

PacifiCorp - Stakeholder Feedback Form

2019 Integrated Resource Plan

PacifiCorp (the Company) requests that stakeholders provide feedback to the Company upon the conclusion of each public input meeting and/or stakeholder conference calls, as scheduled. PacifiCorp values the input of its active and engaged stakeholder group, and stakeholder feedback is critical to the IRP public input process. PacifiCorp requests that stakeholders provide comments using this form, which will allow the Company to more easily review and summarize comments by topic and to readily identify specific recommendations, if any, being provided. Information collected will be used to better inform issues included in the 2019 IRP, including, but not limited to the process, assumptions, and analysis. In order to maintain open communication and provide the broader Stakeholder community with useful information, the Company will generally post all appropriate feedback on the IRP website unless you request otherwise, below.

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Address:	Click here to enter text.		
City:	Click here to enter text.	State:	Click here to enter text.
Zip:	Click here to enter text.		
Public Meeting Date comments address:		Click here to enter date.	<input type="checkbox"/> Check here if not related to specific meeting
List additional organization attendees at cited meeting:			

***IRP Topic(s) and/or Agenda Items:** List the specific topics that are being addressed in your comments.

CPA

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- Check here if any of the following information being submitted is copyrighted or confidential.
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- Check here if you do **not** want your Stakeholder feedback and accompanying materials posted to the IRP website.

***Respondent Comment:** Please provide your feedback for each IRP topic listed above.

In 2019, Rocky Mountain Power achieved 10,223 MWh in savings on HVAC measures in existing residential buildings at a levelized cost of \$77/MWh. I classified measures in the CPA that are rebated through the RMP program in this category. The CPA reports a Technically Achievable Potential of approximately 4,200 MWh in 2022 with an average LCOE of \$334/MWh. To bring CPA result in line program performance, at a minimum I suggest PacifiCorp makes the following changes to CPA assumptions:

- Increase incremental savings per unit for Central AC, as the efficient measure definition is a unit with a SEER of 14. Currently the RMP programs requires a minimum SEER of 15 to qualify for a rebate, and has tiered rebates that increase with increased efficiency
- Assess incremental savings from heat pump measures, as most units on the market are well above a SEER of 15
- Move to a faster ramp rate for Central AC measures, as this is already a mature market
- Assess incremental cost assumptions to bring assumed costs in line with actual program performance

In 2019, Rocky Mountain Power achieved savings on residential building shell measures in existing buildings with a levelized cost of \$48/MWh. I classified measures in the CPA that are rebated through the RMP program in this category. The CPA reports a Technically Achievable Potential of approximately 6,700 MWh in 2022 with an average LCOE of \$442.

* Required fields

To bring CPA result in line program performance, at a minimum I suggest PacifiCorp makes the following changes to CPA assumptions:

- Assess incremental cost assumptions to bring assumed costs in line with actual program performance

In 2019, Rocky Mountain Power achieved 36,215 MWh in savings on residential lighting measures in existing buildings at a levelized cost of \$16/MWh. I classified measures in the CPA that are rebated through the RMP program in this category. The CPA reports a Technically Achievable Potential of approximately 48,409 MWh in 2022 with an average LCOE of \$40. To bring CPA result in line program performance, at a minimum I suggest PacifiCorp makes the following changes to CPA assumptions:

- Assess incremental cost assumptions to bring assumed costs in line with actual program performance
- Update assumptions around Residential LED Saturation presented at the August 28 stakeholder meeting.
PacifiCorp is assuming an LED saturation of 45%, with an additional 25% CFL saturation for Utah, leading to an assumption that 70% of residential sockets currently have efficient bulbs. This result is out of line with similar studies in other states. For example, the recently published NEEA Residential Building Stock Assessment found that less than 25% of sockets had LEDs. Similarly, the 2019 New York Residential Building Stock Assessment found that 52% of residential sockets had CFLs or LEDs. At the highest level reported, Massachusetts reported that in 2019 34% of sockets had LEDS and 57% contained LEDs or CFLs. Massachusetts continues to run some of the most aggressive energy efficiency programs in the country, being ranked 1st or 2nd in the ACEEE state energy efficiency scorecard. It is unreasonable to assume that RMP's service territory in Utah would have a significantly higher penetration of efficient bulbs than in Massachusetts. We suggest that PacifiCorp reassess this assumption to one where no more than 25% of residential sockets have LEDs and no more than 50% of residential sockets have efficient bulbs to bring assumptions in line with rigorous studies around the nation.

