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.

Date of Submittal 8/7/2018

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City: Olympia State: WA Zip: 98504

Public Meeting Date comments address: **7/26/2018** ☐ Check here if not related to specific meeting

List additional organization attendees at cited meeting: Click here to enter text.

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

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

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

All - WUTC staff intends to file feedback after each IRP meeting to keep the lines of communication open and to signal as soon as possible whether there are any concerns. Below are slide-by-slide comments and questions, working from the hard copy slides provided (120 slides total).

- Slide 7: Can you provide a brief overview of how costs arising from state policies on energy storage are assigned – per both the 2017 Protocol and the WCA?
- Slide 9: Definitely need more detail about RVOS model; unclear where the inputs come from, how location plays a role, etc. An example in context would be very helpful. Unless this is unintentionally a big ask, please provide the RVOS spreadsheet populated to evaluate a real or hypothetical project connected to Oregon HB 2193.
- Slide 9: I'm not clear on the material / physical distinction between voltage support, frequency response and regulation.
- Slide 9: Outage mitigation is not a utility benefit – this seems thin. The utility is missing out on kWh of retail sales, at least. Perhaps narrative that explains how these benefits are negligible relative to the costs and benefits that are analyzed would make stakeholders more comfortable with PAC's decision to ignore any one benefit stream, no matter how small.
- Slide 11: Very interesting slide; could be useful but needs more clarity. Appreciate the company's overarching point that there's diminishing value to the services a battery can provide.
- Slide 13: some concern over modeling of batteries as input to IRP tools. How does the concept of degradation costs overlap with the concept of depreciation? Seems like, if degradation costs effectively replace a sliver of the battery with a 'new' sliver of battery, then the battery is evergreen, i.e., there will be a fully-depreciated battery ..? I feel like I'm missing something remedial here; apologies if so.
- Slide 14: Would like more background on the valuation of benefits in this slide. What is being displaced for which use case?

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- Slide 17: How was the value for EIM estimated? Also, how might the EIM valuation change if other big players like CA utilities install their own storage?
- Slide 23: need more info about solar PPAs, and perhaps a primer on OR Schedule 272. Was this acquisition in the 2017 IRP? Was it acquired pursuant to a need, or prompted by a tariff? Or both?
- Slide 25: If customers opt into a separate fleet of generation as through UT Schedule 34, does that have an impact on cost recovery for existing resources?
- Slide 27: Questions about difference model vs auto-correlation corrections. I'm out of my depth. Agree with OPUC staff comment that double-checking IHS record on economic forecasting seems like a good idea.
- Slide 27: Where are these commercial and residential increases happening? Is the residential growth both in # of customers and in usage-per-customer? Is that across PAC's service territory?
- Slide 30: Might a marked increase in cryptominers have an impact on FOT availability? If cheap power at Mid-C ends up being purchased locally instead of sold wholesale, that could alter the market.
- Slide 32: Is this graph inclusive of DSM?
- Slide 39: What is the frequency of updating a DSP study? Is this an iterative process?
- Slide 41: What is PAC doing to increase their capacity to perform this analysis more frequently? I heard in the meeting that they're developing tools to make this much faster than every two years. Would like to see that.
- Slide 44: Non-wires screening tool is pretty cool. Request a recent example for WCA (preferably WA) project.
- Slide 51: EPA circulating new draft rule – is that available to PAC? Will PAC be able to (or at least try to) model the new rule as part of this IRP. Would this draft rule be a part of the base case or something different?
- Slide 63: should bring up state standards for coal combustion residuals in MSP as a potential cost causer and cost allocation issue
- Slide 67: How does PAC comply with CA's requirements? Does CA get a slice of PAC's full fleet, or does PAC assign a cleaner subset of its fleet?
- Slide 71: clearly we'll want to spend more time on the many efforts to model shutdowns / RH compliance. I thought Friday was a good start to that conversation. It seems to me that the first filter should be whether and when to shut down a coal plant for economic reasons, then see what RH obligations are left over.
- Slide 85: I second Fred's question about duct firing. What does that add and what does that take away? More capacity for less efficiency? Also, how would costs shift if proxy resources were sited on brownfields? (Only worth exploring if it's clear that brownfield sites are available for each type of proxy resource)
- Slide 86: why was the consultant RFP not public? Also, to confirm, will PAC allow the consultant access to information it gained through its recent wind and solar RFPs?
- Slide 93: Good conversation; would be useful to highlight the differences between integration costs and this intra-hour dispatch credit. If we're coming back to this in future meetings, feel free to say so for the following questions.
- Slide 96: I think the intra-hour credit is a good idea, and well-honed given the limitations PAC faces with its modeling tools and available data. Would encourage a thicker 0 line on the graph, or at least a y axis that includes a zero line.
- Slide 96: I'd encourage a simplified example of how this credit gets calculated. An illustrative example using the graphs in slides 95 and 96 would be helpful.
- Slide 97: Sensitivity for dispatch credit – how big of a deal is this value?
- Slide 97: If this credit is calculated based on historical data, how will PAC estimate a credit for proxy resources?
- Slide 97: I'm curious about interactive effects of the integration costs for renewables. May not be significant enough to worry about, but I can envision a situation where renewables are 'paying' an integration cost, then their variability is opening up dispatchable units to follow the market, earning a bigger intra-hour dispatch credit than they might have without renewables. The opposite might also be true.
- Slide 113: How does market reliance factor into the PRM study? The concept of correlated parameters in slides 103-6 highlighted to me that there may be other tools or ways to model FOT availability besides a conservative estimate of a proxy resource. For example, if I understood the study, PSE did a regional LOLE-type analysis to estimate its risk of market reliance. PSE looked at the modeled moments of regional shortage to see if PSE was exposed to the shortfall based on their load, their assets and a prorated amount of market availability.
- Slide 117: There was a good question on how off-system resources being are represented in which models and studies. Might be worth being clear on that; perhaps a table with all the studies (Randy's walkthrough of the approach and stack of runs was verbal, and I didn't track it perfectly).

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Question outside of slides: I understand that PAC is considering moving towards a nodal day-ahead scheduling model with the expectation that doing so will produce fairly significant power cost savings. Will PAC talk about movements toward those tools or any other operational efficiencies they're exploring within their IRP?

Also, please let me know whether providing feedback in this format, and with this detail, is constructive for the IRP team. I welcome any ideas that will make this more useful from the company's perspective.

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.

Recommendations: Provide any additional recommendations if not included above - specificity is greatly appreciated.
Click here to enter text.

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

Thank you for participating.

* Required fields