Northwest Power and Conservation Council

February 24, 2010

MEMORANDUM

TO: Power Committee

FROM: Jeff King

SUBJECT: Proposed staff work plan - analysis of the implications of an unbundled renewable energy credit market

Action GEN-10 of the Sixth Northwest Conservation and Electric Power Plan calls for the Council, working with other interested and affected entities, to undertake an assessment of the potential extent of the future unbundled renewable energy credit (REC) market, the resulting benefits and costs, and actions needed to remedy significant impacts. The attached work plan sets forth a proposed approach to this assessment. The WECC Variable Generation Subcommittee has expressed interest in this effort, has reviewed the proposed work plan, and has agreed to help supply information and review results. The bulk of the effort, however, is expected to be accomplished in-house by Council staff. Staff is seeking comments on the work plan and Power Committee concurrence to commence work.

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Northwest Power & Conservation Council

PROPOSED WORK PLAN

February 24, 2010

IMPLICATIONS OF AN UNBUNDLED RENEWABLE ENERGY CREDIT (REC) MARKET

Renewable energy credits (RECs) represent the environmental and renewable attributes of renewable energy production as a separate commodity from the associated energy. RECs can be transacted as "fully bundled" (delivered with the associated energy), "partly bundled" (the associated energy can be delivered within a specified time), or "fully unbundled" (marketed separately from the associated energy[1]). As states, particularly California, move toward more aggressive and challenging renewable portfolio standards, interest in meeting RPS requirements with partially or fully unbundled RECs has increased.

Unbundling can expand the pool of qualifying resources available to utilities, and expand the customer base for developers of qualifying resources. Market flexibility and liquidity, less constrained by transmission considerations, should increase. Because the value of CO_2 reduction is not location-specific, greenhouse gas reduction benefits are preserved. Partly unbundled transactions will improve transmission load factors and the need for new long-distance transmission lines will be reduced. Local economic benefits will shift to areas rich in lower-cost qualifying resources.

Unbundling, however, raises issues of concern to resource-rich areas such as the Northwest. The demand for and cost of balancing reserves in the supply region will increase. The need for equitable allocation and recovery of the cost of balancing services will become more acute. The residual ("null") energy must be marketed within the supply region and may depress power prices and introduce additional volatility to the wholesale power market. Dispatch conflicts with minimum hydropower operating limits and must-run resources may increase. Finally, the cost of acquiring RPS-qualifying and other low-carbon resources may rise for Northwest utilities because of increased competition.

PURPOSE & OBJECTIVES

Action GEN-10 of the Sixth Northwest Conservation and Electric Power Plan calls for the Council, working with other interested and affected entities, to undertake an assessment of the potential extent of the future unbundled REC market, the resulting benefits and costs, and actions needed to remedy significant impacts. The work plan sets forth the proposed approach to this assessment.

[1] When marketed separately, often referred to as "null" or "RECless" power.

TASKS

1. Qualitatively describe for a policy audience, the potentially significant technical and economic implications of an unbundled REC market in western North America, focusing on implications of generic (non-utility-specific) issues of significance to the Northwest. Consider possible impacts on the wholesale power market, the cost of renewable energy, new long-distance transmission development, location of renewable resource development, system dispatch, carbon dioxide production and reserve and reliability requirements, including balancing reserves. Describe posssible actions to rectify negative impacts.

2. Estimate the plausible extent of Northwest renewable resource development to serve in-region and out-of-region demand using bundled and unbundled RECs. Considerations include:

- State renewable portfolio standard targets (California, Northwest and elsewhere)
- Geographic source limitations and unbundled RECs allowances
- Available intertie capacity (firm and conditional)
- The viability of a renewable project business model based on unbundled REC sales
- Long-distance transmission development
- Abundance and cost, with and without transmission (e.g., bundled and unbundled), of qualifying renewable resources. These will include Oregon and Washington wind, high plains wind, BC wind and hydropower, Southwest & CA solar thermal and photovoltaics, wave energy, offshore wind and enhanced geothermal.
- Impact of RPS price caps

3. Estimate potential impacts on Northwest plant dispatch and wholesale power market prices. Test sensitivity to water conditions and natural gas prices. Observe frequency of negative market prices.

4. Estimate effects on plant dispatch and CO_2 production. Test sensitivity to water conditions and natural gas prices.

SCHEDULE

High priority, subject to completion and adoption of appendices to Sixth Power Plan. Target completion of the first phase within six months.

POSSIBLE FOLLOW-ON (PHASE II) TOPICS

- Implications of policies regarding CO_2 value of RECs and null power.
- Effect on reliability and reserve requirements including demand for integration services. Costs and CO_2 impact of providing integration services.
- Impacts on cost and availability of RPS-qualifying resources to Northwest utilities.