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**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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| In the Matter of the Application of PacifiCorp's 2013 Integrated Resource Plan | **DOCKET NO. 13-2035-01**<br><br>**Reply Comments of Utah Clean Energy** |

Utah Clean Energy ("UCE") submits the following reply comments, pursuant to the Scheduling Order in Docket No. 13-2035-01, for consideration by the Commission regarding PacifiCorp's ("the Company") 2013 Integrated Resource Plan ("IRP").

**Response to Western Resource Advocates ("WRA")**

Emissions costs and coal retirement analysis. Utah Clean Energy agrees with WRA that the Company could improve its emissions costs assumptions and coal retirement analysis. In our initial comments, we recommended that all future potential environmental compliance obligations for coal plants be evaluated simultaneously, including more stringent environmental controls and carbon costs that start earlier.

> ***Recommendation.*** *Because coal makes up a significant portion of PacifiCorp's resource mix, Utah Clean Energy recommends that coal investment and retirement analysis be conducted in a way that acknowledges the risk posed by a fleet of old coal plants, rather than with a solely plant-by-plant focus.*

Stochastic modeling of load variation. WRA noted that the Company has narrowed the scope and duration of load-associated risk considered in its IRP. UCE shares WRA's concern

with this modeling decision. In our previous comments on the IRP, UCE recommended that long term load variability should not be turned off in risk analysis as it undermines the purpose of long-term integrated resource planning and obscures the risk mitigating benefits of energy efficiency and renewable energy.

Ratepayers are at risk for more and/or higher priced market purchases if loads are higher than predicted. Further, because climate change may significantly impact loads going into the future, it is more important than ever to model long-run load variability, in addition to the impacts of other extreme weather events on load.[1]

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

Stochastic modeling of forced outages. WRA also highlighted an important issue regarding stochastic modeling of forced outages, specifically, whether the Company models the risk of forced outages at both new and existing thermal resources. Both the 2011 and 2013 IRPs indicate that forced outages are modeled for *new* thermal resources. In the 2011 IRP, the Company deliberately modeled only planned outages for existing resources because "stochastic simulation of existing thermal unit availability is undesirable because it introduces cost variability unassociated with the evaluation of new resources, which confounds comparative portfolio analysis."[2]

In the 2013 IRP, the Company does not explicitly address stochastic modeling of forced outages at existing thermal resources; however, at the technical conference hosted by the Utah Commission in September, the Company verbally indicated that it did model forced outages at

[1] For more information on this topic, please see Utah Clean Energy's initial comments in this docket.
[2] WRA comments, page 5 (quoting 2011 IRP). This position is problematic, since, arguably, what IRP intends to evaluate is the risk resilience of entire portfolios of resources, not just new resources without consideration of the existing portfolios they modify.

existing resources. This is an important issue, and Utah Clean Energy requests that the Commission require the Company to clearly explain if and how it models forced outages at existing resources.

> ***Recommendation.*** *Utah Clean Energy recommends that the IRP include stochastic modeling of forced outages for both existing and new thermal resources. This modeling is necessary for meaningful risk analysis of resource portfolios, particularly given the likely increase of climate, temperature, and water impacts on thermal resources.*

Stochastic modeling workshop. WRA requested a stochastic modeling workshop prior to the 2015 IRP process. Given Utah Clean Energy's aforementioned concern that stochastic modeling actually capture climate impacts, we support this request.

> ***Recommendation.*** *We recommend the Commission order a risk modeling workshop (including stochastic modeling), providing parties an opportunity to submit questions to the Company and Commission in advance of this workshop.*

**Response to HEAL Utah ("HEAL")**

Utah Clean Energy agrees with HEAL's assessment that the IRP undervalued renewable resources, such as wind and solar, and inflated solar costs, which HEAL notes were inflated by as much as 30%.[3] We share HEALs concern that some of the renewable resource costs assumptions were too high, and in the case of solar were significantly too high—likely preventing System Optimizer from selecting them. Utah Clean Energy discussed this in our initial comments. Indeed, Utah Clean Energy believes that the significance of the error in solar assumptions is so great that the results of System Optimizer, which did not select any utility-scale solar, cannot be relied upon.

Because the 30% federal investment tax credit for solar is set to revert back to a 10% tax credit at the end of 2016, it is imperative that accurate solar costs be evaluated in *this IRP cycle*

[3] HEAL comments, page 3.

in order to give ratepayers the opportunity to benefit from risk mitigating, affordable, daytime, summertime energy, with prices that are locked in for 25 years. If the company and ratepayers are going to benefit from the solar investment tax credit, the Company needs to reevaluate solar in the very near term.

