ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

201 South Main Street
Salt Lake City, UT 84111

August 25, 2014

Public Service Commission of Utah
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attention: Gary Widerburg, Commission Secretary

Re: Reply Comments and Amendment to Advice No. 14-07, Proposed Changes to Schedule 111 Home Energy Savings Incentive Program

On July 9, 2014, Rocky Mountain Power ("Company") submitted to the Public Service Commission ("Commission") proposed changes to the Home Energy Savings Incentive Program ("Program") administered through Schedule No. 111. On August 13, 2014, the Company submitted an amendment to the original filing.

Four organizations submitted comments to the Commission and Company regarding the proposed changes to the Program. Questar Gas Company ("Questar") submitted comments and recommendations regarding the marketing and implementation of heat pump, ductless heat pump, and heat pump water heater measures. The Office of Consumer Services ("Office") submitted a recommendation to approve the proposed changes to Schedule 111 but not allow any exceptions to the incentive application period of 180 days. The Office also recommended the Program improve the information on the Program website for efficient light bulbs and participating retailers, making it easier for customers to purchase discounted CFLs and LEDs. The Division of Public Utilities ("Division") submitted a recommendation to conditionally approve the filing, contingent on the following changes: (1) extend the current 90 day application submission deadline to 180 days but remove the exception language or follow the Commission's direction in Docket 10-035-T05 to allow exceptions only when written documentation by the customer's senior military/public service official, or medical provider is provided; (2) remove mail-by request CFL, LED, and plumbing measure kits; and (3) remove the pool pump measure. Utah Clean Energy and the Southwest Energy Efficiency Project ("SWEEP") submitted joint comments in support of the proposed changes outlined in the original and amended filing with a recommendation to increase the incentive for more complex and expensive LED fixtures to a level greater than $10. Utah Clean Energy and SWEEP also requested the Company file as an addendum a recent customer survey the Company referenced during a July 30, 2014 teleconference with the Utah DSM Steering Committee.

Concerns raised by these stakeholders center on the following topics:

1. Allowing the Program to exercise discretion in waiving the submission deadline without requiring written documentation from a customer's senior military/public service official, or medical provider
2. Adding mail-by request kits containing CFLs, LEDs and plumbing measures
3. Adding pool pumps
4. Marketing and installation verification for heat pumps, ductless heat pumps and heat pump water heaters
5. Recommendation to increase the incentive for more complex and expensive LED fixtures to a level greater than the proposed $10
6. Improve website information for efficient light bulbs and participating retailers
7. Access to the Company's 2013 survey of residential customers in Utah

In response to the concerns raised, the Company is providing reply comments and amended tariff sheets addressing the concerns raised by stakeholders.

Application Submission Deadline
The Program was proposing to eliminate the requirement for written documentation for military duty or other public service or the occurrence of an emergency or extended medical problem and allow the Program discretion in granting exceptions to the incentive application submission deadline without written documentation from a customer's senior military/public service official, or medical provider. The direction for written documentation for exceptions to the submission deadline is from the Commission in the order for Docket No. 10-035-T04 issued on July 19, 2010. The Utah DSM Steering Committee discussed allowing exceptions to the submission deadline but has been unable to come to an agreement.

Since 2012 the Program has received and approved 25 requests for medical exceptions and one request for a military exception. To alleviate customer service issues stemming from requesting documentation from a customer's senior military/public service official, or medical provider, the Program is supportive of the recommendation by the Office and the Division to not allow any exceptions to the incentive application period of 180 days. The proposed language on tariff sheet 111.2 under item 7 for PROVISIONS OF SERVICE has been updated, striking the exception language, and now reads, "Customers have 180 days after the date of purchase or installation to submit a complete post purchase application and request an incentive."

Mail-by Request Kits
The Program proposes adding mail-by request kits containing CFL or LED bulbs and, for customers with electric water heat, showerheads and faucet aerators. The Division raised several concerns leading to their recommendation to remove the mail-by request kits from the Program: (1) questioning the necessity of providing mail-by request kits containing CFL or LED bulbs when the lighting market has changed, (2) no guarantee

bulbs will be installed and may be stored for future use, (3) standard 40 and 60 watt incandescent bulbs are no longer manufactured so baseline assumptions may be incorrect, and (4) customers are taking advantage of the existing discounted bulbs the Program provides through select retailers which are more cost-effective than the mail-by request channel.

