

Bruce A. Measure
Chair
Montana

Rhonda Whiting
Montana

W. Bill Booth
Idaho

James A. Yost
Idaho



Dick Wallace
Vice-Chair
Washington

Tom Karier
Washington

Melinda S. Eden
Oregon

Joan M. Dukes
Oregon

October 28, 2010

MEMORANDUM

TO: Power Committee

FROM: Jeff King

SUBJECT: Status of the forecast of surplus energy events and possible mitigating actions

Action GEN-10 of the Sixth Northwest Conservation and Electric Power Plan calls for the Council 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 possible negative impacts. One effect of an unbundled REC market has been rapid development of Northwest wind resources for the purpose of supplying RECs to satisfy the renewable portfolio standard (RPS) obligations of California utilities. The nature of this development is contributing to an increase in episodes of surplus energy¹.

In the Northwest (they have occurred elsewhere), surplus energy episodes are caused by the coincidence of high runoff, low loads, congested interties and high wind production. Secondary effects include high dissolved gas levels, episodes of zero or negative pricing and suboptimal power plant operation. While episodes of surplus generation due to heavy runoff occurred in the Northwest prior to extensive wind development, incentive-driven addition of wind capacity in advance of equivalent load growth (as inherently mandated by renewable portfolio standards) appears to be increasing the frequency, magnitude and duration of these events.

Council staff is preparing a forecast of surplus energy events and a report describing the factors driving these events, potentially significant technical and economic implications, and a range of possible actions to remedy negative impacts. The report is targeted to a policymaker audience, as recommended by the WECC Variable Generation Subcommittee. Difficulties in modeling a realistic resource dispatch and power prices under surplus energy conditions have extended this work longer than anticipated, however, the modeling problems appear to be resolved and a draft report should be available in November. Meanwhile, the severe surplus energy event of June 2010 has heightened interest and accelerated efforts to seek solutions, as evidenced by Bonneville's publication of a description of the June event² and initiation of an effort to prepare for a reoccurrence next spring and to seek longer-term solutions.

Staff will discuss the status and preliminary findings of this work at Monday's Power Committee webinar. Because the report could provide a useful contribution to ongoing regional efforts to resolve these issues, it may be desirable to establish a process to release the draft report for comment prior to the December Power Committee meeting.

¹ Sometimes referred to as "over-generation", though generation and loads must always be in balance.

² Bonneville Power Administration. *Columbia River high water operations* (June 1-14, 2010). September 2010.