In 2019, Rocky Mountain Power achieved 27,143 MWh in savings on non-residential HVAC measures at a levelized cost of \$33/MWh. I classified measures in the CPA that are rebated through the RMP program in this category. The CPA reports a Technically Achievable Potential of approximately 28,000 MWh in 2022 with an average LCOE of \$140. To bring CPA result in line program performance, at a minimum I suggest PacifiCorp makes the following changes to CPA assumptions:

- Move to faster ramp rates for Commercial HVAC equipment that is already mature such as air-cooled chillers, water cooled chillers, RTUs, Packaged Heat Pumps, and Packaged ACs
- Assess the incremental savings per unit given the efficient unit definition is at the low end of efficiency available in the market for some measures.
- Assess incremental cost assumptions to bring assumed costs in line with actual program performance

In commercial lighting the potential from networked lighting controls appears to be limited to facilities that currently have lighting controls. This measure can be used in a retrofit application. Suggestions for this measure include:

- Increase applicability of this measure to all commercial office and retail
- Increase the ramp rate consistent with DOE's networked lighting control program goals to achieve networked control of 30% of the building stock by 2035
- Increase incremental savings from networked lighting controls to 49% of lighting energy consumption consistent with DesignLights estimate
- Costs for networked lighting are expected to decrease over time as this emerging product gains traction. Consider reducing incremental costs for this measure in 2025 and beyond as the market matures.

* Required fields

In 2019, Rocky Mountain Power achieved 39,983 MWh in savings on Energy Management measures at a levelized cost of \$36/MWh. However, the CPA reports a Technically Achievable Potential of approximately 35,000 MWh in 2022 with an average LCOE of approximately \$50/MWh. To bring CPA result in line program performance, at a minimum I suggest PacifiCorp makes the following changes to CPA assumptions:

- Move to faster ramp rates for SEM, Retrocommission, and Commissioning measures to make potential consistent with program performance
- Assess incremental cost assumptions to bring assumed costs in line with actual program performance

PacifiCorp Response:

Thank you for your detailed suggestions and input. It would be helpful to see the work papers underlying the analysis stated in the recommendations. It is important to note that the CPA is designed to provide a guide of the long-term efficiency resource to inform near-term program planning but not to exactly portray what will be acquired in the very short term. That being said, feedback provided in state-specific stakeholder working groups on near-term program achievement and experiences is also considered in development of the CPA.

Overall, the high LCOE pulled by measure categories include those measures which may be technically achievable but may not be selected as an economic resource. Savings from the technical achievable potential reflect current information on expected measure savings, and, to these extent they are being compared to historical achievements, should be compared to adjusted gross savings, not to gross savings. It appears that the MWh values noted in the feedback form are gross savings, which may explain much of the discrepancy. In addition, remaining savings opportunities in 2022 may be less in many categories as over time, more of the potential is acquired. In other words, the amount of savings in 2019 per measure category may no longer be available three years in the future. For many measure categories, savings opportunities decline over time as more savings are achieved and as efficient technologies become standard. Similarly, costs may increase over time as lower-cost measures are adopted. As the energy efficiency market is dynamic due to code and standards changes, technology improvements, customer behavior and economics, the CPA is a long-term planning tool to represent the resource of efficiency overall within the context of long-term resource decisions across the system.

Examples of how the principles noted above can be applied to answer the questions raised are below:

Regarding residential HVAC measures, the 2019 savings referenced are the unadjusted gross savings. In the annual report, a 52% realization rate is applied, so the adjusted gross savings are roughly half this value. The potential study uses updated data on measure savings, and therefore would be more in line with the adjusted savings and more reflective of the savings that could be realized in 2022. For residential building measures, the high LCOE reflects the inclusion of measures that are technically achievable but not economically achievable and therefore are not reflected in actual program results.

Recent RMP customer survey data was used to inform the residential lighting baseline. Comparing to the market baseline data from 2016/2017 used in the RBSA does not account for the major growth in customer adoption of efficient lighting in the past four years. Actual customer data was chosen as more reflective of the service territory.

Data Support

NEEA RBSA (Source for Residential LED Saturation): <https://neea.org/img/uploads/Residential-Building-Stock-Assessment-II-Single-Family-Homes-Report-2016-2017.pdf>

New York RBSA (Source for Residential LED Saturation): <https://www.nyserda.ny.gov/About/Publications/Building-Stock-and-Potential-Studies/Residential-Building-Stock-Assessment>

* Required fields

Massachusetts Residential Lighting Assessment (Source for Residential LED Saturation): http://ma-eeac.org/wordpress/wp-content/uploads/RLPNC_1810_LtgMarketAssessment_FINAL_2019.03.29.pdf

DesignLights Energy Savings Estimates for Networked Lighting Controls: <https://www.designlights.org/lighting-controls/reports-tools-resources/energy-savings-from-networked-lighting-controls-without-LLC/report/>

DOE Solid State Lighting Forecast: Source for forecast of lighting control penetration:
https://www.energy.gov/sites/prod/files/2019/12/f69/2019_ssl-energy-savings-forecast.pdf

Data Support: If applicable, provide any documents, hyper-links, etc. in support of comments. (i.e. gas forecast is too high - this forecast from EIA is more appropriate). If electronic attachments are provided with your comments, please list those attachment names here.

[Click here to enter text.](#)

Recommendations: Provide any additional recommendations if not included above - specificity is greatly appreciated.

[Click here to enter text.](#)

Please submit your completed Stakeholder Feedback Form via email to IRP@Pacificorp.com

Thank you for participating.