Inaccurate solar assumptions are a critical weakness of the 2013 IRP. Until the reversion of the solar investment tax credit to 10% in 2016, the Company has a unique opportunity to invest in solar resources that will add much-needed diversity to the Company's resource mix. It cannot be overstated that this is a time sensitive opportunity. In order to allow ratepayers to benefit from current tax incentives for risk-mitigating, fuel-free, low-cost renewable resources, the Company must change its action plan to include near term activities in the pursuit of solar resources, as discussed in UCE's initial comments.

> ***Recommendation.*** *Utah Clean Energy recommends that the Commission require the Company to expeditiously run sensitivity analysis with updated cost and capacity values for solar (and wind) resources and issue near term RFPs for renewable resources.*

**Responses to the Office of Consumer Services ("the Office")**

Systems Benefit Tool ("SBT") benefits and preferred portfolio selection. The Office raised compelling issues in its comments regarding portfolio selection based on portfolio Present Value Revenue Requirement ("PVRR") cost reductions associated with benefits calculated in the SBT. The Office showed that several portfolios are superior to the Company's preferred portfolio once SBT benefits are removed from the calculation of PVRR. The Office recommends that the portfolio based on EG1 C-16 be given serious consideration as the preferred portfolio. "Not only is [it] lower cost, but it also ranks considerably higher than the Company's preferred portfolio…in the areas of CO2 emissions and reliability measures as reflected by mean ENS and upper tail ENS…. With the inclusion of geothermal resources in the mix, it is also a more diverse

portfolio."[4] Based on the information contained in the Office's comments, Utah Clean Energy supports the Office's recommendation to seriously consider this portfolio and to redo the preferred portfolio selection process without SBT benefits.

> ***Recommendation.*** *UCE supports reconsidering portfolio selection without SBT benefits; however, because none of the initial portfolios were informed by accurate solar assumptions, we recommend that, in redoing the preferred portfolio selection process, the Company should also update its solar resource assumptions.*

The Office also found that the SBT calculates benefits associated with transmission resources that are not consistent with or comparable to the evaluation of other IRP resource options (in contravention of the IRP Standards and Guidelines). The Office also highlighted benefits that should theoretically be taken into consideration, on a more qualitative basis, in the preferred portfolio selection process, including emissions, reliability, and resource diversity.[5] Relative emissions levels, reliability, resource diversity, and transmission benefits are all relevant to the selection of a preferred portfolio. Utah Clean Energy recognizes that different resource options, including renewable resources and transmission resources, have "external benefits" that are not quantified in IRP models.

Thus, there are significant evaluation metrics that are not endemic to IRP models; these evaluation metrics are nevertheless relevant to the selection of a least cost, least risk resource portfolio. Utah Clean Energy agrees with the Office that the SBT needs work, but recognizes that it is a start toward promoting more region-wide benefits. Similar to the analysis showing that a Western energy imbalance market provides significant savings for ratepayers, Utah Clean Energy supports analysis that considers transmission and other benefits associated with energy

[4] OCS comments, page 5.
[5] OCS comments, footnote 5.

security, reduced costs through locational and technological diversity, broader economic dispatch opportunities, and making the most out of a multi-state service area.

> ***Recommendation.*** *Utah Clean Energy recommends ongoing deliberate consideration of additional and more qualitative benefits associated with different resources (not limited to transmission resources). Specifically, IRP planning and its participants should not defer all evaluation and analysis to computer models. Ongoing collaboration between the Company and stakeholders regarding the most proper and useful ways of considering non-modeled benefits is necessary.*

Front Office Transaction ("FOT") reliance. The Office reviewed the power supply assessment relied upon by the Company to evaluate the resource adequacy of the Western power market and found adequate market depth and liquidity to maintain positive reserve margins for several years. However, the Office qualified this assessment:

> [B]ecause the Company almost exclusively relies on FOTs to meet incremental resource needs over the next decade, this is an issue that needs to be closely monitored. If abnormal conditions were to occur due to various factors (prolonged drought, extreme temperatures, new climate change initiatives, etc.), this could stress certain sub-regions and ripple through the western interconnect. It is not clear to the Office what specific contingency plans the Company has in place if market conditions quickly change in certain sub-regions resulting in upward pressure on prices.[6]

Utah Clean Energy shares the Office's concern with the Company's planned heavy reliance on market purchases throughout the planning horizon. The Office identified important, high likelihood risks (not captured in stochastic analysis) associated with the Company's FOT reliance, including drought, extreme temperatures, and climate initiatives, which would stress "both the Northern and Southern California sub-regions," incurring "rapidly declining reserve margins, which could result in upward pressure on electricity prices at certain market hubs."[7] These risks are significant and should not be glossed over simply because of the failure of

[6] OCS comments, page 9 (footnote omitted).
[7] OCS comments, footnote 13.

PacifiCorp's risk analysis to evaluate forward looking climate and other impacts on Western electricity markets.

