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July 30, 2013

MEMORANDUM

TO: Power Committee

FROM: Gillian Charles, Energy Policy Analyst
Steve Simmons, Energy Analyst

SUBJECT: Update on the Generating Resources Advisory Committee

The Generating Resources Advisory Committee (GRAC) is one of the Council's chartered advisory committees established to assist in the development of the regional power plans. The GRAC's role is to assist the Council in identifying and assessing generating resources and technology alternatives, helping to gather and validate information on technical, financial, and environmental aspects of resources, and reviewing and interpreting analyses used to develop generating resource assumptions.

The GRAC is chaired by Steve Simmons and vice-chaired by Gillian Charles. The committee is made up of technical resource planning experts from around the region, including members from public utilities, investor owned utilities, Bonneville Power Administration, the Energy Trust of Oregon, state energy offices and regulators, and public interest groups.

The Council's GRAC held its first meeting on June 20. At the Power Committee meeting on August 6th, staff will update the Council on the GRAC's progress and the prioritized list of key resources the GRAC will assess.

Update on the Generating Resources Advisory Committee

Power Committee
Gillian Charles & Steve Simmons
August 6, 2013



Overview

- **Generating Resource Advisory Committee (GRAC) is a chartered advisory committee to the Council**
- **Role of the GRAC is to assist the Council**
 - Identify and assess generating resources and technology alternatives
 - Gather and validate information
 - Review and interpret analyses concerning generating resources and technology alternatives considered for development of the Seventh Power Plan



GRAC Kick-off Meeting

- First GRAC meeting for development of the Seventh Power Plan was held June 20.
- Agenda covered overview of Seventh Power Plan topics, role of the GRAC, focus on preliminary solar photovoltaic resource assessment (utility scale and rooftop).
- Good attendance and participation - 29 in person, 19 online.



Prioritization of Resources for Assessment

Prioritization based on a resource's commercial availability, constructability, cost-effectiveness, and quantity of developable resource.

Significant: Resources that look to play a major role in the future PNW power system Assessment : In-depth, quantitative characterization to support system integration and risk analysis modeling

Commercial w/ Limited Availability: Resources that are fully commercial but that don't have a lot of developmental potential in the PNW
Assessment : Quantitative characterization sufficient to estimate levelized costs

Long-term Potential: Resources that have long term potential in the PNW but may not be commercially available yet
Assessment: Qualitative discussion of status & PNW potential, quantify key numbers as available



Resources to Assess

Significant	Commercial w/ Limited Avail	Long-Term Potential
Natural Gas Combined Cycle	Biogas Technologies (landfill, wastewater treatment, animal waste etc.)	Engineered Geothermal
Wind	Woody residues	Offshore Wind
Solar PV	Conventional hydrothermal Geothermal	Modular Nuclear Units
Natural Gas Simple Cycle, Reciprocating Engine	New Hydropower	Wave Energy
	Waste heat recovery and CHP	Tidal Energy
	Hydropower Upgrades	Coal Technologies w/ CO ₂ Separation
		CO ₂ Sequestration
		Storage Technologies



Rest of WECC – coal steam electric, solar thermal, large scale adv. nuclear

Next Steps

- **Next GRAC meeting to be held on September 26**
 - Agenda to focus on preliminary assessment of natural gas combined cycle power plants
- **Estimated 6-8 meetings over course of development of the Seventh Power Plan**
- **Keep Council updated on progress and preliminary resource assessments**