The Program asserts there is still an opportunity to introduce customers to high efficiency lighting by providing free CFLs and discounted LEDs in mail-by request kits. A 2013 Company survey of Utah residential customers found 24% of customers with screw-in bulbs reported using no CFLs at all. In the same survey, 63% of customers using screw-in bulbs reported using CFLs in 50% or fewer of the sockets in their home. Only 11% of customers reported using CFLs exclusively. Only 7% of customers reported using LEDs. The survey results indicate there still is an opportunity for customers to install high efficiency CFLs and LEDs. Mail-by request bulbs provide the Company a cost-effective way to reach customers who may not live near a participating retailer providing discounted bulbs.

The Program incorporates a storage factor to discount the unit energy savings for CFL and LED bulbs. The storage rate for mail-by request bulbs was provided in Table 17 in the July 9, 2014 filing. The storage rate for mail-by request general purpose CFLs is 30.6% and for general purpose LEDs it is 4%. The source for the CFL storage rate is from the 2011/2012 Program evaluation.[1] The source for the LED storage rate is the Regional Technical Forum.[2] Using the storage rate the Program derates unit energy savings values to accurately report savings and calculate cost effectiveness. The lighting unit energy savings calculation, included later in this section, demonstrates how the storage rate (inversely referred to as the in-service rate) is used.

In stating that standard 40 and 60 watt incandescent bulbs are no longer manufactured the Division is referencing the federal lighting standards contained in the 2007 Energy Independence and Security Act ("EISA").[3] EISA increased minimum energy efficiency standards for incandescent, CFL and LED bulbs intended for general service applications. EISA does not ban incandescent light bulbs, but the minimum efficiency standards are high enough that the most commonly used incandescent bulbs do not meet the new requirements. The EISA standard for most screw-based light bulbs increased energy-efficiency requirements, as measured by the efficacy in units of lumens per watt, by 28% during the period from 2012 through 2014. Table 1 lists the maximum rated wattage allowed for general service bulbs.

---

[1] http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Demand_Side_Management/2014/Utah_Final_2011-2012_HES_Evaluation_Report.pdf.

[2] http://rtf.nwcouncil.org/Default.htm.

[3] Congress signed EISA into law on December 19, 2007. The law contains provisions for phasing in new efficiency requirements for residential lamps based on rated lumens. There are 22 types of incandescent lamps that are exempt from the EISA 2007 standard, including heavy duty, reflector, and three-way incandescent lamps. http://www.lightingfacts.com/Library/Content/EISA

Table 1 New Minimum Efficiency Standards for General Service Bulbs

Rated Lumen Ranges	Typical Current Wattage	Maximum Rate Wattage	Minimum Rated Lifetime	Effective Date
1490-2600	100	72	1,000 hour	1/1/2012
1050-1489	75	53	1,000 hours	1/1/2013
750-1049	60	43	1,000 hours	1/1/2014
310-749	40	29	1,000 hours	

Due to EISA, the Program does not use 40 and 60 watt incandescent bulbs in calculating unit energy savings for CFLs and LEDs delivered through the mail-by request, upstream retail or direct install channels. The Program uses an industry best practice method from the U.S. Department of Energy's Uniform Methods Project.[4] The methodology the Program uses is referred to as the lumen equivalency method. This methodology calculates unit energy savings using the difference in wattage by comparing the lumen equivalency for baseline and high efficiency bulbs. As noted by the Uniform Methods Project this methodology is preferred because the wattages used to calculate savings are based on commercially available bulbs. For bulbs subject to EISA standards, the Program uses EISA's maximum allowable wattage (see Table 1 above) as the baseline for lighting unit energy savings. The Uniform Methods Project considers the lumen equivalency method to be conservative since it may provide conservative estimates in cases where the baseline wattage exceeds the rated lumen output. Whether or not 40 and 60 watt incandescent bulbs are available is not a factor since the Program is using lower baseline wattages that meet the EISA requirements. The Program feels the lumen equivalency methodology addresses the Division's baseline concerns.

