

**STATE OF IOWA
DEPARTMENT OF COMMERCE
BEFORE THE IOWA UTILITIES BOARD**

IN RE:)	DOCKET NO. TF-2016-0294
)	
MIDAMERICAN ENERGY COMPANY)	RESPONSE
)	

The Environmental Law & Policy Center and the Iowa Environmental Council (Environmental Intervenors) provide the following response to recent filings by MidAmerican Energy Company (MidAmerican) and the Office of Consumer Advocate (OCA):

I. Background

On July 1, 2016, MidAmerican proposed tariff revisions to its standard avoided cost tariff rates for small qualifying facilities (QFs) pursuant to 199 Iowa Administrative Code § 15.5(3). The proposed tariff was filed concurrently in this docket with MidAmerican’s report on electric utility system cost data in accordance with 18 C.F.R. § 292.302 and the Public Utility Regulatory Policies Act of 1978 (PURPA). MidAmerican’s proposed tariff revisions reduce the avoided cost payments to QFs under the tariff.

On July 18, 2016, OCA filed a conditional objection to MidAmerican’s proposed tariff revision. On July 26, 2016, the Board docketed TF-2016-0294 and ordered OCA to file a report by August 31, 2016. On August 31, 2016, OCA filed a status report and objection to MidAmerican’s tariff. Also on August 31, the Environmental Intervenors filed a request to file comments by September 15, 2016.

MidAmerican’s avoided cost tariff comes after an investigation of avoided cost issues took place in Docket No. INU-2014-0001. On August 2, 2016, the Board issued an order closing

the docket and pushing action on avoided cost issues to the recent filing of the MidAmerican and Interstate Power and Light Company (IPL) avoided cost tariffs, stating: “additional investigation into avoided cost calculations and evaluation of the issues identified in this inquiry would be more appropriately considered in the tariff dockets and through stakeholder comments in the upcoming rule review proceedings.” This statement points to the importance of careful investigation and consideration of the rates filed by MidAmerican in this docket.

As part of an ongoing Notice of Inquiry Docket (NOI-2014-0001), the Board has also been exploring a series of distributed generation issues that are related to avoided cost methodologies including net metering, the value of distributed generation, and interconnection standards. On July 19, 2016, the Board issued an order in NOI-2014-0001 directing the utilities to file temporary, pilot net-metering tariffs that implement specific changes designed to expand distributed generation and collect data to allow the Board to evaluate the impacts of the changes. Pursuant to the Board’s order in NOI-2014-0001, MidAmerican filed a revised net metering tariff on August 31, 2016 in Docket NOI-2014-0001 and TF-2016-0323. Initial comments on the pilot net-metering tariff are due on September 20, 2016.

ELPC and IEC recommend that the Board wait to review MidAmerican’s avoided cost tariff until after it has reviewed and approved MidAmerican’s pilot net metering tariff. In addition, MidAmerican’s current approach to avoided costs still falls short on transparency and meeting the purpose of PURPA. Steps can be taken to further improve MidAmerican’s approach, including the use of an independent valuation study, and exploration of alternative methodologies such as the proxy unit approach. We request that the Board require that MidAmerican file alternative methodologies for setting avoided cost rates, including the proxy unit approach to be evaluated as part of this docket.

II. MidAmerican's Net Metering Tariff Should Be Reviewed Before its Avoided Cost Tariff.

The Board's July 19, 2016 order in NOI-2014-0001 provides for a specific, three-year test of a new net metering protocol that includes a cash-out of excess generation credits on an annual basis at the tariffed avoided cost rate. This creates a new relationship between avoided cost rates and net metering and potential new importance for the avoided cost rates. Given the new relationship between avoided costs and net metering, we encourage the Board to complete review of MidAmerican's net metering tariff design before completing the consideration of avoided costs and approving tariffs in this docket.

