

Transmission and Distribution Planning in the IRP

Concept Paper by the Washington Utilities and Transportation Commission's IRP Rulemaking Team

In this document, the rulemaking team outlines a proposed framework for increasing the transparency of transmission and distribution planning in the integrated resource plan (IRP) process and identifies key questions for developing this framework. As stated at the initial workshop, our goal is to ensure that, given the rise of new challenges and resource options that affect the electric and natural gas grids, utilities are applying IRP principles as they consider different resource options on their transmission and distribution systems.

Historically, distribution system needs have been addressed with a narrow set of industry-standard solutions, such as more wires or pipe. As a result, distribution system planning has been almost exclusively an internal utility process. However, as technological advances and changing customer needs reshape the demands on the distribution grid and provide new tools for managing distribution challenges, distribution planning must become more transparent.

Distribution and transmission investments are a significant factor in establishing customer rates, as shown in the table below. Improving the transparency of transmission and distribution planning in the IRP process will help utilities to more clearly identify and communicate their resource needs to the Commission and other stakeholders, thereby facilitating the prudence review process.

2015 Proportion of Plant and Annual O&M devoted to Distribution System

<i>Capital</i>	PacifiCorp	Avista	PSE
Net Plant in Distribution	\$ 246,567,173	\$ 621,477,000	\$ 2,168,913,418
% of Total Plant in Distribution	22%	39%	38%
<i>O&M</i>			
Distribution O&M	\$ 11,300,375	\$ 24,058,974	\$ 82,427,091
Percent of total O&M	5.1%	5.9%	6.4%

Sources: Commission Basis Reports and FERC Form 1 Statistical Summaries

Our proposed framework is intended to advance the conversation that began in the initial workshop. It is based on the information we heard in written comments and at the workshop, as well as direction from the Commission. While we ask that parties seriously consider this concept and come prepared to address the specific questions that we present below, we are also interested in criticisms of this approach and alternate suggestions.

In the following paragraphs, we use the term “distribution plan” in a general sense. The form and function of such a plan is not fixed and is intended to include transmission planning, when appropriate, for gas and electric utilities. We request public input to help flesh out the scope and approach of a distribution plan, as well as the procedural elements surrounding it.

Proposed Framework: Electric and natural gas utilities will analyze some subset of their distribution system in every IRP cycle. Any transmission project that has not been selected through a regional transmission planning process would also be subject to this analysis. For each line identified (gas or electric), the utility would present the following:

1. The anticipated date of a resource need,
2. An analysis of various resource alternatives which are commercially available and able to satisfy the anticipated need, including wires/pipe and all applicable non-wires/non-pipe alternatives,
3. The least-cost reasonable resource (or combination of resources) to meet the identified need, based on the local characteristics of the line in question, and
4. The proposed date of resource acquisition.

Any resource need identified within a given time horizon would be subject to a competitive, technology-neutral acquisition process.

Key Questions: To help us develop this framework, we ask participants to come to the workshop prepared to discuss the following questions.

- 1. What are the baseline informational needs for effective distribution and transmission planning?*

Before meaningful distribution planning can be performed, each utility needs a granular understanding of current conditions on its system. How much visibility do utilities currently have into the real-time operations of their distribution system? If visibility is lacking, what tools are needed to provide it?

- 2. What should be the scope of the distribution plan?*

The rulemaking team understands that integrated resource planning is already a time-consuming and complicated process. Any requirement to provide additional information about transmission and distribution planning in the IRP must carefully weigh the need for additional transparency against the increased workload to avoid being unnecessarily burdensome.

How should the rule define the subset of distribution lines that would be analyzed each IRP cycle? Should analyses be conducted based on age, demand, reliability metrics, projected growth, or some other mix of characteristics and performance? Can reliability reports be used in determining where additional distribution system analysis is needed? What additional information about the distribution system should be captured in the distribution plan (such as size, age, monitoring capabilities, action plan, etc.)? Are there standard approaches to valuing and calculating the levelized costs and benefits of different distributed resource types?

- 3. How should the rule link the transmission and distribution planning process to the resource acquisition process?*

Should utilities be required to issue requests for proposals based on the needs identified in the distribution plan, or is a permanent “open season” for otherwise unsolicited bids preferable? Is a five-year horizon for the bid process appropriate (that is, any resource need identified within the

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next five years is subject to a competitive bidding process), or is some other time horizon more appropriate?

4. *Is it necessary for the utility to conduct the analysis of solutions to satisfy identified resource needs?*

What would be the advantages and disadvantages of an alternate framework in which a utility identifies the points on its transmission and distribution systems that have an anticipated need and their characteristics, then solicits bids for addressing the need (instead of analyzing the need itself). Would this approach efficiently provide third parties with enough information to craft reasonable bids?

5. *What is the role of stakeholders?*

Should there be a separate advisory group or IRP subgroup for distribution planning? Would such an advisory group perform its work ahead of the IRP process? What sort of representation would be appropriate? What would be the advisory group's responsibilities?

While we hope to more fully explore the framework identified here, we also encourage parties to present alternative proposals that they think would meet the goal of this inquiry. While we are not asking for written comments prior to the workshop, parties may file written comments in the docket if they wish.

Questions regarding this framework may be directed to topic lead David Nightingale at (360) 664-1154 or dnightin@utc.wa.gov.