PacifiCorp - Stakeholder Feedback Form

2021 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 2021 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.

Date of Submittal 4/2/2020

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Public Meeting Date comments address: **2/18/2020** ☐ Check here if not related to specific meeting

List additional organization attendees at cited meeting: **Justin Brant, Southwest Energy Efficiency Project**

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

DSM and DR measure lists, major measures list

☐ Check here if any of the following information being submitted is copyrighted or confidential.

☐ Check here if you do website. **not** want your Stakeholder feedback and accompanying materials posted to the IRP

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

Click here to enter text.

Major Measures List

UCE/SWEEP support the proposal to develop a list of "major measures". This is a reasonable approach to capture a list of high-impact and readily available DSM measures in the upcoming CPA. UCE/SWEEP request that PacifiCorp send the current draft of the major measure list prior to the next CPA stakeholder meeting.

PacifiCorp Response:

PacifiCorp posted the energy efficiency and demand response measure lists with major measures indicated for stakeholder review on April 15, 2020. It can be found here pacificorp.com/energy/integrated-resource-plan/support.

UCE/SWEEP recommend that AEG evaluates Rocky Mountain Power's 2018 annual DSM report to identify measures that had high realization rate, high net to gross ratio, and high cost effectiveness (or marginal cost effectiveness where justified to serve hard to reach customers) and include these measures in the proposed major measures list, and share these measures with stakeholders.

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PacifiCorp Response:

As part of the 2021 Conservation Potential Assessment (CPA), PacifiCorp did conduct a review of PacifiCorp's energy efficiency programs. All measures currently offered in PacifiCorp programs are part of the CPA.

UCE/SWEEP also recommend adding the following DSM measures to the "major measures" list:

- **Net Zero Building Design Assistance incentive program:** Net zero buildings are buildings that have maximized energy efficiency and also generate all energy needed from on-site renewable energy sources. Net zero buildings have been and continue to be designed and constructed all over the United States and should not be considered "emerging." According to New Buildings Institute, there are over 121 "verified" net zero buildings with another 527 "emerging" net zero buildings across the U.S. and Canada.[1] There are likely many more buildings that are not part of the NBI dataset. Incentive programs to support the design and construction of net zero buildings also exist. For example, the Energy Trust of Oregon offers a Path to Net Zero/Net Zero Early Design Assistance program.[2] UCE/SWEEP recommend adding a net zero building design assistance program to the major measures list evaluated by AEG for the 2021 CPA. Such a program could be modeled on the Energy Trust of Oregon's Path to Net Zero/Net Zero Early Design Assistance program.

  PacifiCorp Response:

  PacifiCorp's 2021 CPA does have a net zero building measure named 'Advanced New Construction Designs' measure code CM0084.

- **Joint delivery of DSM measures/programs:** Another addition that UCE/SWEEP recommends be added to the major measure list is any program/measure that can be implemented through joint delivery (and cost-sharing) with other utilities or other partners. For example, Rocky Mountain Power is currently pursuing joint delivery of a pilot residential direct install program in partnership with Dominion Energy Utah. Joint delivery of DSM measures/programs provides a huge opportunity to reduce administrative costs and improve cost-effectiveness of DSM program delivery and should be considered a major measure.

  PacifiCorp Response:

  Joint delivery is a specific opportunistic program design variation that could be represented with reduced administrative costs, however the example noted here has not materialized due to recent events and therefore proxy cost impacts are not available. If PacifiCorp pursues future joint delivery opportunities, any opportunity to deliver programs at a lower cost would increase the cost effectiveness of programs.

New DSM Measure for DSM measure list

Recommendation for standard DSM measure list (not "major measure" or "emerging measure" list):

- **Building envelope and air sealing in all-electric buildings:** Building envelope technologies account for 30% of the primary energy use in buildings.[2] Given the large potential for increased electrification of space heating in buildings,[3] improved insulation and air sealing in all-electric buildings has the potential to be a highly impactful energy efficiency measure that should be evaluated in the 2021 CPA. UCE/SWEEP recommend adding a building

[1] See New Buildings Institute's Getting to Zero Buildings Database: https://newbuildings.org/resource/getting-to-zero-database/ [2] See Energy Trust of Oregon's Path to Net Zero Program: https://www.energytrust.org/commercial/new-buildings-path-to-netzero/

[2] See United States Department of Energy Better Building Solutions Center, Building Envelope: https://betterbuildingssolutioncenter.energy.gov/alliance/technology-solution/building-envelope

[3] See NREL Electrification Futures Study: https://www.nrel.gov/analysis/electrification-futures.html

envelope and air sealing measure specifically for all-electric buildings using highly efficient heat pump technologies.