Prior to the July 19, 2016 order in NOI-2014-0001, the tariffed avoided cost rate was not a relevant factor for the majority of small QFs under 500 kW, who took service under the net metering tariff with indefinite rollover of credits. While it has not resulted in significant QF development, the avoided cost rates are a key consideration for the larger QFs that would not net meter. The Board's July 19 order and the proposed pilot net metering tariffs make avoided costs a potentially important consideration for smaller QFs that net meter. The design of the net metering tariffs to comply with the Board's July 19 order could impact the relative importance and effect of avoided costs. The cash-out at the avoided cost rate may not have a major impact on the economics of QFs because facility size under the net metering tariff should be matched to the annual energy needs of the facility. However, the timing of the cash-out is an important factor in whether a customer can afford to size a facility to meet their full annual energy needs, particularly for solar customers that generate excess credits in the summer and could utilize them over the winter. If the cash-out occurs in January, then the importance of avoided cost rates in encouraging QF development under the pilot tariffs will increase. If the cash-out is designed to

better match a customer's annual energy use by giving the customer the option of when the cash-out occurs or moving it to April or May, then the avoided cost rates will not be as significant. We will address this in more detail in response to MidAmerican's net metering tariff in Dockets NOI-2014-0001 and TF-2016-0323, and we are hopeful that this issue will be resolved in that docket.

We believe that until the design of the utilities' net metering tariffs are finalized, it is difficult to determine whether the avoided cost is at an appropriate level to encourage development of QFs, as required by PURPA, and request that the net metering tariffs be considered first.

III. MidAmerican's Avoided Cost Methodology Significantly Undervalues Avoided Costs.

Using an avoided cost methodology that sets an appropriate avoided cost rate is important. A rate that is too high can result in consumers paying more for the addition of QF capacity than for a utility's planned new generation. But a rate that is too low will not be sufficient to encourage the addition of QF capacity, even if the QF capacity costs less (in total or to ratepayers) than the utility's planned new generation. As a result, a rate that is too low can also result in ratepayers paying too much. It is important that MidAmerican's methodology lead to an avoided cost rate that is just and reasonable and that does not discriminate against qualifying facilities, consistent with PURPA's policy goal of encouraging the development of cogeneration and small power production. *See* 18 CFR 292.304.

To set its avoided energy cost, MidAmerican has utilized PROMOD, a dispatch model that predicts the energy cost to consumers of deploying MidAmerican resources into the MISO market. To account for avoided capacity costs, MidAmerican utilizes the results of the current

MISO capacity auction in the current year and for future years utilizes the economic carrying charges of a new combined-cycle natural gas turbine. This methodology is not designed with the PURPA goals or MidAmerican's own renewable generation goals in mind, and therefore, does not adequately account for the benefits consumers derive from QFs.

MidAmerican's avoided cost methodology undervalues QF avoided costs in multiple ways. MidAmerican's methodology focuses on short-term avoided energy costs and does not adequately account for the capital costs that are now and will be paid in the future by customers. The avoided cost methodology does not specifically factor in benefits related to reducing transmission constraints and line losses, improving hedging and fuel diversity, providing quantifiable environmental benefits and other PURPA requirements, including those found in 18 C.F.R. § 292.304(e). We describe below several issues with how MidAmerican undervalues the benefits of QFs in calculating its avoided cost. The issues we raise are not exhaustive.

A. Avoided Capacity Costs Should Account for MidAmerican's Future Additions of Renewable Generation.

FERC regulations implementing PURPA require utilities to account for a range of factors in determining the avoided cost rates, including "deferral of capacity additions" as well as "estimated capacity costs at completion of the planned capacity additions and planned capacity firm purchases, on the basis of dollars per kilowatt, and the associated energy costs of each unit, expressed in cents per kilowatt hour." 18 C.F.R. § 292.304(e), 18 C.F.R. § 292.302(b).

MidAmerican indicated in its PURPA compliance filing in this docket that it has based the capacity portion of the proposed avoided cost rate on the 2016-2017 MISO planning resource auction. This methodology undervalues the benefit of utilizing QFs to meet capacity requirements. Purchasing capacity from a QF on a long-term contract offers greater price

predictability and stability than purchasing capacity from the MISO market. This value should be reflected in the avoided cost rate. For the out years, the company uses the economic carrying charges on a combined-cycle natural gas turbine as a proxy for capacity costs. Given MidAmerican's stated goal of serving 100 percent of its Iowa load with generation from renewable resources in the future, a combined cycle turbine is not an appropriate proxy. In his testimony in RPU-2016-0001, Bill Fehrman stated that:

MidAmerican's ultimate goal is to develop enough renewable generation to serve 100% of its customers' annual energy needs (i.e., generate enough renewable energy over the course of a year to equal our Iowa retail customers' energy usage). This will include the development of wind and solar resources and energy storage, and perhaps other technologies that are not known today or are in the nascent stages of development.

