MEMORANDUM

TO: Power Committee

FROM: Tom Eckman

SUBJECT: Proposed Seventh Plan Work Plan

BACKGROUND:

Presenter: Tom Eckman

Summary: Staff will present a proposed work plan and schedule for the development of the Council’s Seventh Regional Power and Conservation Plan to the Power Committee.

Relevance: The primary charge to the Council under the Northwest Electric Power Planning and Conservation Act is to prepare a long-term forecast of regional electricity needs and a plan to meet those needs. Under the Act the Council has an obligation to review and if deemed necessary update these plans at five-year intervals.

Work Plan: 1.D Prepare for Seventh Power Plan and maintain analytical capability

Background: The Seventh Plan development major input assumptions this fall and winter. Resource portfolio analysis will commence at the beginning of the second quarter of 2015 with issuance of a draft plan scheduled for late summer. Under the proposed work plan public comment and consultations on the draft plan would occur during September and October and final plan adoption in December of 2015.

More Info: See Attached of Major Milestones
<table>
<thead>
<tr>
<th>Seventh Plan Development Task and Council Decision</th>
<th>Council Action Date</th>
<th>Power Committee Review</th>
<th>Advisory Committee Review?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method for Quantification of Environmental Costs and Benefits Approved for Draft Plan Use</td>
<td>Dec 2014</td>
<td>Oct 2014</td>
<td>RSAC</td>
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<tr>
<td>Draft Plan Demand Forecast Range Approved (includes discussion of direct use of natural gas and other factors)</td>
<td>Dec 2014</td>
<td>Nov 2014</td>
<td>DFAC</td>
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<tr>
<td>Approach to Capacity, Balancing and Flexibility for Draft Plan</td>
<td>Jan 2015</td>
<td>Dec 2014</td>
<td>RSAC/SAAC/RAAC</td>
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<tr>
<td>Assessment and Treatment of Emerging Generating Resources Technologies (e.g., Energy Storage, Small Modular Nuclear, Wave, etc.)</td>
<td>Feb 2015</td>
<td>Feb 2015</td>
<td>GRAC</td>
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<td>Demand Response Supply Curves for Use in RPM</td>
<td>Feb 2015</td>
<td>Jan 2015</td>
<td>CRAC/GRAC/RSAC</td>
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<tr>
<td>Assessment and Treatment of Emerging Energy Efficiency Technologies</td>
<td>Feb 2015</td>
<td>Jan 2015</td>
<td>CRAC</td>
</tr>
<tr>
<td>Conservation Resource Characteristics (i.e. supply curves) for use in RPM</td>
<td>Mar 2015</td>
<td>Jan 2015</td>
<td>CRAC/RSAC</td>
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<tr>
<td>Generating Resource Characteristics (i.e., supply curves) for use in RPM</td>
<td>Mar 2015</td>
<td>Jan 2015</td>
<td>CRAC/RSAC</td>
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<tr>
<td>Decision Rules for Energy Efficiency Acquisition for use in RPM</td>
<td>Mar 2015</td>
<td>Feb 2015</td>
<td>CRAC/RSAC</td>
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<tr>
<td>Rebuilt Version of RPM Tested and Accepted</td>
<td>Mar 2015</td>
<td>Feb 2015</td>
<td>SAAC</td>
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<tr>
<td>Conceptual Definition of Scenarios and Strategies to be Analyzed Approved</td>
<td>April 2015</td>
<td>Mar 2015</td>
<td>RSAC/GRAC/CRAC/SAAC</td>
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<tr>
<td>Final Adequacy Analysis Complete</td>
<td>May 2015</td>
<td>April 2015</td>
<td>RAAC</td>
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<tr>
<td>Method to Integrate Capacity and Flexibility into the RPM Analysis</td>
<td>June 2015</td>
<td>May 2015</td>
<td>SAAC</td>
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<tr>
<td>Needs Assessment for Energy, Capacity, and Flexibility Completed</td>
<td>June 2015</td>
<td>May 2015</td>
<td>RSAC</td>
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<tr>
<td>Model Conservation Standards and Surcharge Recommendation</td>
<td>July 2015</td>
<td>June 2015</td>
<td>CRAC</td>
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<tr>
<td>Council Approves Final Plan w/Action Plan</td>
<td>Dec 2015</td>
<td>Dec 2015</td>
<td>No</td>
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<tr>
<td>Council Approves Response To Comments</td>
<td>Jan 2016</td>
<td>Jan 2016</td>
<td>No</td>
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</tbody>
</table>
Proposed Work Plan for Seventh Plan Development