The lighting methodology used by the Program also addresses the Division's concern questioning the necessity of providing mail-by request kits containing CFL or LED bulbs based on the assumption the lighting market has changed. The lighting market has changed but CFL and LED bulbs still provide savings compared to commercially available EISA compliant halogen or incandescent bulbs. A typical 13 watt CFL with an output of 766 lumens is still saving 30 watts compared to an EISA compliant 43 watt bulb. A LED with an output of 508 lumens using 9 watts is saving 20 watts compared to an EISA compliant 29 watt bulb. The market has shifted to higher efficiency lamps due to EISA requirements but CFL and LED bulbs still provide substantial cost-effective savings compared to commercially available halogen and incandescent bulbs.

[4] The Uniform Methods Project is a framework and set of protocols established by the U.S. Department of Energy for determining the energy savings from energy-efficiency measures and programs: http://energy.gov/eere/about-us/initiatives-and-projects/uniform-methods-project-determining-energy-efficiency-progr-0.

The Program believes the lighting unit energy savings methodology addresses the Division's concerns regarding storage rates, baselines and the changing lighting market. As described in the formula below, lighting unit energy savings is a function of the watts consumed by a bulb, the watts consumed by the least efficient commercially available equivalent bulb, hours of use, in-service rate, and waste heat factor. The inputs for the different factors in the calculation were provided in Table 17 in the July 9, 2014 filing for the different bulb types and delivery channels.

$$Unit\ Energy\ Savings\ \left(\frac{kWh}{yr} per\ bulb\right) = \frac{\Delta Watts\ \times ISR\ \times HOU\ \times 365\ \times WHF}{1{,}000}$$

Where:

ΔWatts: The difference in wattage between the incentivized bulb and a baseline bulb, based on commercially-available products.

ISR: The percentage of incented units installed. The storage rate is based on participant survey data from the 2011/2012 Program evaluation. ISR includes deratings for storage, uninstallation, giveaways, and discarded bulbs, based on customer survey data.

HOU: The daily lighting operating hours. The hours of use per day is from the 2011/2012 Program evaluation and is a function of room type, existing CFL saturation, and the presence or absence of children in the home.

WHF: Accounts for the interactive effects with the home's heating and cooling systems. More efficient light bulbs result in less waste heat causing heat equipment to operate more and cooling equipment to run less.

The final concern raised by the Division focused on the cost-effectiveness of the mail-by request kits. For all CFL and LED bulbs provided through the retail channel, the UCT results are higher than the UCT results for the mail-by request channel (see Table 19 in Attachment 1 – Utah HES Cost Effectiveness Analysis provided in the July 9, 2014 filing). However, the P-TRC and TRC results for CFL and LED bulbs are lower for the retail channel than the mail-by request or direct install channels due to the application of net-to-gross (NTG) ratios of less than 1.0. In the UCT calculation the NTG ratio is applied only to the benefits (energy savings) but not to the utility incentive. For the P-TRC and TRC tests the NTG is applied to the measure costs as well as the benefits used in the calculations. The treatment of the NTG in the different cost-effectiveness tests is consistent with the California Standard Practice Manual. The Program feels the cost-effectiveness results for free mail-by request CFLs and discounted general purpose LEDs are robust and justify the addition of the mail-by request channel.

As noted by the Division, the cost-effectiveness results for mail-by request specialty LEDs and direct install general purpose and specialty LEDs all have UCT results below 1.0. In response to the concerns raised by the Division, the Program has removed these measures from sheet 111.3 of the tariff.

Pool Pumps
The Program proposed to add an incentive for high efficiency variable speed pool pumps. The Division questions the need to subsidize pool pumps when residential pools are limited to a subset of the Company's customer base. Even though 10 of the 12 counties analyzed pass the UCT the Division is not convinced the pool pump measure is robust enough to justify inclusion in the Program since several of the counties don't pass the P-TRC and TRC tests. The Office does not oppose adding the measure based on the overall cost benefit results.

Due to lingering concerns from the Division, the Program will remove the proposed pool pump measure and will work with the Utah DSM Steering Committee to further refine the measure before adding it to the Program. Sheet 111.7 of the tariff has been updated to remove the high efficiency pool pump measure.

Heat Pumps, Ductless Heat Pumps and Heat Pump Water Heaters
Questar raised concerns regarding mass marketing of heat pump, ductless heat pump and heat pump water heater measures. Questar also raised concerns regarding installation verification of the measures to ensure the incentives are only going to Company customers with electric space and/or water heating and are not fostering fuel switching. The Office agreed with Questar that additional controls are warranted to ensure these measures are not marketed to current gas heat and water heat customers.

