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**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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**In the Matter of PacifiCorp’s 2015  
Integrated Resource Plan**

**DOCKET NO. 15-035-04**

**Reply Comments of Utah Clean Energy**

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Utah Clean Energy (“UCE”) submits the following reply comments, pursuant to the Scheduling Order in Docket No. 15-035-04, for consideration by the Commission regarding PacifiCorp’s (“the Company”) 2015 Integrated Resource Plan (“IRP”). The following comments include both UCE’s reply comments on PacifiCorp’s 2015 IRP and PacifiCorp’s Demand Side Resource Potential Assessment for 2015-2034.

**Response to the Division of Public Utilities (“the Division”)**

Load Forecasting. The Division noted that the Company eliminated the long-run load volatility parameter from its stochastic risk analysis not only in the 2015 IRP but also in the previous IRP.<sup>1</sup> UCE does not support elimination of load-associated risk and has concerns about this modeling decision. As mentioned in UCE’s initial comments, load forecasting in the 2015

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<sup>1</sup> Division Comments on PacifiCorp’s 2015 IRP, Page 10

IRP, similar to the 2013 IRP, is based on historic data and does not anticipate the long-term impacts of changing climate on load.<sup>2</sup>

As in our 2013 IRP initial and reply comments, we recommended that long term load variability should not be turned off in stochastic analysis as it undermines the purpose of long-term integrated resource planning and impacts the value of energy efficiency and renewable energy for risk mitigation.<sup>3</sup> Despite the fact that the Company conducts an IRP every two years, this lack of foresight in its long term plan can impact ratepayers adversely. Further, not considering long term load variability will impact the next deferrable resource, which in turn influences a number of other resource decisions.

The preferred portfolio selection process should account for the possibility that ratepayers may have to pay more for market purchases if loads tend to be higher - due to higher temperatures overall or long-lasting heat waves - than the Company's mean-reversion model predicts. Alternatively, climate change can also result in lower than expected loads or seasonal load profiles that are different from historic seasonal load profiles. With climate change having significant and highly variable impacts on loads in the future, it has become more important than ever to model long-run load variability.

***Recommendation.*** *We recommend that the Commission require the Company to turn on its long-run load volatility parameter in stochastic risk analysis in the next IRP.*

Distributed Generation, Energy Storage and Demand Response. The Division has expressed concerns about the way distributed generation (DG) was modelled in the IRP. Navigant applied DG as a reduction to load rather than as utility's supply-side resource.<sup>4</sup> UCE

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<sup>2</sup> For more information, please see Utah Clean Energy's initial comments in this docket, Pages 5-6

<sup>3</sup> Docket No. 13-2035-01, UCE Reply Comments, Pages 1-2

<sup>4</sup> Division's comments on PacifiCorp's 2015 IRP, Pages 24-26

supports the Division's recommendation to model DG as a supply-side resource as it will provide important information about the value that this resource can bring to the system and to the PVRR.

In addition the Company has currently modelled utility scale energy storage as a stand-alone supply-side resource and they have not considered customer sited storage. Costs for customer sited storage are declining rapidly.<sup>5</sup> UCE recommends the next IRP should evaluate this resource. We support further exploration and refinement of modeling of energy storage in the next IRP cycle as suggested by the Division. The modeling should consider both distributed and utility scale storage.

Furthermore, we would request that the 2017 IRP also evaluate energy storage as a demand response tool. With the continuous advancements in battery and storage technologies and declining costs of batteries, behind-the-meter energy storage is becoming a more cost-effective solution that can help complement and improve traditional demand response.<sup>6</sup>

***Recommendation.*** *We recommend that the Commission require the Company to model DG as supply-side resource in the next IRP. We also recommend that the Commission asks the Company to model energy storage both utility scale and distributed storage in the next IRP cycle and evaluate ability of energy storage as means to achieve demand response.*

### **Response on Demand Side Resource Potential Assessment for 2015-2034**

Demand Side Management. The Division and the Office of Consumer Services (the "Office") have expressed concerns in their comments about the achievable levels of DSM

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<sup>5</sup> <http://www.washingtonpost.com/news/energy-environment/wp/2015/06/23/the-energy-storage-revolution-is-coming-but-not-without-some-arguments-along-the-way/>

<sup>6</sup> <http://www.energycentral.com/enduse/demandresponse/articles/2938/Reinventing-Demand-Response-with-Behind-the-Meter-Energy-Storage/>

resources and Company's reliance on significant levels of Class 2 DSM resources for meeting 86% of the Company's projected load growth in the next ten years.<sup>7</sup>

UCE mentioned in its initial comments on PacifiCorp's Demand-Side Resource Potential Assessment for 2015-2034 that the selections for Class 2 DSM for different end-uses are a significant improvement over the 2013 IRP, primarily due to PacifiCorp's identification of new technologies that are now proving to be cost-effective.<sup>8</sup> For example, in the 2013 IRP Demand Side Management Potential Study, the Company assumed that all the savings from Lighting were achieved, and believed that no new achievable technical potential existed in Lighting.<sup>9</sup> However, with the tremendous decline in LED prices and improvements in LED technology, the company has uncovered huge Lighting potential in all three (residential, commercial, and industrial) sectors.

Utah Clean Energy supports the improvements the Company made in its Demand-Side Resource Potential Assessment. Additionally, Utah Clean Energy believes these levels are achievable and will be cost-effective resources going into the future. The economic screening conducted in the IRP is preliminary to and distinct from the cost-effectiveness screening that happens during the approval and acquisition phase of a DSM resource. System Optimizer selects cost-effective DSM resources based on modeling assumptions. Following the selections made in the IRP, both DSM Steering Committee and the Commission regulate the cost-effectiveness of DSM programs offered by the Company to ensure that they are a cost-effective resource.

Therefore, we support the DSM selections by the 2015 IRP preferred portfolio and look forward

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<sup>7</sup> Division's comments on PacifiCorp's 2015 IRP, Pages 18-22

Office of Consumer Services, Comments on PacifiCorp's 2015 IRP, Pages 3-6

<sup>8</sup> For more information, please see Utah Clean Energy's and Southwest Energy Efficiency Project's initial comments on PacifiCorp's Demand Side Resource Potential Assessment for 2015-2034, Pages 4-5

<sup>9</sup> *PacifiCorp's Assessment of Long-Term System-wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032, Volume I*. March 2013.

to working together with the Company and other stakeholders to ensure cost-effectiveness of DSM programs to achieve desirable levels of savings.