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**IOWA UTILITIES BOARD**  
**General Counsel and Policy Sections**

Docket Nos.: WRU-2014-0013-0004

Utility: Altoona Tower Condominiums,  
LLC f/k/a Ironwood  
Development, LC and  
Professional Property  
Management, Inc.

File Date/Due Date: January 9, 2015-N/A

Memo Date: March 17, 2015

**TO:** The Board

**FROM:** Parveen Baig, Cecil Wright

**SUBJECT:** Approval of Pilot Project

**I. Background**

On September 11, 2014, Ironwood Development, LC (n/k/a Altoona Tower Condominiums, LCC) and Professional Property Management, Inc. (collectively, Applicants), filed with the Utilities Board (Board) a request to waive the individual metering requirements in 199 IAC 20.3(1)“b” to allow master metering at an apartment complex with two multioccupancy buildings in Altoona, Iowa. Applicants state that they have a long track record of designing and managing energy efficient and cost effective residential rental properties and they want to utilize energy savings strategies at the apartment buildings in Altoona. According to Applicants, for the energy saving strategies at the two apartment buildings to be economical, the buildings will require master metering.

On September 30, 2014, the Office of Consumer Advocate (OCA), a division of the Iowa Department of Justice, filed a response not opposing the waiver request. On October 1, 2014, MidAmerican Energy Company (MidAmerican) filed a response to the waiver request and requested additional information. On October 8, 2014, Applicants filed a response to MidAmerican's request for more information.

On October 29, 2014, the Board issued an order requesting additional information about the request for waiver to allow master metering at the apartment buildings. On November 7, 2014, Applicants filed a response to the Board's order and requested a conference to discuss the issues raised concerning the request to master meter the two apartment buildings.

On November 13, 2014, the conference was held. Board staff, Applicants, MidAmerican, and OCA staff attended the conference. At the conference, attendees agreed that master metering should be allowed to provide electric energy to the two

apartment buildings as a pilot project and Applicants would submit a proposal for the Pilot Project which would include a special rate developed by MidAmerican for the two apartment buildings. On January 9, 2015, Applicants filed a preliminary proposal for the Altoona Towers Master Meter Pilot Project (Pilot Project). In support of the filing, Applicants indicated that there had been no agreement on the appropriate rate structure for billing the master-metered usage. Applicants indicated that they will submit additional information including the rate to be charged by February 27, 2015. Applicants stated that both MidAmerican and OCA agree to the preliminary proposal for the Pilot Project. Applicants state that the two apartment buildings in Altoona are the most energy efficient multifamily housing project built in Iowa to date; however, the energy strategies used in the construction of the buildings are not financially feasible unless the property owner can recoup the energy savings through a master meter. The parties to this docket agreed that data should be collected to determine whether the energy efficiency strategies adopted for these buildings resulted in energy savings even though individual tenants were not financially responsible for electric usage. Applicants stated that MidAmerican and OCA reviewed and offered comments on the Pilot Project and consented to the preliminary report. Applicants requested that after the information was reviewed, the Board approve the Pilot Project and order the first annual report to be filed by June 30, 2016.

On January 30, 2015, the Board issued an order addressing the preliminary proposal for the Pilot Project. In the order, the Board stated that the Pilot Project should have well defined goals “so that data collection and analysis strategies can be defined clearly to deliver credible results.” The Board then addressed several issues with the preliminary proposal and set out issues the parties needed to address in the February 27, 2015, filing.

On February 27, 2015, Applicants filed a request for waiver with a revised Pilot Project proposal and responses to the Board’s January 30, 2015, order. In the response, Applicants stated that the parties had not reached agreement on the rate to be charged for electric service. Applicants’ filings supported using MidAmerican’s LS Large Electric Service rate for billing the apartment buildings’ usage.

On February 27, 2014, MidAmerican filed a response to the January 30, 2015, order and on March 4, 2015, MidAmerican filed a response addressing the issue of the rate to be charged for master-meter service at the apartment buildings. In the March 4, 2015, filing, MidAmerican proposed a revised residential rate specially developed for the apartment buildings.

