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Resource Adequacy Steering Committee Meeting July 28, 2006 - Meeting Notes

I Introductions & Finalization of 6/9 Meeting Notes

ATTENDEES: Tom Karier, Steve Oliver, Wally Gibson, John Fazio, Mary Johannis, Steve Fisher, Brian Kuehne, Scott Spettel, Malcolm McCay, Stefan Brown, Chris Robinson, Steve Weiss, Michael Schillmoeller, Terry Morlan, Phil Popoff, Aliza Seelig, Clint Kalich and Joe Hoerner

II Discussion of Recent Extreme Temperature Events

Steve Oliver discussed the recent extreme temperature event and the related load increases in the PNW and California from Friday, July 21 through Monday, July 24. Steve described how BPA in coordination with the Corps of Engineers and Bureau of Reclamation set up the Columbia River to meet loads during the extreme weather event. CAISO was forecasting a 52,000 MW peak, which they previously had not projected to reach for 6 years, on Monday. They declared a Stage 1 emergency at 10:00 a.m. and a Stage 2 emergency at 1:00 p.m., which means that CAISO did not have sufficient reserves to meet WECC operating reserve requirements. BPA attempted to hold generation in reserve for California to help meet their afternoon peak up to the constraints of the transmission interties. A couple of Coalstrip units (850 MW) tripped off in the morning. High prices (up to the \$400 FERC price cap) provided merchant generation the incentive to maximize their sales into the market. Several Northwest utilities declared NERC stage 1 and 2 alerts. BPA's policy is to meet NW needs first, but also to assist California avoid a public health and safety emergency that could be triggered by involuntary curtailments, given the extreme heat in California. Therefore, BPA requested an unscheduled meeting of the Technical Management Team (TMT) to request extraordinary actions including the curtailment of fish spill, if necessary, to avoid such a public health and safety emergency in California. It was not necessary to curtail spill because CAISO's peak was below the 52,000 MW forecast, which means they did not have to declare a Stage 3 emergency. John Fazio showed a graph, which showed the intertie usage during this time period, which indicated almost full loading to path limits. Steve Oliver suggested that the Jul 24th event warrants the PNW Resource Adequacy Forum to re-examine the proposed capacity standard for assessing adequacy.

Steve Fisher indicated that Chelan set a summer peak of 220 MW and worked with Alcoa to enact a demand-response program in order to provide additional power for NW needs. Brian Kuelne indicated that even though Monday's temperatures were lower than Friday's, PGE's loads were higher. He also asked if the incidence of forced outages in high temperature events is higher than a normal expectation of forced outages.

Steve Weiss advocated that some of the money (sold at the FERC price cap, which is \$400 MW currently) from curtailment of fish, if it did happen, should be dedicated to fish mitigation. Mary Johannis replied that the reason this was not included in the implementation paper is because the Forum is a planning forum not an operating forum.

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Steve Oliver responded that although in this instance, BPA was in the seller position, in some instances BPA is in the purchase position and would have to purchase power at the price cap. This situation would nullify the contention that BPA power customers might benefit from a wind-fall profit, while sacrificing fish operations.

Steve Fisher pointed out that this situation probably does not represent a capacity event for the PNW since our constraints are energy-related (i.e. drought) and a winter capacity event. The July 24th event was a capacity event for California. However, Steve Weiss pointed out that BPA, as a Federal agency, is obligated to provide power to California to avoid an emergency there. A summer capacity analysis is needed that assumes maximum exports to California to see if the PNW is still resource adequate in an extreme temperature event. Steve Oliver pointed out that in actual operations all, or almost all, utilities appeared to be responding to the event by making as much generation as possible available. He also stated that it is unclear how much of the intertie capacity was dedicated to firm rather than spot market purchases and reminded the committee members that the PNW also depends on firm contractual and spot market imports in the winter.

The question is what probability event is the July 24th event. John Fazio reviewed temperature deviations and concluded that July 24th is almost a 1 in 100 event, but then it was pointed out that this means a 1 in 100 July days event rather than in a 1 in 100 year event. **Action item:** The Technical Committee needs to perform a summer capacity analysis assuming maximum exports to California and reexamining the design temperature event for the summer and the winter. Steve Oliver also suggested investigating the transmission constraints in such an event and whether the occurrence of forced outages is higher during an extreme temperature event than under normal temperature conditions. Wally Gibson questioned whether a PNW resource adequacy standard should include maximum exports to California.

Mary suggested that the WECC Loads and Resources Subcommittee (LRS) is the appropriate forum to perform an analysis of the combined temperature event for the West. Steve Oliver stated that WECC set an all-time peak load of over 159,000 MW.

Tom Karier raised the issue of whether the Steering Committee should approve a pilot capacity standard in light of the July 24th event and the need to re-examine the design temperature event for the capacity standard. Steve Oliver suggested that a neutral third party or parties could perform a post-mortem assessment of the July 24th event. Steve Fisher said that the NWPP would probably be the right party to perform this analysis and a lessons learned evaluation. **Action Item:** The Council (with Wally taking the lead) will talk to Jerry Rust of the Power Pool to perform this post-mortem analysis. Steve Fisher also suggested that the performance of the wind generators should be assessed for this event. Anecdotal evidence suggests that during periods of high temperature, there is not much wind to allow wind turbines to generate.