PacifiCorp Response:

PacifiCorp's CPA already accounts for additional energy efficiency potential as a result of naturally-occurring electrification. The 2021 CPA's technical potential is created using PacifiCorp's load forecast and any electrification that is accounted for in the load forecast is used in the CPA to develop potential. For example, the increase in electric heating in Utah would be accounted for in the CPA through additional potential for weatherization including air sealing and duct sealing.

Emerging Measures

We also wish to reiterate our previous recommendation that the "emerging measures" category should exclude commercially available technologies that currently have a low market-penetration. The goal of the ratepayer-funded DSM programs is to transform the market and accelerate the adoption of efficient technologies, *especially those with low market penetration*. We are concerned that if commercially available DSM measures with low market penetration are included in the emerging measures list, their assessed potential in the 2021 CPA may be artificially constrained.

PacifiCorp Response:

Applied Energy Group (AEG) has removed this from the definition of emerging technologies for the 2021 CPA. This updated definition also resolved several other comments that certain measures should not be "emerging".

Emerging Measures and Market Availability

When reviewing the DSM measure list, we noted that several HVAC or appliance measures were considered emerging measures when they are commercially available today or were not assumed to be on the market when there are models at that level of efficiency available. As discussed above, UCE/SWEEP believe that products that are available in the market today should not be considered emerging. In addition, it is important to consider the availability of all measures that are currently available in the market. We recommend using sources like the ENERGY STAR Most Efficient list and the CEE Energy Efficiency Program Library to ensure that the SEER, EF and other efficiency ratings are up to date. We provide some specific examples of these issues and recommendations below:

- **Central air conditioner and air source heat pumps with a SEER of 21** are available in the market and should not be classified as "emerging".[4]
- **Clothes dryers with a CEF over 9** are already available in the market, yet according to AEG's measure list, these technologies are assumed not be available until 2024.[5] Clothes dryers with a CEF over 9 should be included in the standard DSM measure list. In addition, while heat pump dryers are still relatively new they are available in the market and should not be considered "emerging".
- **Refrigerators in the CEE Tier 3 class** are available in the market and should not be considered emerging.[7]

PacifiCorp Response:

AEG reviewed these lists and all the measures mentioned have already been moved from the emerging technology list to conventional technologies.

[4] See ENERGY STAR Most Efficient 2020 — Central Air Conditioners and Air Source Heat Pumps: https://www.energystar.gov/products/most_efficient/central_air_conditioners_and_air_source_heat_pumps

[5] See ENERGY STAR Certified Clothes Dryers: https://www.energystar.gov/productfinder/product/certified-clothes-dryers/results [7] See Consortium for Energy Efficiency Residential Refrigerator Qualifying Product List: https://library.cee1.org/content/qualifyingproduct-lists-residential-refrigerators

Demand Response

UCE/SWEEP have additional recommendations about the demand response measure list:

- **Demand response/load control for pool pumps:** Consider adding direct load control of pool pumps to demand response measure list.

- **Leverage BEMS and HEMS for control of individual end uses:** Investigate how to utilize commercial Building Energy Management Systems and Home Energy Management Systems as direct load control programs for commercial and residential sectors, respectively. While the potential for these systems may be captured in the potential for the individual end-uses they control (HVAC systems, lighting/daylighting,) BEMS have the capability to control multiple building end-uses and may provide additional DR capabilities over and above looking at the end-uses individually. Similarly, Home Energy Management Systems on the market can manage HVAC systems, lighting, ceiling fans, and other smart devices.[6] UCE/SWEEP recommends that AEG investigate the potential of controlling multiple demand response end-uses with BEMS and HEMS measures.