Questar referenced an email marketing message from the Program for heat pump water heaters that was sent to customers and appeared, "…to have been sent to selective customers based solely on the year a home was built and without concern for the customer's current water heater energy source." The referenced email was a marketing message the Program sent to 235,136 Company customers on November 12, 2013, for a national GE GeoSpring heat pump water heater promotion that ended December 4, 2013. Utah has 345 zip codes. Out of 256 zip codes the Company serves, the Program targeted 23 zip codes that had high percentages of both owner occupancy and electric heating, according to 2012 data gathered by the American Community Survey[5], an ongoing survey conducted by the U.S. Census Bureau. A high penetration of electric heating was used as a proxy for electric water heating. The survey asks participants, "Which FUEL is used MOST for heating this house, apartment, or mobile home?" and provides a list of choices, including electricity, gas, and other fuel types.[6] The Program has not sent any other mass marketing messages to customers regarding heat pump water heaters in 2014.

[5] http://www.census.gov/acs/www/
[6] http://www.census.gov/acs/www/Downloads/QbyQfact/heating_fuel.pdf

In addition to the email being targeted to customers with a high penetration of electric heat, the messaging in the email was directed to customers with electric water heating, "If your electric water heater is eight years old or older, now is the perfect time for an upgrade." The Program feels the marketing message was targeted using a reliable data source and to customers with a high probability of electric water heating.

To address concerns raised by Questar and the Office, the Program will target marketing efforts to areas with a high concentration of electric heat and/or water heating. The Program will make eligibility requirements more explicit and more prominently displayed. In future marketing materials, the Program will state that the incentives for heat pumps, ductless heat pumps and heat pump water heaters are only available to Company customers with existing electric heating and/or water heating.

To further address fuel switching concerns, the Program proposes modifying the original filing to require a Program qualified trade ally for installations of heat pump, ductless heat pump and heat pump water heater measures. Only projects installed by Program qualified trade allies will be accepted by the Program. Self-installs for heat pump water heaters will be allowed and will be subject to 100% post-install inspections before an incentive is issued, to verify no fuel switching occurred.

Using Program qualified trade allies provides a comprehensive and systematic process for mitigating the risk of offering incentives to customers who switch heating or water heating fuel from natural gas to electric. To become Program qualified, trade allies are vetted for proper licensing and good industry standing by reviewing state licenses, ratings with the Better Business Bureau, and by checking professional references. Trade allies are obligated to abide by the terms and conditions of a participation agreement or they risk removal from the Program. By signing the participation agreement, trade allies agree to provide services that are in compliance with the Program requirements and standards, including verifying a home's existing fuel type for heating and water heating. Once trade allies successfully complete the enrollment stage by having relevant licenses and professional references checked, each Program trade ally receives a copy of the trade ally manual(s) and goes through a required Program orientation, during which they are educated on the details of the Program, incentive application process and measure installation requirements.

Once enrolled and trained, the trade ally will be in probationary status until Program staff inspects and passes the first five installations for these measures. This high inspection threshold is designed to serve dual purposes as training to ensure measures are properly installed and that the trade ally understands how to screen projects for fuel switching. Trade allies will not be allowed to become Program qualified trade allies until they successfully complete the onboarding inspection phase.

For heat pump, ductless heat pump, and heat pump water heater measures, Program trade allies will be required to identify the fuel type of the home's primary heating or water heating prior to installation. Trade allies will be required to submit this information on

every application. Applications that do not identify the previous fuel type prior to measure installation will be rejected.

Program account managers and inspectors interact with trade allies regularly. During these visits, trade allies are continually educated on Program rules and requirements, as well as installation requirements and application processes. To support a robust verification process, the Program flags a minimum of 5% of all projects for post-installation inspection. Projects flagged for inspection are not processed until the project has passed inspection. A Program inspector contacts the customer to schedule the inspection. At the home, inspectors assess the overall quality of the installation and ensure that all Program requirements are met, and check for any evidence of fuel switching as follows:

1. For heat pump water heaters:
    a. Presence of gas meter at site and:
        i. Old gas water heater on site;
        ii. Evidence of an exhaust flue from an old gas water heater;
        iii. Presence of capped gas line near new water heater or;
        iv. Evidence that the breaker box and electrical wiring for unit is new.