On March 5, 2015, OCA filed a response addressing the rate to be charged for service at the apartment buildings. OCA states that there is no dispute that the Pilot Project will result in efficiencies of operation and reduced risk to MidAmerican and if the apartment buildings load profile and usage more closely resemble a large commercial customer, the Pilot Project will result in energy efficiencies benefitting

ratepayers. OCA strongly urges the Board to consider applying rates with lower usage charges than those proposed by MidAmerican.

## **II. Issues Raised in January 30, 2015, Order**

The preliminary proposal required MidAmerican to deliver the data obtained from the project to Applicants and Applicants would file a report with the Board in June 2016. In the January 30, 2015, order, the Board directed that the report should contain 12 months of data and therefore the report should not be filed until monthly data for reasonably well-occupied buildings is available for a full 12 months. The Board also requested that the energy efficiency items to be installed be described in more detail and should include specific estimates of energy savings or identification labels that tie back to an appendix.

The Board directed that the Pilot Project should include specific details for all of the items listed as significantly contributing to energy use and these should be assembled for easy reference. The Board requested that MidAmerican explore the possibility of sub-metering a sample of apartments with recording meters capable of measuring and storing energy use at shorter than a monthly period. The Board also questioned how the data would be collected for the experimental group and the control group. Finally, the Board requested additional information about the educational materials that Applicants would use to educate tenants on the energy efficiency appliances and facilities in the apartment buildings.

In the January 30, 2015, order, the Board also described specific items that Applicants and MidAmerican should address in the February 27, 2015, filing. Those items are as follows:

1. Provide a complete list of objectives for the project.
2. MidAmerican will need to file a proposed tariff with the new rate for the Pilot Project. Does MidAmerican expect other customers to be able to take service under this Pilot Project rate, or is this available to just the Applicants?
3. How long do Applicants and MidAmerican anticipate the Pilot Project will need to continue until there is sufficient data to address the goals of the project?
4. Is it possible for MidAmerican to estimate energy use by metering common areas and to provide sub-metering for those areas?
5. Applicants should provide specific details, where possible, for all of the items (appliances, technologies, building components or sub-systems, and other measures) listed as contributing significantly to energy use (equaling five percent or greater). The details should include anticipated energy savings of each item.

6. Is it possible, and feasible, for MidAmerican to meter a sample of apartments with recording meters capable of measuring and storing energy use at smaller than monthly time period (e.g., hourly, 15-minute interval)? If the costs are reasonable, can such meters be installed on a representative sample to help identify savings attributable to specific major energy uses, including heating/cooling, lighting, cooking, and plug load?
7. Is this Pilot Project of sufficient importance to have some of the costs covered by energy efficiency program funds?
8. MidAmerican should specify what type of data will be collected for individual apartments, common areas, and the total buildings for the “experimental group” as well as the “control group.”
9. MidAmerican should describe, develop, and identify a set of metrics and describe the methodology that will be used to analyze the data collected.
10. Are there any privacy issues that need to be addressed if MidAmerican is going to obtain individual apartment energy usage and analyze the data? What actions will be taken to protect the tenant's private information from the public dissemination? Is it necessary that each tenant's permission be obtained to collect the data?
11. Can MidAmerican provide metrics that will provide a yearly average usage for these apartment buildings?
12. The information provided by Applicants with regard to the educational programs should include how many tenants attended these meetings.
13. A detailed description of the control group will need to be provided including how the data from the control group will be compared to the apartment buildings in the Pilot Project.

### **III. Applicants' Responses**

Applicants state that there are four objectives of the Pilot Project. First, to determine if energy efficiency strategies combined with a master-meter arrangement where tenants pay for electric service as an unidentified portion of rent results in reduced energy consumption at a multioccupancy building. Second, to analyze the energy use at the apartments to determine if the energy performance is meeting design energy goals predicted by the building simulation model and energy use benchmarks for multioccupancy buildings. Third, to develop energy use characteristics on individual units for comparison with other similar multioccupancy buildings to address how tenant energy consumption is influenced when energy costs are included as an unidentified portion of rent. Fourth, to evaluate the energy

usage and assess energy reduction resulting from implementation of energy efficiency strategies.

