics of utility systems. It will also be appropriate to consider specialized standards for particular sizes of units or technologies. Since IEEE Standard 1547 was primarily designed for installations rated up to 10 MVA, other standards need to be adopted by the Commission to apply to larger generators. With the proliferation of inverter/converter technologies, it may be appropriate to consider the UL1741 and IEEE 929 standards – these standards involve safety and reliability for “unintentional islanding.”

**4. Should the Commission adopt the NARUC Model Interconnection Procedures and Agreement? Should the Commission adopt parts of the NARUC Model Interconnection Procedures and Agreement or make changes?**

No. MidAmerican does not support adoption of uniform standards state-wide. The Commission should allow utilities subject to its jurisdiction to develop their own processes based on their own utility systems.

That being said, the Commission should recognize that the starting point for FERC SGIP is the NARUC procedures, although MidAmerican has modified them for its own procedures to reflect its utility system.

**5. Are there any other issues the Commission should consider?**

The Commission should recognize that interconnections to a utility system exist to benefit the interconnecting customer, not the utility. Accordingly, there should be no subsidization of the costs of interconnection service by other MidAmerican customers. All of the costs incurred to interconnect a generator should be borne by the customer requesting that interconnection. Any rules adopted by the Commission should permit utilities to directly assign costs to the small generator associated with the interconnection process.

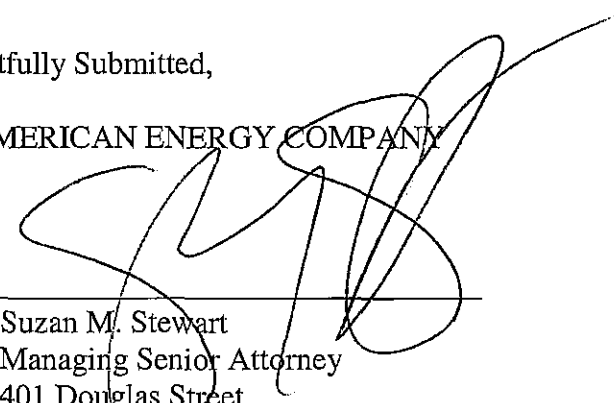
In addition, MidAmerican believes that it is important that any procedures that the Commission adopts: (1) require the interconnecting customer to maintain appropriate insurance coverages and (2) provide for limitations on utility liability.

Dated this 9<sup>th</sup> day of January, 2007.

Respectfully Submitted,

MIDAMERICAN ENERGY COMPANY

By: \_\_\_\_\_



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