The Office raises a point UCE failed to make in our initial comments; namely, market prices (in addition to loads, hydro availability, and thermal availability) are highly subject to climate impacts, specifically from increased market demand due to prolonged high temperatures, reduced hydro availability (or hydro availability out of synch with demand), and climate initiatives that could drive a more overwhelming switch to gas. It is problematic that the Company's comfort with significant reliance on market purchases is based, in part, on a power supply assessment based on 20 years of backward-looking temperature data.[8] And, as the Company acknowledges, ratepayers bear the risks associated with the Company's reliance on market purchases.[9]

> ***Recommendation.*** *UCE recommends that the Commission require robust risk analysis that considers ongoing and future climate impacts on load, hydro availability, thermal outages, and market reliance. Additionally, market analysis needs to include impacts of climate initiatives on the market.*

The Office recommends that the Commission require the Company to provide a contingency plan for dealing with constrained markets and higher prices. "The contingency plan should be provided as part of the 2013 IRP update and addressed more fully in the next IRP cycle."[10] However, it is not clear to UCE how a post hoc contingency plan would help protect ratepayers from planned market reliance. The Company itself acknowledges that, in addition to bearing risks associated with market purchases, ratepayers also bear the cost impacts of the Company's decisions to build or acquire resources as alternatives to market purchases.[11]

[8] IRP Volume II, page 146.
[9] IRP, Volume II, page 151.
[10] OCS comments, page 12.
[11] IRP, Volume II, page 151.

An important purpose of integrated resource planning is to be able to evaluate cost impacts (magnitude and likelihood) of contingencies *before* they happen, in an effort to reduce costs associated with having to "change horses in midstream." UCE supports a *least-regrets* approach to integrated resource planning—that is, planning that prioritizes portfolio resilience in the face of different futures, resulting in portfolios that do not become obsolete quickly. In our Comments on the 2011 IRP, Utah Clean Energy provided a paper, written for the National Regulatory Research Institute, on "Utility Scenario Planning," by Daniel Boonnin, which is available on the Commission's website under the 11-2035-01 docket.

> ***Recommendation.*** *UCE recommends that "utility scenario planning" must be discussed and seriously considered in ongoing efforts to improve the integrated resource planning process.*

**Response to the Division of Public Utilities ("the Division")**

REC price forecasts. UCE supports the Division's recommendation that the Company ought to provide expected costs of meeting RPS requirements through RECs if it continues to plan to use them, and provide an expected range of REC prices over time, as REC prices may increase in the future.[12] The Division notes, "While current prices of unbundled RECs offer a low cost compliance option…in the short term, the Company has not measured the expected costs of meeting RPS requirements through RECs or measured the risk."[13]

> ***Recommendation.*** *UCE recommends that REC price forecasts should be informed by RPS policies and climate initiatives. Additionally, these REC prices must be credited against the costs of renewable resources in order to reflect more accurate renewable resource costs and to treat resources on a consistent and comparable basis (as was the practice before the 2011 IRP).*

[12] DPU comments, page 6.
[13] DPU comments, page 22.

Renewable resource cost sensitivity cases. UCE disagrees with the Division's conclusion that the "Company performed a sensitivity case (S-9) around targeted renewable resources."[14] Rather, case S-9 extended the duration of federal tax credits for renewable resources. The Company did not conduct sensitivity analysis around different renewable resource prices, as discussed in Utah Clean Energy's initial comments at pages 2-3.

> ***Recommendation.*** *As discussed above, UCE strongly recommends new solar analysis. Utah Clean Energy recommends that the Commission require the Company to expeditiously run sensitivity analysis with updated cost and capacity values for solar (and wind) resources. We also recommend that the Company issue near term RFPs for renewable resources, and to act quickly to enable ratepayers to benefit from the solar investment tax credit before the end of 2016.*

Deterministic risk analysis. UCE agrees with the Division that the Company erred in not performing deterministic risk analysis. As discussed in Utah Clean Energy's initial comments, planning must include some form of "uncertainty analysis"; that is, long term planning must include a means of evaluating how different portfolios perform in a variety of future scenarios. Uncertainty analysis is consistent with the current definition of integrated resource planning and will facilitate a *least regrets* approach to long term planning.

> ***Recommendation.*** *The Company must perform "uncertainty" analysis as part of its IRP in order to evaluate portfolio vulnerabilities and to create more resilient resource portfolios.*

The Division's "broad critique of the IRP process." As an appendix to its IRP comments, the Division notes that it has become increasingly concerned that the time and resources devoted to integrated resource planning outweigh its benefits. "The Division now believes that the entire IRP process needs to be revamped and significantly downsized."[15] Utah Clean Energy shares

[14] DPU comments, page 9.
[15] DPU comments, Appendix A, page 1.

some of the Division's concerns with the IRP process, but recommends this more general discussion be moved to its own docket.