2. For heat pumps and ductless heat pumps (including supplemental ductless heat pumps):
    a. Presence of gas meter at site and:
        i. Old gas furnace or gas space heater on site;
        ii. Presence of capped gas line near new heating equipment;
        iii. Condensate line/drain at location of furnace;
        iv. Evidence of an exhaust flue from an old gas furnace or;
        v. Evidence that the breaker box and electrical wiring for unit is new.

If a Program inspector identifies evidence of fuel switching as listed above, the project is not eligible for Program incentives and will be rejected. In addition to the fuel switching component of the inspection, inspectors will verify whether or not ductless heat pumps have been installed as primary or supplemental heat.

The Program continually monitors all trade ally performance, as well as the quality of installations and incentive application paperwork submitted, using the data to inform proactive coaching to address any issues. In cases of sustained performance issues, coaching shifts to a formal escalation process, at which point the trade ally may be removed from the Program.

The Program has a robust incentive application processing system that ensures applications fulfill Program requirements prior to being approved. The Program's system verifies the applicant's contractor is a Program qualified trade ally, the home's heat or water heater fuel type is electric, the installed measure meets the required efficiency standards, and the applicant is on a qualifying rate schedule. This system is effective.

Since 2012, six applications for heat pump water heaters were rejected using the automated system. All six of the rejected applications were because contractors were not Program qualified trade allies. Of those six, three customers were also rejected for having natural gas as their previous water heating fuel type.

The Program asserts that the combination of targeted marketing efforts to customers with electric heat and/or water heating, coupled with the systematic safeguards of only accepting projects from Program qualified trade allies, a rigorous incentive application review process and an effective inspection process will effectively mitigate the risk of inadvertently incenting customers to switch from natural gas to electric heat or water heating.

Sheet 111.4 has been updated stating that a qualified trade ally is required for heat pump water heater installations and that self-installs are allowed. Sheet 111.6 has been updated stating that a qualified HVAC trade ally is required for installations of heat pumps and ductless heat pumps.

Increase LED Fixture Incentives
Utah Clean Energy and SWEEP recommended increasing the incentive for more complex and expensive LED fixtures to a level greater than the proposed $10. Year-to-date for 2014, the Program has provided incentives for 220,109 light fixtures. The average cost for the fixtures prior to receiving an incentive is $27.73. The Program is seeing very little cost difference between CFL and LED fixtures submitted for incentives. CFL fixtures processed by the Program have an average cost of $26.93 and LED fixtures have an average cost of $27.69. The Program acknowledges prices vary widely for light fixtures, however, at this time the Program sees no need to offer a separate higher incentive for more expensive LED fixtures than the proposed $10 incentive, capped at 50% of fixture cost.

Light Bulb and Participating Retailer Information on Website
The Office recommended the Program devote time to improving the information on the Program website for finding discounted efficient light bulbs at participating retailers. The Program will revise the information on the Program website to make it easier for customers to find and purchase discounted CFLs and LEDs at participating retailers.

2013 Residential Customer Survey
Utah Clean Energy and SWEEP requested the Company file as an addendum a recent customer survey the Company referenced during a July 30, 2014 teleconference with the Utah DSM Steering Committee. The Company provided the survey and results as a confidential response to data request 5.22 from the Office in Docket No. 13-035-184. The requested information has already been provided.

Conclusion

The Company contacted representatives at Questar, the Division and the Office to discuss the concerns in the submitted comments. The Company feels the responses provided in the reply comments and amended tariff sheets address the issues raised by all parties.

Cost-effectiveness has not been rerun for the removed measures because the Company feels the change is immaterial from a cost-effectiveness perspective. The removed measures were forecasted to contribute less than 5% of the overall program savings in 2015 so the impact on the Program's economics is minimal.

Attached are amended tariff sheets as described above:

- Sheet 111.2
- Sheet 111.3
- Sheet 111.4
- Sheet 111.6
- Sheet 111.7

The proposed changes to tariff sheet 111.5 submitted on July 9, 2014 remain unchanged.

It is respectfully requested that all formal correspondence and staff requests regarding this matter be addressed to:

By E-mail (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah St., Suite 2000
Portland, OR 97232

Informal inquiries may be directed to Laura Miller, DSM regulatory projects manager, at (801) 220-4346.

Sincerely,

Kathryn Hymas
Vice President, Finance and Demand-side Management

Cc: Division of Public Utilities
Office of Consumer Services

Enclosures