RPU-2016-0001, Direct Testimony of William J. Fehrman, at 4 (filed Apr. 14, 2016). Furthermore, Fehrman's testimony noted that "While the Clean Power Plan was recently stayed by the United States Supreme Court, the Clean Power Plan is the culmination of a clear policy directive that future energy sources will be those that do not emit greenhouse gases." *Id.* at 5, n.2. In addition to its major wind projects, MidAmerican described in NOI-2014-0001 a plan to invest in a 5 MW community solar facility, an acknowledgement that MidAmerican could be looking to add solar energy resources in the near future. MidAmerican makes it clear that its future generation will be non-emitting renewables sources. MidAmerican should utilize the cost of the renewable facilities that are consistent with its goal, including the capital costs of these facilities, in determining the capacity portion of its avoided cost. QFs can help MidAmerican reach these goals in a cost-effective manner if the avoided cost tariffs properly reflect those costs and send the right signal to developers.

B. It is not Possible to Determine if MidAmerican's Treatment of Transmission Constraints and Line Losses is Reasonable.

MidAmerican does not directly model avoided transmission, distribution or congestion costs, so it is not clear what forecast adjustment is used for line losses. With this approach, it is not possible to determine whether the forecast adjustment is accurate or appropriate, whether it reflects the costs and savings from reduced line losses as required in 18 C.F.R. 292.304(e)(4), and how it directly affects the avoided cost rates.

C. MidAmerican Touts Hedging and Fuel Diversity Benefits to Build Additional Wind But Does Not Account for Those Benefits in its Avoided Cost Tariff.

MidAmerican pointed specifically to the hedging and fuel diversity benefits of wind energy in support of their Wind XI proposal. MidAmerican Witness Hammer noted that “Wind XI also reduces dependence on fossil fuels and customer exposure to more volatile fuel-cost sources of energy and potential fuel transportation cost changes.” RPU-2016-0001, Direct Testimony of Neil D. Hammer, at 22 (filed April 14, 2016). The position is consistent with MidAmerican’s position in previous wind cases. In MidAmerican witness Crist’s testimony in RPU-2013-0003 (Wind VIII), he states that one of the reasons that MidAmerican decided to pursue further wind development was “[t]he desire to further increase fuel diversity and reduce energy price volatility.” RPU-2013-0003, Direct Testimony of Dean Crist, at p.8 (May 10, 2013). He provided greater detail on this benefit later in his testimony:

[I]n recent years the cost of coal transportation has increased, and historically natural gas has been subject to considerable price volatility. Although current natural gas prices are at relatively low levels compared to historical levels, prices may return closer to the high levels experienced in past years once the economy recovers and additional gas-fired generation is constructed. As a general observation, higher coal prices significantly impact MidAmerican’s base load facilities. Nationally, coal transportation costs have also been subject to price volatility. These fuel price volatility issues, coupled with the positive experience in construction and operation of MidAmerican’s existing wind facilities, have demonstrated the desirability of further diversifying fuel sources, especially non-carbon emitting resources. Just like it is prudent to diversify a financial portfolio in an effort to minimize volatility and risk, it is prudent to diversify sources of electricity generation for much the same reason.

Id. at 14. In the past, MidAmerican has specifically taken a position that price volatility is more likely to cause fuel prices to go up in the future rather than down. O. Dale Stevens made this point:

Natural gas has experienced volatile pricing over the past half century. While gas prices remain relatively low at present, the potential for increased gas prices is greater than exists for decreased natural gas prices. I would note that just over the last 12 months the price of gas has increased by 132% from a low of \$1.82/MMBtu on April 20, 2012 to \$4.23/MMBtu on April 15, 2013. This type of price volatility has occurred multiple times in the past. Of course, higher natural gas prices favor the economics of generation using competing fuels. . . . In summary, wind generation performs favorably when compared to more traditional forms of generation (largely coal, oil and gas fired generation) when evaluated in terms of future variability in fuel costs and environmental policies that impact fuel costs.

RPU-2013-0003, Direct Testimony of O. Dale Stevens, at p.20-21 (May 10, 2013).

MidAmerican correctly included the fuel diversity and hedging value of renewable energy as part of its rationale for pursuing additional wind, which creates real value to customers. Similarly, there is real value for fuel diversity, reduced exposure to fuel price volatility and hedging in the wind or other renewable generation provided by a QF. This value benefits consumers and should be included in avoided cost calculations. In addition, FERC regulations implementing PURPA require utilities to take any “reduction in fossil fuel use” into account in determining avoided costs. 18 C.F.R. § 292.304(e).

