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TACOMA PUBLIC UTILITIES

January 30, 2013

Charlie Black, Power Division Director
Northwest Power and Conservation Council
851 SW Sixth Ave., Suite 1020
Portland, OR 97204-1347

RE: Tacoma Power Comments on the December 14, 2012, 6th Power Plan Mid-Term Assessment Report

Dear Mr. Black:

Tacoma Power appreciates the opportunity to comment on the 6th Power Plan Mid-Term Assessment Report (Assessment Report). Prior to discussing specific comments, however, Tacoma Power wishes to express our gratitude for the open, inclusive process used to develop this Assessment Report. We are encouraged by this new found spirit of collaboration – it gives purpose to utility participation in Council activities. In support of continued collaboration, several Tacoma Power staff members are participating in workgroups supporting the development of the 7th Power Plan:

Generating Resources Advisory Committee
Resource Adequacy Technical Committee
System Assessment Advisory Committee
Natural Gas Advisory Committee
Demand Response
Regional Technical Forum
Conservation Resources Advisory Committee
Regional Technical Forum – Policy Advisory Committee

Travis Metcalfe
Travis Metcalfe
Cathy Carruthers
Bill Dickens
Bill Dickens
Rich Arneson
Nicolas Garcia
Chris Robinson

With regard to the Assessment Report, Tacoma Power is genuinely impressed with the breadth and depth of the document. The fifteen areas covered in the “Situation Scan and Narratives” fairly address most major issues facing regional utilities. We especially welcome the report’s candidness about forecasts that did not unfold in the way foreseen in the 6th Regional Power Plan. Overall, we commend the Council for the complete and honest Assessment Report.

Tacoma Power’s comments and recommendations for the Assessment Report generally fall into one of three main categories. We discuss these overarching concerns below and have attached some more detailed observations and suggestions.

Retail Rates

Early on in the Assessment Report is a section entitled "Candidate Topics for the Seventh Northwest Power Plan." Tacoma Power applauds inclusion of Topic 1, "Making the power plan useful for all regional utilities." Towards that end, an absence of any focus on retail rates has been a deficiency of previous plans. While actual wholesale prices are below the levels expected in the 6th Power Plan, a diverse set of mandates and policies are driving up retail rates: enhanced fish protection, renewable resource portfolio standards, NERC reliability standards, conservation, FERC transmission policies, integration of variable energy resources, and utility personnel costs, to name a few. This growth in retail rates as well as the widening spread between wholesale costs and retail rates could impact utility operations in multiple ways. For example, higher retail rates could reduce retail demand and increase customer appetite for conservation; it could also encourage large customers to consider fuel switching or to by-pass the utility altogether; and such effects might affect regional resource adequacy. A discussion in the 7th Power Plan of the likely magnitude of changes in retail rates over time and their potential impact to utility operations would be most welcome.

Conservation

Tacoma Power has several issues with the Assessment Report's treatment of conservation. However, prior to discussing these concerns, we want to make clear that conservation is a vital component of Tacoma Power's long-term resource acquisition strategy. From 2008 through 2011 Tacoma Power acquired over 22 aMW of conservation, our goal for the 2012-2013 biennium is 11.3 aMW (7.1 aMW acquired so far), and we will establish a new goal for 2014-2015 by the end of this year. We aggressively pursue conservation for its local economic development benefits, its green attributes, and because it provides value to our customers. Our comments on the Assessment Report are simply intended to ensure that the Council's conservation assessments are sound and reliable, and that the results of those assessments are presented in a balanced manner.

Our first concern revolves around the Council's top-down approach of estimating the regional wide conservation potential and allocating that potential among utilities. Our analysis found that the Council's numbers for individual utilities were consistently, and sometimes significantly, higher than utilities' own conservation potential estimates. This is the case even when utilities used the same methodologies and savings assumptions as the Council. Tacoma Power recommends that the Council undertake an effort to understand the root-cause of these differences.

We also find misleading the Assessments Report's assertion that the estimated \$18/MWh levelized cost of utility acquired conservation is "at or below recent wholesale prices for electricity." The \$18/MWh figure represents the average cost of conservation acquisition; some measures have higher costs while others have lower costs. From an economic perspective, the important question is whether all measures remain cost-effective. That is, (after including any non-energy benefits) whether they all produce energy savings at a lower cost than electricity available on the wholesale market. Given the unexpected fall in actual and forecast wholesale electricity prices, it is likely that some portion of the conservation acquired across the region in 2010 and 2011 would not be considered cost-effective if evaluated today.