The Pilot Project will address the primary underlying problem of the split incentive between situations where a tenant pays for energy service as an unidentified portion of rent, does not purchase or install the energy efficient fixtures and appliances, and is not responsible for properly maintaining those fixtures and appliances versus those situations where the tenant pays for energy usage and chooses to install energy efficient appliances and fixtures. In this latter situation, the landlord has no financial incentive to purchase and install energy efficient fixtures and appliances since the tenant would reap any savings from reduced energy costs. Under these circumstances energy efficient fixtures and appliances are rarely purchased and installed by the landlord.

Applicants suggest that allowing the landlord to master meter an apartment building would allow the landlord to benefit from purchasing, installing, and maintaining energy efficient fixtures and appliances by a reduction in energy costs to the landlord. In the case of the Altoona apartments, Applicants plan to invest \$292,050 for energy efficient fixtures and appliances for the two apartment buildings. Applicants would receive a payment of \$103,815 from MidAmerican for installation of the energy efficient fixtures and appliances; however, Applicants would receive no direct benefit from installing the energy efficient fixtures and appliances. Without some other economic incentive, Applicants state that purchasing and installing the energy efficient fixtures and appliances is not economically feasible.

The Pilot Project will allow Applicants to take service through a master meter and MidAmerican will collect data on energy use at the two apartment buildings for comparison with apartment buildings where the tenant pays for utility service. Applicants have installed several energy efficient strategies in construction of the two apartments and believe that allowing the master metering of the apartment buildings will result in overall reduction in energy usage.

The one issue not agreed upon between MidAmerican and Applicants is the rate that MidAmerican should charge for the master-metered electric service. Applicants argue that the commercial LS Large Electric Service rate is the appropriate rate to be charged for the Pilot Project. Applicants state that the predicted energy use and demand profile for the apartment buildings is a reduced summer demand peak and an increased winter use, which according to Applicants, is a desirable utility load.

Applicants conducted a rate analysis using MidAmerican's standard electric rate schedules, Rate RS-Special Residential Service, Rate GE-General Energy Service, Rate GD-General Demand Service, and Rate LS-Large Electric Service. Applicants state that the Pilot Project Residential Rate proposed by MidAmerican has the second highest cost of the master meter rate options, while the Standard Residential RS Rate has the lowest cost of the master meter. Applicants state that

the LS Large Electric Service rate is the most appropriate rate for the Pilot Project since the projected load at the apartment buildings is characteristic of a commercial load, and not a residential load. According to Applicants, the consolidated electric load presented at the single master meter is disallowed as a standard residential service due to exceeding the 50,000 kWh per year limit; therefore a commercial rate should be used.

#### **IV. MidAmerican's Responses**

MidAmerican stated that the objectives of the Pilot Project revolve around gathering enough information for the Board to make a reasonable decision regarding whether allowing master metering is the best way to overcome the split incentive with energy efficiency in rental housing. MidAmerican states that the Board will have to decide the following items in order to make its determination.

1. Do the rental facilities that are the subject of the Pilot Project, the experimental group, use less energy per square foot than the comparable facilities without the added energy efficiency measures and master metering, the control group?
2. How much of the per square foot energy savings for the experimental group is attributable to the energy efficiency measures?
3. How much of the square foot energy savings from energy efficiency measures for the experimental group is offset by increased tenant usage?
4. How do the profiles for the apartments in the Pilot Project facilities compare to load profiles for comparable apartments in other facilities?
5. How much does the actual cost of energy used vary between Pilot Project facility residents in similar-sized apartments?
6. How much of a rental premium do the apartments in the Pilot Project facility command in the rental market?
7. What strategies were used to communicate the value of the reduced energy usage of the apartments and how successful were those strategies?

