Northwest **Power** and **Conservation** Council

September 30, 2014

MEMORANDUM

TO: Fish and Wildlife Committee

FROM: John Shurts, General Counsel

SUBJECT: Staff Briefing on Draft Issue Paper on the Methodology for the Seventh Power Plan for Quantification of Environmental Costs and Benefits

Presenter: John Shurts, General Counsel

Background: Attached is a Discussion Outline for Fish and Wildlife Committee regarding Methodology for Determining Quantifiable Environmental Costs and Benefits.

Summary: As part of the Council's work on the Seventh Power Plan, staff has developed a draft issue paper on the methodology required in the power plan for determining the quantifiable environmental costs and benefits of new resources. We released the issue paper for a public comment period at the September Council meeting.

Relevance: The environmental cost and benefits methodology is a key piece of the Council's power plan and is integrated into analyses such as the generating resources assumptions and costs and the conservation supply curves.

Schedule for discussion:

• September 10, 2014 – October 31, 2014 – Public Comment Period

• October 7-8, 2014 – Council Meeting: Reserve time on the agenda for public comment

851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348
www.nwcouncil.org

Steve Crow
Executive Director

503-222-5161
800-452-5161
Fax: 503-820-2370

• October 29, 2014 – Resource Strategies Advisory Committee (RSAC): Discussion of issue paper

• November 4-5, 2014 – Council Meeting: Summary of comments received by close of comment period

• December 9-10, 2014 – Council Meeting: Council decision on methodology

Seventh Northwest Conservation and Electric Power Plan

Discussion Outline for Fish and Wildlife Committee re Methodology for Determining Quantifiable Environmental Costs and Benefits

Intro to topic: What's at stake

Relevant provisions of Northwest Power Act (text attached)

- Section 4(e)(3)(C): power plan elements: methodology for determining quantifiable environmental costs and benefits under section 3(4)
- Section 3(4): definition of cost effectiveness: resource cost comparison at the level of "incremental system costs"; "system costs" to include "all direct costs" of resource, including quantifiable environmental costs and benefits
- Section 4(e)(1): plan gives priority to resources that are cost-effective
- also, Section 4(e)(2): due consideration for environmental quality and fish and wildlife

Important points relating to statute

- policy intent: internalizing environmental externalities
- new resources -- for use in least-cost comparison of new conservation and generating resources in developing the resource strategy for the plan
- key terms: "environmental," "quantifiable," and "direct" and "directly attributable"
- statutory quirk in role of Bonneville Administrator

Primary approach to quantifiable environmental *costs*: Costs of compliance with regulations that address the environmental effects of resource

- costs of complying with regulations on air and water pollution control, disposal of waste products, fuel extraction regulations, etc.
- capital and operating costs
- Sixth Plan experience: Seventh Plan
  - break out and display costs
  - new regulations? e.g., Mercury and Air Toxics Standard

Residual effects?

- residual effects after compliance with regulations
- conceptually -- are these costs?
- quantify environmental damage/costs?
- past experience
- "due consideration" if not quantified as costs

Environmental effects of resources not yet subject to complete regulatory control -- carbon dioxide emissions in particular

- issue in concept/in application (carbon in Sixth Plan)

- new resources and existing resources
- Sixth Power Plan approach:
  - *not* capital and operating costs to address carbon emissions regulations -- no regulations
  - assumed system would comply with state resource portfolio requirements
  - range of possible carbon costs derived from policy proposals treated as a risk factor in model; $0 to $100/ton range, weighted average of $47/ton; applied to all carbon-emitting resources
  - scenarios that included reductions in carbon emissions from existing system
- Seventh Plan?:
  - assume again compliance with state portfolio requirements
  - possible carbon cost range applied as risk again?
  - or, costs of compliance with regulations EPA proposed for regulating carbon emissions under Clean Air Act:
    - 111(b) -- applies to new power plants: use? how to quantify?
    - 111(d) -- existing sources: state-by-state allocation and compliance? use? issues with proposed regulations? how to quantify? regional vs. state-by-state approach?
  - or, "social cost of carbon" environmental damage approach
  - plus, scenarios focused on reducing carbon emissions; calculate "avoidance" costs

