

To: PacifiCorp IRP Team
From: Utah Clean Energy
Re: IRP process improvements
Date: 10-17-2013

Utah Clean Energy appreciates the opportunity to provide comments on IRP process improvements. We are grateful for the time and effort the PacifiCorp IRP team dedicates to the IRP process. We are mindful of the enormity and complexity of long-term planning in a multi-state, multi-purpose process, and we offer the following comments not as criticism, but in an effort to facilitate a planning process that has clear objectives and is in the public interest.

Objectives and outcomes of integrated resource planning

The objective of integrated resource planning was a primary topic at the September 23 process improvements workshop. Utah Clean Energy believes that the underlying objective of integrated resource planning should be to develop an investment plan that performs well among various alternative futures and moves toward a low-carbon portfolio in an orderly way at the least cost. It is the position of Utah Clean Energy that integrated resource planning should result in “least-regrets” resource acquisition plans that minimize ratepayer exposure to the cost impacts of future events or “alternative worlds.”

In order to facilitate a more risk-aware outcome that is in the best interest of ratepayers, it will be necessary to implement process changes that allow the planning process to assess various investment decisions across widely different possible futures, rather than identifying an “optimal” set of resources for an expected future.¹ Thus, it may be necessary to re-evaluate planning objectives and criteria at state commissions in order to facilitate this more risk-aware, least-regrets planning.

Furthermore, integrated resource planning should acknowledge and explicitly consider the impacts of climate change in portfolio development, risk analysis, and portfolio selection in order to better position the Company and ratepayers to mitigate (if possible) and adapt to costly changes to the electric system in the face of increasingly extreme and highly variable climate-related events. Climate science has reached a point where it is no longer responsible for PacifiCorp to address only the political implications of climate change.² Utah Clean Energy recommends that PacifiCorp explicitly recognize, discuss, and address climate change and its various implications in integrated resource planning.

¹ It is debatable whether this recommendation is consistent with Utah’s current IRP standards and guidelines. Arguably, the Commission’s directive to evaluate uncertainty (e.g., unexpected events, disruptive technologies, alternative business models, etc.) in addition to cost and risk provides sufficient leeway to incorporate “scenario planning” more formally in the process. See David M. Boonin, *Utility Scenario Planning: “Always Acceptable” vs. the “Optimal” Solution* (National Regulatory Research Institute, March 2011).

² “Warming of the climate system is unequivocal.” *IPCC Fifth Assessment Report (“AR5”), “Summary for Policymakers,”* section B. “It is extremely likely [95%-100% certainty] that human activities caused more than half of the observed increase in global average surface temperature from 1951 to 2010. This assessment is supported by robust evidence from multiple studies using different methods.” *AR5, “Technical Summary,”* page 25-26. (Footnote continued on next page.)

Portfolio development

Currently, PacifiCorp's portfolio development process is focused on developing a "base case" future, with additional, slightly modified (more and less "stringent") alternatives. In effect, the Company is restraining its scenario analysis from evaluating entirely different scenarios (disruptive technology, changed business models, global changes with PacifiCorp system-wide impacts, etc.). Attempts by stakeholders to evaluate more divergent scenarios are almost invariably dismissed as "unreasonable" or "unlikely." However, the future may be "unreasonable" or "unlikely" rather than "just right." In the interest of ratepayers, portfolio development should take into account the possibility that the future will not unfold precisely, or even remotely, as PacifiCorp predicts.

During the process improvements workshop, participants raised important and timely considerations that illustrate the growing necessity for planning that is focused on making strategic, forward thinking, and risk-aware investment decisions. Utah Clean Energy supports serious consideration of these suggestions, and anticipates that such consideration will impact the mechanics of portfolio development.

- The world is becoming more complex, as are traditional notions of electricity supply and demand. Distributed generation is one of a suite of disruptive technologies poised to shake up the utility industry the way the internet, cellular telephones, and smart appliances have transformed traditional telecommunications.
- Traditional notions of the roles of utilities and customers are changing in ways that would change integrated resource planning if considered. There is an emerging and increasing mismatch between PacifiCorp's planning assumptions and reality in terms of customer wants (comfort and cost-saving energy efficiency, clean and distributed self-generation, etc.) and utility services (traditionally, central station supply and transmission and distribution).
- We must evaluate how to move (expeditiously) to a carbon-constrained future in least cost ways. This is not about political expedience so much as it is about a physical reality, though politics certainly plays a role.

(Continuation of footnote 2.) In its reply comments regarding the 2013 IRP, PacifiCorp explained that it believes that "incorporating costs associated with projects to maintain compliance with environmental regulations, both known and potential, established by the EPA and other governing agencies prudently and appropriately addresses the social benefits of that regulation." Utah Clean Energy would like to point out, however, that climate change impacts will happen regardless of EPA or other government agency action. While incorporating costs associated with known and potential regulation is important, it is the tip of the proverbial [melting] iceberg.