MidAmerican states that it has developed a new rate for the Pilot Project master metered facilities and MidAmerican does not intend to offer the rate to any other customer. MidAmerican provided a proposed Rate RMS-Residential Master Metered Service (Rate RMS) for the Altoona apartments. The rate assumes that the Pilot Project buildings' tenant loads will still have the same load shape as other residential customers, but that with their overall reduced usage levels, the buildings should qualify for the lower second step of the winter rate. MidAmerican states that phase-in, equalization, and transmission cost adjustment factors will also apply.

MidAmerican states three years should be sufficient time to address the goals of the Pilot Project. MidAmerican intends to measure monthly usage for each apartment and for the facility as a whole, with the difference between total facility usage and apartment usage being assumed to be the usage in common areas. In addition, MidAmerican plans on installing interval meters on at least 10 percent of the Pilot Project apartments and other devices, such as data loggers on specific equipment, may be needed to accurately assess the savings related to major energy uses.

MidAmerican states that the control group will consist of a facility or facilities determined to be similar to the two apartment buildings in the Pilot Project, except for levels of energy efficiency strategies and master metering. MidAmerican intends to collect monthly usage data for the control group facilities and usage, square footage and number of occupants, within those facilities. MidAmerican also intends to collect monthly rental cost information for the Pilot Project facilities and for the control group facilities.

MidAmerican states that it has not fully developed the metrics or methodology it will use to analyze the data collected. MidAmerican intends to consult with its evaluation, monitoring and verification contractor regarding the selection of the control group, metrics and methodology. MidAmerican states that it will use administrative budget dollars from the non-residential electric energy efficiency budget to fund the analysis. MidAmerican suggests that the verification of Applicant's energy efficiency projects is consistent with the requirements of the non-residential program requirements to verify projects.

MidAmerican states that the customer usage data it collects is considered confidential information and the information will not be made available to the public.

In its March 4, 2015, filing, MidAmerican states that it still considers the residential rate to be appropriate for the Pilot Project facilities. Allowing master-metering addresses the split incentive identified by Applicants. MidAmerican states that the implementation of energy efficiency measures reduces overall usage but does not change the usage pattern for the Pilot Project facilities. MidAmerican points out that the average monthly load factor for the Pilot Project facilities before energy efficiency improvements, as projected by Applicants, is 44 percent. The average monthly load factor of the Pilot Project facilities after energy efficiency improvements is 37 percent. MidAmerican's load research shows that a typical residential aggregated multifamily monthly load factor is 55 percent. A typical MidAmerican residential customer, non-aggregated, monthly load factor is 25 percent and a typical MidAmerican large commercial/small industrial monthly load factor is 60-70 percent. MidAmerican states that this evidence does not support Applicants' requests for a commercial rate.

MidAmerican revised the Rate RMS rate structure by adding a lower-priced winter step for the Pilot Project facilities usage over 100,000 kWh. MidAmerican

states that this would approximate the pricing for residential heat customers on an individualized basis, based upon 103 units. This revision was made based upon Applicants' data concerning usage per apartment. The Rate RMS rates, as revised, are as follows:

Basic Service Charge	\$20.00	
Energy Charge	Summer	Winter
First 100,000 kWh	\$0.10575	\$0.08044
All over 100,000 kWh	\$0.10575	\$0.04536

## V. Legal Standards

199 IAC 20.3(1)“b”(4) provides:

b. The amount of all electricity delivered to multioccupancy premises within a single building, where units are separately rented or owned, shall be measured on the basis of individual meter measurement for each unit, except in the following instances:

(4) Where individual metering is impractical. “Impractical” means: (1) where conditions or structural barriers exist in the multioccupancy building that would make individual meters unsafe or physically impossible to install; (2) where the cost of providing individual metering exceeds the long-term benefits of individual metering; or (3) where the benefits of individual metering (reduced and controlled energy consumption) are more effectively accomplished through a master meter arrangement.

If a multioccupancy building is master-metered, the end-user occupants may be charged for electricity as an unidentified portion of the rent, condominium fee, or similar payment, or, if some other method of allocating the cost of the electric service is used, the total charge for electric service shall not exceed the total electric bill charged by the utility for the same period.