  PacifiCorp Response:

  Demand response for pool pumps, Home Energy Management Systems and Building Energy Management Systems (HEMs and BEMs) are included in the measure lists as potential enabling technologies. HEMs controlled end uses include: cooling, space heating, interior lighting, appliances, and electronics. BEMs controlled end uses include: cooling, space heating, interior lighting, and refrigeration.

- **Demand response for low-income customers:** Evaluate new and expanded DR programs and incentives with consideration of controllable technologies that are commonly used by low-income customers and customers in multi-family housing.
  - Prioritize expansion of direct load control to include room A/C units, similar to Cool Keeper, in order to expand access to DR programs to additional customers.
  - Development of direct load control incentives and programs should consider the equity of the range of incentives offered to customers (in addition to efficacy and energy savings) and ensure that programs and incentives are available to benefit low-income customers. For example, an incentive for a new electric heat pump water heater with DR capabilities is likely to be purchased by middle- and higher income customers, but these same technologies could be leveraged by low-income customers by being paired with low-income weatherization programs or by adding higher incentive for qualified low-income customers.

  PacifiCorp Response:

  The potential assessment is based on customer sector usage which does not differentiate savings between income levels but does include room air conditioning, Smart Thermostats, and water heater controls.

- **Customer-sited battery storage:** As PacifiCorp explores incentives for customer-sited battery storage, the company should avoid restrictions that limit the types of batteries that customers choose to adopt. There are variety of battery brands and chemistries available on the market, and to the greatest extent possible customers should be free to choose the batteries that best fit their needs. Programs and evaluations should focus on the type(s) of services that batteries can provide or offer a list of eligible batteries that customers may choose to adopt, rather than restricting the incentive to a single brand or battery chemistry.

[6] See NEEP Home Energy Management System Product List: https://neep.org/initiatives/integrated-advanced-efficiencysolutions/home-energy-management-systems#HEMS%20Product%20List

PacifiCorp Response:

Measure characterization does not assume a specific brand or chemistry but does define basic performance parameters. Customers would be able to choose what works for them within program performance requirements to justify any compensation the program would offer to control or partially control that customer sited resource.

- **Alternative DR programs for customer-sited batteries:** UCE/SWEEP further recommend that AEG evaluates not only direct utility control of batteries, but also:
  - limited utility control during critical peak times and
  - voluntary customer dispatch of batteries.

  An example of limited utility control during critical peak periods is the Green Mountain Power "Bring Your Own Device" program, which provides customers with an incentive in exchange for allowing utility control of the battery during Peak Events, estimated to occur 5 – 8 times a month for 3 – 6 hours at a time.[7] Customers can be incented to dispatch their batteries in a certain way or respond to TOU rates without requiring direct utility control. For example, Salt River Project provides an incentive of up to $3,600 for customer-sited batteries that are controlled by the customer, and allows customers to export power to the grid in exchange for a credit.[10] The California Self-Generation Incentive Program provides a residential storage incentive of $0.25/Wh for batteries that are programmed to dispatch to the utility at least once per day.[8] Evaluation of an incentive for battery storage should include consideration of the benefits of incenting limited utility control and customer-control of batteries, in addition to full utility control.

  PacifiCorp Response:

  These recommendations were included within the measure definition for customer-sited batteries.

- **TOU program for battery storage plus solar:** UCE/SWEEP also recommend that AEG evaluates a TOU rate for battery storage plus solar, similar to Rocky Mountain Power's current EV TOU rate.

  PacifiCorp Response:

  An export credit proceeding is currently underway (Docket No. 17-035-61) in the state of Utah. PacifiCorp believes program-specific and other appropriate ratemaking proceedings are the proper venue for time varying rates to be developed and vetted, including those that may apply to customers with onsite solar and batteries, rather than in a demand-side management potential study for integrated resource planning.

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

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[7] See Green Mountain Power Battery Systems: https://greenmountainpower.com/bring-your-own-device/battery-systems/ [10] See Salt River Project Battery Storage Incentive Frequently Asked Questions: https://www.srpnet.com/electric/home/batterystorage/faq.aspx

[8] See California Self-Generation Incentive Program 2020 SGIP Handbook: https://www.selfgenca.com/

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Thank you for participating.

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