MidAmerican does not specifically account for the fuel diversity and hedging benefits of QF generation. MidAmerican states that fuel diversity and hedging benefits are included in its avoided cost tariff because practices such as its use of contract future prices for coal are “used to calculate the electric energy rate in the calculation in the overall avoided cost rate in the tariff.”

MidAmerican Response to Environmental Intervenor Data Request 14 filed as Exhibit EI-1. QFs should be given the same credit for fuel diversity and hedging as MidAmerican gives to those

benefits in its own wind cases. MidAmerican's current methodology does not do this.

D. MidAmerican Should Account for Environmental Attributes Including Future Compliance Benefits.

Variable operations and maintenance (O&M) costs are one component of the cost to dispatch energy and [REDACTED]

[REDACTED] See MidAmerican Response to ELPC Data Request 11 and Confidential Schedule 3 attached as Exhibit EI-2. Renewable QFs do not carry the same environmental costs and this benefit should be fully reflected in MidAmerican's avoided cost rate. Currently, it appears that MidAmerican's methodology under-values environmental benefits.

MidAmerican projected that for 2016 the environmental portion of O&M costs at its various coal-fired facilities would fall between [REDACTED] of total O&M, depending on the facility. This does not include the purchase of allowances for environmental compliance, which are also required for natural gas-fired units. The highest environmental costs in 2016 are projected to be [REDACTED]

[REDACTED] It is worth noting that the variable environmental costs for this unit amount to [REDACTED] of MidAmerican's summer on-peak avoided cost rate under their proposed Optional Time-of-Day rates – their highest proposed rate. These costs are almost [REDACTED] of the winter off-peak rate under the Optional Time-of-Day schedule. This is a substantial and real cost that is avoided with renewable QFs. See Exhibit EI-2, MidAmerican Response to ELPC Data Request 11 and Confidential Schedule3. MidAmerican states that these costs are included in the cost of dispatching a unit to meet Iowa load, but does not specify how much they impact the avoided cost rate. MidAmerican Response to Environmental Intervenor Data Request 10 filed as Exhibit EI-3.

There is also additional benefit to renewable generation with future compliance with carbon regulations. In testimony in Wind XI, MidAmerican witness Fehrman stated:

MidAmerican expects that the Project will be beneficial in supporting the Company's compliance with carbon regulations. The company believes it will be able to utilize generation from the Project towards its compliance demonstrations either by offsetting fossil-fueled generation directly or by participating in an emissions market (e.g., trading credits or allowances) to demonstrate compliance.

RPU-2016-0001, Direct Testimony of William J. Fehrman, at 40 (Apr. 14, 2016). This is another example of a benefit that MidAmerican touts to support its development of wind generation but does not account for in its avoided cost rates. MidAmerican's avoided cost methodology does not adequately account for environmental benefits.

E. MidAmerican's Own Study Acknowledges Additional Value of Distributed QFs.

[REDACTED]

[REDACTED] Again, this study identifies a number of quantifiable benefits from QFs that are not valued in MidAmerican's current avoided cost methodology. See MidAmerican Response to Environmental Intervenors Data Request 13 and Confidential Attachment ELPC-13 attached as Exhibit EI-4 (Confidential).

IV. MidAmerican's Process for Setting the Avoided Cost Rate is Not Transparent.

The current process for developing avoided costs rates does not provide adequate transparency for interested third parties, including customers, to determine whether the rates are adequate, fair, and in compliance with PURPA. Even with the additional information about how utilities develop avoided cost rates that was provided in INU-2014-0001 and discovery in this docket, parties cannot fully understand how a specific tariff revision or avoided cost rate is determined by the utilities. The only individuals who completely understand the way that MidAmerican's avoided cost methodology works are the planners at MidAmerican. The fact that the methodology is not transparent is problematic in and of itself, but when coupled with some of the concerns noted above, the lack of transparency is more troubling. The lack of transparency makes it almost impossible to determine whether the rates are just and reasonable and in the public interest, nondiscriminatory, and accurately capture all of the costs avoided by utilities as required by PURPA.