September 9, 2014
Council’s Analytical Process Flow

**Load Forecast Model**
- Load Forecast Range (without efficiency)
- Units & Baseline Unit Use

**Regional Portfolio Model**
- Data to Create Futures
- Distributions of Key Drivers (e.g., Fuel prices, wholesale market prices)

**Energy Efficiency Resource Potential Assessment**
- Energy Efficiency “Supply Curves”

**Generating Resource Potential Assessment**
- “Supply Side” Resource Cost & Availability

**Resource Portfolio Strategy:**
- Resource option & build schedule, including annual amount of energy efficiency

**Plan’s Portfolio Management Strategy**
Work Plan Components

- Primers – Background on Act’s requirements and Council analytical methods
- Presentations – In-depth background covering the findings from data or issue analysis
- Decisions –
  - Power Committee: “OK to proceed with further analysis, but I am not bound by this decision”
  - Council: “OK to include in draft plan”
Proposed Primers

- Power Plan Overview
  - What is a plan?
  - How do the parts come together?
  - Review of Models and Analytical Process
  - Role of Advisory Committees in Plan Development
- Power Planning 101 - Planning Under Uncertainty
- Power Act 101 - Legal Requirements Refresher
- Energy Efficiency Assessment Methodology
- Generation Resource Assessment Methodology
- Hydropower and Climate Change Impacts
Major Presentations

- Method for Quantification of Environmental Costs and Benefits
- Financial Assumptions, Including Sponsor Profiles, and Treatment of State and Federal Tax Incentives for Resource Development
- Resource and Load Impact Assessments
  - Distributed Solar PV Resources
  - Electric Vehicle and Data Center Loads
  - Energy Efficiency Resources
  - Utility Scale Solar PV Resources
  - Simple and Combined Cycle Combustion Turbine Resources
  - Reciprocating Engine Resources
  - WECC-wide RPS Resources
  - Wind Resources
  - Geothermal Resources
  - Biomass Resources
  - Hydropower Resources
  - Demand Response Resources
- Proposed Methodology for Integrating Power System Capacity, Balancing and Flexibility in Portfolio Analysis
Major Decisions Leading to Draft Plan

- Natural Gas Price Forecast (agreed to in July)
- Wholesale Power Price Forecast Range
- Demand Forecast Range (includes discussion of Direct Use of Natural Gas and other factors)
- Methodology for Quantification of Environmental Costs and Benefits
- Assessment and Treatment of Emerging Generating and Energy Efficiency Resource Technologies (e.g., Energy Storage, Small Modular Nuclear, Wave, Solid State Lighting, etc.)
- Demand Response Resource Characteristics (i.e., supply curves)
- Conservation Resource Characteristics (i.e. supply curves)
- Generating Resource Characteristics (i.e. supply curves)
- Conceptual Definition of Scenarios and Strategies for RPM Analysis, including Decision Rules for Energy Efficiency and Generating Resource Acquisition
- Methodology for Integrating Capacity and Flexibility into the RPM Analysis
- Needs Assessment for Energy, Capacity, and Flexibility
- Model Conservation Standards and Surcharge Recommendation
- Draft Resource Portfolio and Action Plan
Other Issues - TBD

- Staff with Advisory Committee input will be identifying other issues (e.g., low load growth, 111(d) regulations) that Council may wish to take up as part of Seventh Plan development

- Power Committee reviews issues and options for addressing them and determines how to proceed