Utah Clean Energy supports a review of the Standards and Guidelines; however, because the IRP Standards and Guidelines implicate much more than the 2013 IRP, Utah Clean Energy recommends that a new docket be opened to facilitate this review. In other words, Utah Clean Energy opposes "revamping and significantly downsizing" the "entire IRP process" in the 13-2035-01 docket. The IRP Standards and Guidelines have been guiding the IRP process for 20 years and parties should have a more thorough opportunity to provide analysis, commentary, and recommendations than is afforded by filing reply comments with regard to the 2013 IRP.

In its Appendix A, the Division itemizes a list of concerns with the IRP process, in general (that is, comments that are not specific to the current IRP docket).[16] Utah Clean Energy sympathizes with the Division's concerns and appreciates the opportunity to address process issues before the Commission, but requests that this process be moved to its own docket. It is not clear to Utah Clean Energy that the Division's issues or proposed solutions actually address underlying issues or interests that may benefit the planning process and be in the public interest.

It is Utah Clean Energy's position that IRP process improvements should arise out of a clear understanding of or agreement regarding the purpose or underlying objectives of integrated resource planning, and should be in the public interest, rather than arise solely from a desire to simplify the process. The issues the Division raises are important considerations, and Utah Clean Energy appreciates the thought and work that went into the Division's critiques and recommendations. It is necessary, however, that the process improvement issues raised by the Division be given a more focused forum before the Public Service Commission.

[16] DPU comments, Appendix A, pages 1-2.

In support of our recommendation to move an examination of IRP process improvements to a new docket, Utah Clean Energy uses some examples from the Division's Appendix A to illustrate that the Division's concerns warrant more thorough review. For example, the Division criticizes the scenario development process (the process intended to create different portfolios for subsequent analysis) as having possible intellectual appeal to special interest groups but little actual utility. The Division proposes that the Company not involve stakeholders until its assumptions are close to final.

While this solution could facilitate a shorter process, it does not address one purpose of scenario development prioritized by many interested stakeholders, including Utah Clean Energy: namely, an interest in developing unique portfolios to compare in subsequent risk analysis. While the Division has a stated interest in truncating the scenario/portfolio development process, other parties may have an interest in achieving a diversity of portfolios for risk analysis. Thus, it is not clear to Utah Clean Energy that the Division's criticism of scenario development, or its proposed solution, actually addresses underlying issues or interests that may benefit the planning process and be in the public interest.

As another example, the Division proposes shortening the IRP planning horizon in an effort to address the quick obsolescence of IRPs. Once again, the Division has not shown how or if sacrificing a long-term perspective for the sake of simplifying the IRP process would be in the public interest. The Division does not identify that the 20 year planning horizon, specifically, is what tends to make the IRP quickly obsolete. Indeed, Utah Clean Energy has commented in this and prior IRP dockets about the importance of a *risk-aware* or *least-regrets* approach to integrated resource planning, whose objective is to identify a portfolio that exhibits resilience and risk mitigation in the face of widely divergent future scenarios. In other words, it is at least

theoretically possible to develop a resource plan that is more resilient and less obsolete in the face of unexpected futures, without sacrificing the longer-term look afforded by integrated resource planning. Furthermore, resource investments, including transmission investments, are long term investments. Resources last, and costs are recovered, over decades.

> ***Recommendation.*** *UCE recommends that the Commission not implement the Division's proposed general IRP process improvements in this Docket, but instead initiate a new docket to evaluate IRP process improvements.*

The Division's proposed edits to the IRP Standards and Guidelines. In its Appendix B, the Division provided an edited version of the current standards and guidelines, which the Division recommends the Commission "consider and implement." As indicated above, Utah Clean Energy opposes the Commission approving or implementing the Division's general IRP process improvement recommendations in this docket focused on the 2013 IRP. Likewise, Utah Clean Energy opposes the Commission approving the Division's edits to the IRP standards and guidelines in this docket.

The current Standards and Guidelines have been directing integrated resource planning for nearly 20 years. Words and phrasing in a document of such longevity matter a great deal, and should not be changed without review, analysis, and discussion, as facilitated by a more specific, formalized process than the process afforded by the current docket. Utah Clean Energy submits that a formal revision of the Standards and Guidelines would implicate more process than is involved in replying to comments on the 2013 IRP. Specifically, scoping comments, technical conferences, and a full opportunity to submit direct and response comments, specifically on the issue of process improvements, are advisable.

> ***Recommendation.*** *UCE recommends that the Commission not approve or implement the Division's proposed changes to the Standards and Guidelines. An evaluation of the Standards and Guidelines is an appropriate component of an IRP process improvements docket.*

DATED this 11th day of October, 2013.

RESPECTFULLY SUBMITED,

UTAH CLEAN ENERGY

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