V. The Board Should Require MidAmerican to File Alternative Approaches to Avoided Cost for Evaluation in this Docket.

During the Investigative Docket, ELPC and IEC recommended that avoided cost information and rates be filed using existing and alternate methodologies. We still believe this exploration should be done, and the Board should require MidAmerican to file a comparison of its current methodology and other methodologies to be evaluated in this docket. This approach would be similar to the approach Michigan recently took in requiring utilities to file avoided costs using multiple methodologies after an investigation similar to Iowa's had concluded. *See Michigan Public Service Commission, Order (May 3, 2016) available at <http://efile.mpsc.state.mi.us/efile/docs/18089/0001.pdf>.*

One methodology that has the potential to address many of the concerns that we raise is a

proxy unit approach that focuses the determination of avoided costs on the levelized cost of a utility's next planned generating asset or on a generic generating asset such as new wind. The proxy method would reflect a utility's full cost of deploying the next MWh of generation, including capital costs.¹ When MidAmerican currently develops wind, it bundles many of the benefits that PURPA requires into the overall project. The levelized costs of those projects would fairly and transparently address avoided costs without requiring a breakdown by each avoided cost component. If a utility chooses a proxy that is consistent with its generation goals and plans, then the rate would be cost-neutral for consumers and offer QFs an opportunity to sell their power to utilities at the going market rate, not a disadvantaged rate based on an opaque and highly theoretical modeling process.

The proxy unit approach would also simplify the development of resource-specific avoided costs, another concept worth exploring. A standard rate for wind would be different than a standard rate for solar and both would be different than a standard rate for energy storage or a methane digester. The different rates would reflect that each resource provides different benefits that are useful to the utility and customers. Without resource-specific standard rates, MidAmerican's avoided cost rates do not reflect the same value MidAmerican places on the various resources when it makes investments.

We agree with the Office of Consumer Advocate that the resource-specific rates should be set using the "levelized cost of procuring a similar resource by the utility." TF-2016-0294, Status Report and Objection to Tariff, at 8 (Aug. 31, 2016). Levelized cost information is available from Lazard on an annual basis, which could be used as a starting point for determining

¹ Carolyn Elefant, *Reviving PURPA's Purpose: The Limits of Existing State Avoided Cost Ratemaking Methodologies in Supporting Alternative Energy Development and a Proposed Path for Reform*, at 17 (2011). States using the proxy unit approach include Oregon, Idaho, Montana, and Utah.

the appropriate levelized cost and associated resource-specific rates.² The latest Lazard analysis provides a range of levelized costs by technology or resource and includes sensitivities based on the effect of federal tax incentives, fuel costs, and regional variations. Wind in the Midwest has a levelized cost of \$32/MWh to \$77/MWh without accounting for tax incentives, while solar has a levelized cost of \$74/MWh to \$215/MWh without accounting for tax incentives.³ Lazard provides sensitivities showing the impact of tax incentives or fuel price changes, but without regional variations.⁴ While more analysis is needed, we believe the resource-specific levelized cost approach may not result in a significant change from the MidAmerican proposal in the avoided cost rate offered for most or all wind QFs. However, the rate offered to most types of solar resources would need to change. Additional Iowa-specific levelized cost information from recently completed (or proposed) wind and solar projects would help inform the determination of an appropriate resource-specific rate.

Another methodology that the Board should explore for developing resource specific avoided cost rates is an independent valuation study for distributed resources. This study would provide significant data to help fill in gaps that currently exist in MidAmerican's avoided cost methodology. A properly calculated avoided cost rate would need to account for the benefits to the electric utility system provided by QF generation, including but not limited to: reduction in utility energy and capacity generation requirements, particularly during peak periods; reduction in system losses; avoidance or deferral of distribution and transmission investments; localized grid support, including enhanced reliability benefits; fuel-price certainty; and reduction in air emissions and water use. As discussed above, MidAmerican's avoided cost rates do not currently

² Lazard, *Levelized Cost of Energy Analysis 9.0* (2015) available at <https://www.lazard.com/perspective/levelized-cost-of-energy-analysis-90/>.

³ *Id.* at 9.

properly account for these benefits. While we continue to believe that the distributed generation market in Iowa is not sufficiently robust to make an independent valuation study appropriate at this time, the Board could set the framework for a future study and help prepare the utilities for a transition to this type of approach.

VI. Conclusion

It is important that MidAmerican's methodology leads to an avoided cost rate that is accurate, transparent, and fair and is sufficient to achieve the PURPA policy goal of encouraging the development of cogeneration and small power production. It is not clear that the avoided cost rates filed by MidAmerican in this docket fairly account for the full range of benefits required by PURPA and FERC's implementing regulations. The Environmental Intervenors propose that the Board require MidAmerican to compare its current avoided cost rates to rates calculated using alternative approaches such as the proxy method to create resource-specific avoided cost rates and that such a comparison be filed in this docket for further evaluation. In addition to this comparison, the Board should help develop a framework for a future independent valuation study to account for the full range of benefits required by PURPA. These actions will help ensure that PURPA policy goals are met in a way that is fair to QFs and neutral for customers.