Quantifiable environmental *benefits*

- **few examples in past plans e.g., energy efficient washers and water/soap savings**
- **environmental benefit of one new resource that results from avoiding the environmental costs of an alternative new resource? no**
- **environmental benefit of a new resource that results from avoiding the adverse environmental effects of an existing activity?**
  - conceptually yes
  - "wood smoke" example
  - "direct" benefit? quantify?
  - "due consideration" if can't quantify or direct
  - scope of issue

Renewable resource development

- significant development of wind resources; possible development of biomass, solar, wave: environmental effects
- regulatory costs captured adequately?
- recommendations and comment from fish and wildlife agencies and tribes in Fish and Wildlife Program seeking to have Council use its program (and plan) to assess and address resource/land/wildlife/cumulative effects of renewable resource development, including transmission as well as generating plants
  - conceptual box?
    - fish and wildlife program: no, but…
    - methodology for quantifying environmental costs and resources: no, but…

        - due consideration provision: yes, but…
    - seeking process and result comparable to "protected areas" to control/prevent development of new hydroelectric plants with adverse effects on fish and wildlife
    - why it is similar and why it is different

"Due consideration" provision

Due consideration for "environmental quality" -- see above

Due consideration for "fish and wildlife protection, mitigation, and enhancement of fish and wildlife and related spawning grounds and habitat, including sufficient quantities and qualities of flows for successful migration, survival, and propagation of anadromous fish"

- what does this mean in context of power planning, *after* fish and wildlife program amendment process?
- *in context of* deciding on the *new* resource strategy ("set forth a general scheme for implementing conservation measures and developing resources pursuant to section 6 of this Act to reduce or meet the Administrator's obligations with due consideration for…")
- what is does *not* mean:
    - revisit and make new decisions on flow or other measures for fish and wildlife program -- vs. resource assessment of possible alternative flow scenarios, if members/public desire, for information sake
    - make decisions in power plan to change or remove existing resources -- vs. resource assessment of possible system configuration changes, if members/public desire, again for information sake -- e.g., scenario analysis in Sixth Power Plan of Snake River dam removal
- some things it does mean:
    - assessment of effects of fish and wildlife program on system generation; resource strategy to make sure system can reliably deliver fish and wildlife program flow and other measures
    - assessment of effects of new resources on fish and wildlife -- quantifiable costs where possible; due consideration where not
        - new hydro protected areas as great example
        - renewables issue noted above
    - alternative flow and other measures scenario analyses as noted above
    - what else?
- relevance of 2013 decision of Ninth Circuit in challenge to Sixth Power Plan

Next steps in developing methodology

- issue paper out for comment to end of October
- Council decide tentatively in December 2014 on environmental methodology to use in developing resource cost estimates, comparing costs, running RPM model for draft power plan + include statement of methodology in draft plan, as well as discussion as to how Council gave "due consideration" to environmental quality and to fish and wildlife in putting together draft plan
- review public comment on draft plan

- Council decision on same for analyses and text for final power plan

Text of key provisions

Section 4(e)(3)(C):

> The power plan is to include "**a methodology for determining quantifiable environmental costs and benefits under section 3(4)"**

Section 3(4): definition of "**cost-effective**":

> Subsection 3(4)(B) provides that a conservation measure or generating resource is "**cost-effective**" if it meets or reduces electric power demand "at an estimated incremental **system cost** no greater than that of the least-cost similarly reliable and available alternative measure or resource."
>
> Subsection 3(4)(C) then defines "**system cost**":
>
> "For purposes of this paragraph, the term '**system cost'** means an estimate of **all direct costs** of a measure or resource over its effective life, including, if applicable, the cost of distribution and transmission to the consumer and, among other factors, waste disposal costs, end-of-cycle costs, and fuel costs (including projected increases), **and such quantifiable environmental costs and benefits as the Administrator determines, on the basis of a methodology developed by the Council as part of the plan, or in the absence of the plan by the Administrator, are directly attributable to such measure or resource."**

Section 4(e)(1):

> "The plan shall ... give priority to resources which the Council determines to be **cost-effective**."

Section 4(3)(2): due consideration

> "The plan shall set forth a general scheme for implementing conservation measures and developing resources pursuant to section 6 of this Act to reduce or meet the Administrator's obligations **with due consideration by the Council for (A) environmental quality,** (B) compatibility with the existing regional power system, (C) **protection, mitigation, and enhancement of fish and wildlife and related spawning grounds and habitat, including sufficient quantities and qualities of flows for successful migration, survival, and propagation of anadromous fish**, and (D) other criteria which may be set forth in the plan.