We also did not find the discussion comparing the cost of conservation to the levelized cost of a new combined-cycle combustion turbine to be particularly useful. This comparison is only relevant for energy constrained utilities. For utilities that acquire new thermal resources to meet capacity needs (i.e., peak load and/or flexibility), the cost of conservation should be compared to the variable cost of operating those resources. For utilities that are neither capacity nor energy constrained, the proper comparison is the wholesale power market.

An issue omitted from the Assessment Report was the conservation risk premium. The 6th Power Plan used highly unlikely projections for load growth, natural gas prices, and carbon taxes to develop an unreasonably high risk premium. None of these outcomes occurred and as a result, the avoided cost against which conservation was assessed was much too high. The Assessment Report should consider approaches to ensure that the 7th Power Plan uses a more reasonable risk premium.

A second omission from the Assessment Report was any discussion of ramp rates. Tacoma Power appreciates that the 6th Power Plan increased the number of sector/program specific ramp rates relative to the 5th Power Plan. However, we are less sanguine that the specific ramps used accurately reflect the speed at which the public adopts conservation. We also question the uniform assumption that all conservation measures top out at an 85 percent adoption rate. This assumption is based upon the "Hood River" study that is now 30 years old. The Council should consider whether the individuals that participated in the "Hood River" study accurately represent today's much more diverse population across the Pacific Northwest. Tacoma Power wants to ensure that ramp rates received the renewed attention they are due. Therefore, as part of the 7th Power Plan development process we recommend the creation of a sub-committee of the regional technical forum to perform a granular review of all ramp rate issues.

Intertwining of regional forces

The Assessment Report does a good job of identifying many of the various forces that will affect most regional utilities. For example, Finding 6 of the Major Conclusions section indicates that the region will need new resources to meet adequacy standards in 2017. Finding 7 notes an emerging need for resources that can provide peaking capacity and system flexibility. And Finding 3 recognizes that over the first three years of the 6th Power Plan, load growth and wholesale market prices fell below expectations. What is missing is an assessment of the combined effect of these and other forces. For example, how will resources added to address capacity needs affect the region's overall load-resource balance? Or, how will low wholesale market prices affect resource acquisition decisions (conservation v. thermal)? Or, what is the likely impact in the Pacific Northwest of California's action to limit the import of out-of-California renewable resources? To provide real value to utilities and other regional planners, the 7th Power Plan must explicitly consider the net effect of these intertwined regional forces.

Conclusion

Tacoma Power wishes to thank the Council for the effort expended on the Assessment Report. The Council has produced a document that thoughtfully considers most major issues facing regional utilities. The Council has accomplished this using an inclusive and collaborative process that sets a positive tone for utility involvement in development of the upcoming 7th Power Plan.

Charlie Black, Power Division Director

January 30, 2013

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In addition to our general comments above, we have attached some observations and suggestions for specific text. Any questions about these comments can be directed to Nicolas Garcia, Assistant Power Manager, (253)502-8025.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Robinson". The signature is fluid and cursive, with a large initial "C" and "R".

Chris Robinson
Power Manager

Attachment

Attachment – Section Specific Comments

I. Executive Summary

In the “B. Candidate Topics for the Seventh Northwest Power Plan,” item 4 is entitled “Energy efficiency – how can different types of measures help meet needs for peaking capacity and system flexibility.” Tacoma Power is concerned about whether conservation resources can actually provide peak capacity and system flexibility benefits. A peak capacity resource is one that is available in the hour when a utility’s retail demand is at its zenith – an hour that is unknown and unknowable to utility planners. Conservation must clear a very high bar of certainty to be considered a peaking resource. Specifically, detailed studies must clearly establish the minimum amount of savings a measure produces over all the hours that a utility may experience a peak in demand. Similarly, system flexibility is the ability to respond to rapid, sub-hourly changes in demand. For conservation to provide system flexibility benefits, it would have to reduce demand variation to a sufficient degree that utilities could reduce the amount of flexibility resources they hold on standby. Tacoma Power is skeptical that an analysis could be produced that provided utilities sufficient confidence that they would lower the amount of flexibility resources held in reserve.

II. Situation Scan and Narratives

Section “2. Electric Demand” states that:

Future growth in overall regional electricity demand is uncertain ... If economic conditions improve, demand can be expected to continue to recover. However, if the economy remains sluggish, growth may continue to remain below the levels forecast in the Council’s 6th Power Plan.