## VI. Staff Analysis

Staff believes that the answers to the Board's questions in the January 30, 2015, order provide sufficient detail of the Pilot Project for the Board to approve the project for a three-year period. Data will be collected as described by MidAmerican for the two apartment buildings, the experimental group, and for comparable apartment buildings, the control group. MidAmerican will develop the control group with the help of a consultant. The cost of analyzing the data will be recovered through the administrative budget dollars from the non-residential electric

energy efficiency budget. Staff considers this Pilot Project to be an appropriate use of those energy efficiency funds.

Although Applicants and MidAmerican have described several objectives of the Pilot Project, staff believes the primary objective is a determination of whether one or more multifamily buildings, with energy efficiency strategies similar to those in the Pilot Project buildings, meet the requirements in 199 IAC 20.3(1)“b”(4) to be allowed to take electric service through a master meter. To reach this determination, the data will have to demonstrate that the use of the energy efficiency strategies significantly reduces the overall electric usage for the two apartment buildings as compared to similar apartment buildings that are individually metered and which have not been constructed with similar energy efficient technologies and strategies.

Staff believes that the MidAmerican Rate RMS tariff, as revised in the March 5, 2015, filing, should be adopted for this Pilot Project. In initial discussions, MidAmerican agreed to develop a rate for the Pilot Project and staff believes that the residential rate proposed by MidAmerican should be used. MidAmerican’s proposal is based on the anticipated residential characteristics of the proposed buildings’ electric load profile. If the data collected support a commercial rate as suggested by Applicants, the rate can be changed after the three-year Pilot Project period. Staff is not convinced that the load characteristics at the apartment buildings will be more similar to commercial usage than residential, and a residential rate should be used until the data shows a commercial rate is more appropriate.

Applicants stated that MidAmerican will annually submit a confidential report to Applicants. After Applicants review and comment on the report, the Applicant will submit the confidential report to the Board regarding the energy used by the tenants and Applicants’ conservation efforts, for the duration of the project. MidAmerican has stated that the individual apartment usage collected is considered confidential information. Staff does not believe that MidAmerican will need to obtain individual customer agreement to collect the data; however, staff believes that the information provided by Applicants should include a statement that the apartment buildings are part of an energy efficiency Pilot Project with MidAmerican, and individual apartment usage may be collected for load research purposes. The information collected will be held confidential by MidAmerican. Staff believes that to evaluate the full merits of the Pilot Project, staff needs full access to the data that was collected as well as MidAmerican’s methodology and analysis of the data. Therefore, MidAmerican should file its initial annual report with the Board at the same time it shares the report with the Applicants. MidAmerican should file for confidential treatment of the information with the Board. Applicants should file their review and comments on the report and additional information separately.

Staff believes the Board should reserve the right to request additional information or data collection after the Board has reviewed the first annual report. Since the data is being collected as part of a Pilot Project, adjustments to the data collection should be expected if the data collected does not address all of the

matters that are considered important by the Board. MidAmerican will file the first annual report once 12 months of data has been collected.

**VII. Recommendation**

Staff recommends that the Board direct General Counsel to prepare an order for Board review that: (1) approves the Pilot Project for a three year period; (2) approves use of the energy efficiency funds as described; (3) directs MidAmerican to file the annual report with the Board at the same time the report is provided to Applicants; and (4) directs that the annual filing include full 12 months of data.

**APPROVED**

/ciw

<u>/s/ Elizabeth S. Jacobs</u>	<u>3-21-15</u>
	Date
<u>/s/ Nick Wagner</u>	<u>3/20/15</u>
	Date
<u>/s/ Sheila K. Tipton</u>	<u>3/20/2015</u>
	Date

*Costs should be recovered from residential efficiency budget, not non-residential, to ensure there is no cost shifting. Costs should match rate class. A baseline between the control buildings and pilot building must be established prior to pilot to make sure data is accurate. If no baseline comparison is established it will be impossible to determine the cause of the results. NAW 3/20/15*

*I agree with Board member Wagner. The order will need to reflect the filing made today by the Applicant. SKT 3/20/15*

*I agree with both set of comments from Board members Wagner and Tipton ESJ 3-21-15*