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III Review of Pilot Capacity Metric and Targets

John presented a PowerPoint summarizing the capacity metric and the initially proposed targets. John indicated that the Steering Committee has already indicated its agreement with the metric, but that the initial target is still in question, especially given the discussion in this meeting. In dealing with temperature deviation questions, Wally suggested that we refer to temperature deviations as % exceedence rather than as 1 in 20 day or year events. John said he would post the daily temperatures, which are the basis for the temperature differentials on the Council's website.

John showed the linkage between temperature differentials and load increases above expected load. He showed a graphic depiction of the planning reserve margin (PRM) capacity metric, which is the sum of the following components:

- A 6% component for contingency/supplemental reserves; and
- A varying % component to assure sufficient sustained peaking capacity to meet adverse temperature loads in the summer and the winter.

The temperature component needs to be examined further. Steve Fisher stated that inclusion of a capacity reserve component in PNW resource adequacy summer capacity target to help California meet its extreme temperature load is not be sustainable unless California agrees to pay for this component.

John presented tables depicting the Region's current reserve margins for various sustained peaking capacity durations in the winter and the summer, which were developed using the HELMS program. John stated that the Council is reviewing and revising the HELMS algorithm and data to increase the accuracy of correlations between temperature deviations and associated load increases. Steve Oliver suggested investigating whether the load peak over 1, 2, 4 and 10 hours should deviate more than shown on slide 13 of the PowerPoint presentation. Brian suggested adding a column to the table on this slide to compare the data from HELMS with what actually happened on July 24th. He also suggested that average temperatures should be associated with the more recent past rather than the entire 70-year period. The entire period could be reviewed to ensure major events are included.

John recommended members of the Steering Committee review the language of the capacity standard document and ignore the numbers for now. **Action Item:** He requested comments on the language before the next Steering Committee Meeting.

IV Steps to Finalize the Capacity Metric and Targets

Mary's presentation focused on additional work needed to finalize the capacity targets. Mary showed the difference in FCRPS sustained capacity to meet a "normal" peak, a 50-hour sustained peak and a "super-peak" (16 hour duration but includes two 3-hour super peak periods).

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Mary indicated that BPA hydro planners believe the winter capacity metric should be based on a 16 hour, super-peak duration because this operation assumes no purchases in the shoulder hours. Steve Fisher suggested that we evaluate the reasonableness and magnitude of such purchases from a regional rather than BPA perspective. He also suggested that using a more conservative hydro sustained peaking operation may result in a lower capacity target.

Steve Weiss suggested that the computation of the reserve margin should use the single hour peak demand, but was persuaded that the sustained peaking operation assumes a shaped operation, which will meet the peak hour demand. Therefore, the peak demand duration should match the sustained peaking capacity duration.

Mary summarized the short-term and long-term steps to finalize the capacity metric and target. In the short-term, the Technical Committee needs to address the temperature deviation and the associated load increase question. The Technical Committee also needs to prepare, or use the results of, a post-mortem analysis of the July 24th event. The goal is for the Technical Committee to recommend initial targets for a pilot capacity standard to the Steering Committee at their next meeting. In the long-term, the Technical Committee can review the duration for sustained peaking capacity, the capacity credit of wind in both summer and winter extreme temperature events and other issues Mary presented in her PowerPoint.

Steve Fisher suggested the Forum should focus on January to set the capacity standard because the PNW is winter-peaking. The PNW should not set a summer capacity standard to meet California needs. On an operational basis, certainly the PNW will do what it can to help California meet its needs. Wally clarified that the reason PNW hydro was stressed even though this is a good water year is that BPA and other hydro entities normally sell forward surplus capacity in good water years. The capacity standard is based on critical water conditions. Steve Weiss believes that exports to California should be modeled up to intertie capacity because BPA will be required to assist California meet its loads in order to avoid an emergency. Steve Fisher suggested the WECC LRS is the appropriate forum to evaluate whether the West Coast as a whole is adequate. The Steering Committee consensus appeared to be that only long-term firm exports should be included in the summer capacity standard.

V Decision on Pilot Capacity Metric and Targets

The decision on a pilot capacity standard was deferred to the August 29 meeting.

VI Decision on Proposed Implementation Approach

Wally reviewed the latest version of the implementation approach. The Steering Committee recommended that the Council adopt this approach for assuring resource adequacy in the PNW.

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VII PNW Resource Adequacy Forum Work Plan

John described the milestones and schedule to achieve Forum goals in 2006 and 2007. Steve Weiss asked if we have a milestone to evaluate how transmission impacts the achievement of a capacity standard. Such an activity should be added to the work plan.

VIII Schedule Next Meeting

The next Steering Committee Meeting is scheduled for Tuesday, August 29, 2006 from 10 a.m. to 3:00 p.m.

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