Additionally, we encourage to Board to delay a decision in this Docket until MidAmerican's net metering tariff filed in NOI-2014-0001 and TF-2016-0323 has been approved due to the interrelated nature of the two dockets.

Respectfully submitted this 15th day of September, 2016.

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ON BEHALF OF IEC

**ENVIRONMENTAL INTERVENORS
DATA REQUEST**

DATE : August 30, 2016
DOCKET NO. : TF-2016-0294
COMPANY : MidAmerican Energy Company
SUBJECT : Rising Fuel Costs and Fuel Price Volatility

Responder Name: John Palmolea
Job Title: Senior Analyst
Phone: 515-281-2716

14. How are risks associated with rising fuel costs and fuel price volatility reflected in MidAmerican's avoided cost tariff?

Response:

MidAmerican includes fuel risk factors in its avoided costs and these cost factors are included in the avoided cost tariff. For example, a significant portion of MidAmerican's forecasted coal requirements are purchased on a forward basis. These forward contract prices include the risk factors such as rising fuel costs, which mitigates the price volatility. The contract future prices are used to calculate the electric energy rate in the calculation in the overall avoided cost rate in the tariff.

**ENVIRONMENTAL INTERVENORS
DATA REQUEST**

DATE : August 4, 2016
DOCKET NO. : TF-2016-0294
COMPANY : MidAmerican Energy Company
SUBJECT : Fuel Cost and Variable O&M Costs

Responder Name: John Palmolea
Job Title: Senior Analyst
Phone: 515-281-2716

11. For each of MidAmerican's existing generating units (coal, gas, diesel, etc.) operating in Iowa:
 - a. Please provide the fuel cost and variable O&M costs for 2015 (or the most recent year available) in a \$/MWh basis.
 - b. Please indicate the fraction of the variable O&M costs that are environmental compliance costs.

Response:

- a. See Schedule2 InputsAssumptionsIowa PURPA Question2A 7-20-16.xls
- b. See Schedule3 EnvironmentalInputsAssumptionsIowa PURPA Question11B 8-4-16.

Exhibit EI-2 Attachment Confidential Schedule 3

PUBLIC VERSION

Contents Designated CONFIDENTIAL

**ENVIRONMENTAL INTERVENORS
DATA REQUEST**

DATE : August 4, 2016
DOCKET NO. : TF-2016-0294
COMPANY : MidAmerican Energy Company
SUBJECT : Emissions Controls and Upgrades

Responder Name: John Palmolea
Job Title: Senior Analyst
Phone: 515-281-2716

10. MidAmerican has added various emissions controls and other upgrades or changes to comply with existing, new and forthcoming environmental regulations at coal units that it owns or co-owns in Iowa. Please describe how the cost of adding, operating and maintaining emissions controls and upgrades impacts MidAmerican's avoided costs.

Response:

Avoided Energy Cost Component – The operation and maintenance of the variable components of the environmental control systems for MidAmerican's coal units is included in the variable cost per MWh. The environmental costs are included in the avoided energy costs when the coal generating unit is dispatched and used to meet the hourly Iowa energy requirement.

Avoided Capacity Cost Component - MidAmerican has used the economic carrying charges on a new combustion turbine to calculate its long-term avoidable capacity cost. The installed cost of the combustion turbine unit is based on the Cost of New Entry filed with FERC. The capital cost of environmental controls is included in the Cost of New Entry. Refer to page 4 of the MISO filing letter in Federal Energy Regulatory Commission docket ER15-2660. The filing letter is provided in response to Data request 3).

**ENVIRONMENTAL INTERVENORS
DATA REQUEST**

DATE : August 30, 2016
DOCKET NO. : TF-2016-0294
COMPANY : MidAmerican Energy Company
SUBJECT : Studies or Analyses

Responder Name: Neil Hammer
Job Title: Director, Market Assessment
Phone: 515-252-6407

13. Please provide a copy of any studies or analyses conducted by or for MidAmerican quantifying the sensitivity of LMPs to changes in the amount of distributed generation in MidAmerican's service territory.

Response:

See Confidential Attachment ELPC-13 which is a study completed in 2016 as part of the MidAmerican local planning process of distributed solar generation.

Exhibit EI-4 Attachment ELPC 13

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