The uncertainty imbued in this statement is missing from the “VII. Updates to Key Forecasts” section which is much more specific:

This preliminary revised load forecast remains below the 6th Power Plan’s medium forecast until about 2020, but starts growing faster, and by 2030 is about 2 percent above the plan’s levels for 2030

Section “3. Natural Gas Markets and Prices” notes that natural gas prices are subject to significant volatility. While Tacoma Power agrees with that finding, there have been fairly long periods of relatively stable prices (e.g., 1989-1999). Due to recent advances in shale gas production, we may be entering a new era of price stability. The 7th Power Plan should explicitly consider whether the emergence of shale gas has tamped down the likelihood of significant gas price volatility.

Section “4. Emissions Regulations and Impacts” includes a paragraph on the potential for coal to be exported through Northwest ports. It is unclear what relevance this observation has to the current or upcoming Power Plans.

Section 9. “Energy Efficiency Achievements and Issues” estimates a levelized cost of utility acquired conservation at \$18 per megawatt-hour which is “at or below recent low wholesale prices of electricity.”

Tacoma Power believes this to be an invalid and misleading comparison. The \$18 figure represents the average cost of conservation acquisition where some measures have higher costs and others lower costs. The electricity savings from some of the higher cost measures may have been more costly than electricity available on the wholesale market. As such, it is misleading to suggest that all the conservation acquired in 2010 and 2011 would still be considered cost-effective under current forecasts of wholesale electric prices. Tacoma Power strongly recommends that comparisons between average conservation costs and wholesale electric prices be removed from all parts of the Assessment Report.

Later in section 9 is the statement:

If conservation deployment at recent acquisition pace and price can be maintained going forward, the region stands to reap continued economic benefits.

This statement, while undoubtedly true, implies an unrealistic pace and price for conservation into the future. Tacoma Power's own experience is that both the difficulty and cost of acquiring conservation are going up. This sentence should be removed from the final document.

III. Energy Efficiency Achievements and Issues

Rather than making specific comments on the language in this part of the Assessment Report, Tacoma Power will cover three observations. The first concerns Figure 2: Reported and Projected Savings from Utility-Funded Efficiency Programs 2010-2014. This figure clearly indicates that utility expectations for conservation acquisition have declined. This is not surprising given that the avoided costs utilities face have also declined. The report should acknowledge this trend.

The second observation concerns Figure 4: 6th Plan's Annual Conservation Goal by Resource Type and 2010-11 Achievements. This figure overlays actual conservation acquisition for 2010 and 2011 on top of the 6th Power Plan's annual goals from 2010 through 2014. Tacoma Power is concerned that this figure may provide an incorrect impression of the trend of conservation acquisition. Unlike the 6th Power Plan's ever increasing annual goals (rising to 360 aMW in 2019), present day expectations are for a more modest 230-240 aMW of annual conservation through 2014. Tacoma Power believes that current expectations for annual conservation from 2012 through 2014 should be added to this figure.

The text explaining Figure 4 states that "the pace of retrofit acquisitions has likely exceeded the plan's assumed maximum pace of 160 average megawatts annually." This statement appears to be speculative and therefore should not be included in the document.

Finally, for the reasons discussed above, it is inappropriate to compare average conservation costs to spot market wholesale prices.

VI. Resource Adequacy

According to the Assessment Report, the current adequacy assessment shows an expected loss of load probability (LOLP) of 6.6 percent in 2017. Apparently, the report also indicated that a 300 aMW decrease in the annual average load would bring the LOLP back down to the 5 percent limit. Tacoma Power is very concerned about this conclusion. One simply cannot assume that the decrease in

consumption would coincide with the period when system loads would otherwise be in excess of system resource supply. Moreover, utilities are very unlikely to risk addressing a deficit position with any resource that they cannot depend upon with strong certainty that it will be available at the time it is needed.

VII. Updates to Key Forecasts

The Assessment Report note that “[t]he regional population has been stable in 2010-2011 but looking forward to 2030, the forecast for population shows an increase of about 300,000 compared to the 6th Power Plan’s forecast, which will mean an increase in demand for new homes and goods and services.” Tacoma Power does not dispute this population forecast but is interested in where it came from.

The Assessment Report notes that although the electricity demand from plug-in electric vehicles is currently small, “should the technology, customer acceptance, and availability of vehicle charging stations continue at its current pace, it could increase regional demand for electricity.” Tacoma Power is interested in how the Council forecasted the load associated with plug-in electric vehicles.

Finally, the wholesale power price forecast included in the Assessment Report considered the effect of a cost-based federal regulatory policy on greenhouse gas (GHG) emissions. We are concerned for two reasons. We understand that the GHG cost number used were simply those developed for the 6th Power Plan but delayed by five years. We are very concerned with this approach. At the time the 6th Power Plan was under development, Tacoma Power argued unsuccessfully that the GHG cost numbers were both unrealistically high and assumed to be implemented too soon. We have the same concerns for the Assessment Report.