We are virtually certain, with scientific support, that our climate is changing as a result of human activities, with significant and harmful results. Because of its ubiquity, climate change is a *utility ratepayer* issue. Utah Clean Energy has not raised climate change as a "special interest" to further a particular agenda; rather, we raise the issue *in the public interest*, which is the standard for utility decision making. Climate change is the threat that drives Utah Clean Energy's solutions-oriented approach to stopping energy waste, creating clean energy, and building a smart energy future. Because integrated resource planning is a forward looking, long-term planning process, and because electricity generation resources contribute a third of our nation's climate changing greenhouse gas emissions, the IRP process is an appropriate forum for mitigating, if possible, and adapting to climate change on behalf of ratepayers and in furtherance of the public interest.

- Given great uncertainty in the world, “threshold” or “trigger” analysis, designed to provide information about changes or events that warrant alternate investment decisions, would be valuable. It may be possible to build upon the “bookend” concept attempted in the 2013 IRP to evaluate cost mitigation in situations that necessitate alternative investment decisions.

In acknowledgment of the foregoing considerations, as well as our experiences participating in the IRP process up to this point, Utah Clean Energy recommends the following for the portfolio development phase of the IRP process:

- The *objective of the portfolio development phase* of the IRP process should be to develop or create a manageable corps of diverse portfolios (alternative investment decisions) to test in the face of different possible futures.
- The primacy of System Optimizer (vs. strategically considering significant events and changes outside of the model) in this process should be re-evaluated to suit this new objective.
- Portfolio development scenarios under consideration should not be variations on the base case future PacifiCorp anticipates, but should attempt to capture scenarios/portfolios that are meaningfully unlike one another. Based on this objective, it should be unnecessary to have a great multitude of portfolio development scenarios/portfolios.
- Supply side resource assumptions (including underlying assumptions) must be more transparent to stakeholders.
- The planning horizon should continue to be long-term because investment decisions have long term impacts. Furthermore, renewable resource and other emerging markets undergo significant changes over time, impacting investment decisions.
- The portfolio development process should be tailored toward achieving subsequent meaningful risk analysis of alternative investment decisions.

It is Utah Clean Energy’s anticipation that these recommendations will streamline the portfolio development process, leaving more time for more thorough risk and uncertainty analysis. Utah Clean Energy continues to encourage the Company to consider climate impacts in its evaluation of future loads and price declines and experience curves in its evaluation of renewable resource prices, as discussed in our comments on the 2013 IRP.

Risk analysis and portfolio selection

The risk analysis and portfolio selection portion of the IRP process is necessary for evaluating capacity expansion plans in terms of their resilience in the face of a variety of different futures, and should be the primary forum for evaluation, analysis, and public discussion within the IRP process. In recent years, it this important portion of the process has been rushed and opaque to public participants.

At the process improvements workshop, participant comments reflected near unanimous concern about the complexity of planning and the importance of more robust risk analysis. Comments conveyed the following sentiments that are relevant to risk analysis:

- The world is changing and planning is more complex;

- The IRP should help inform utility decision-making about major investment alternatives by testing investment alternatives against different scenarios/possible futures;
- Planning should look at strategic risks—large-scale and chronic changes; and
- Diverse situations and “major disasters” can be evaluated and analyzed without computer models.

Utah Clean Energy agrees with these sentiments and recommends that participants to the IRP process be granted sufficient time and consideration by PacifiCorp to evaluate, discuss, and impact risk analysis (as is currently done with portfolio development). Utah Clean Energy also still encourages modeling changes that we recommended in our comments on the 2013 IRP:

- Consider and account for climate impacts on stochastic variables;
- Turn the long-run load volatility parameter on;
- Investigate PacifiCorp’s specific vulnerabilities to climate impacts (as is currently being done in jurisdictions across America with much smaller footprints than PacifiCorp’s service territory), including high impact, lower probability events, and compare the costs and benefits of pre-emptive adaptation versus inaction.
- Attribute a greenhouse gas emissions rate to front office transactions so that participants can get a sense of the emissions associated with entire portfolios of resources.

Additionally, it is necessary that PacifiCorp evaluate how “top-performing” portfolios perform in the face of meaningfully different future scenarios, in order to capture the uncertainty inherent in planning based on *expected* costs and risks. Climate impacts must be considered in the evaluation of alternative futures.

Conclusion

Utah Clean Energy appreciates PacifiCorp’s invitation to participate in process improvement discussions and looks forward to working collaboratively with PacifiCorp and IRP stakeholders to evaluate, discuss, and refine IRP process improvements in advance of the 2015 IRP.