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Northwest Power and Conservation Council

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Jennifer Anders
Montana

June 2, 2015

MEMORANDUM

TO: Power Committee

FROM: Tom Eckman and John Shurts

SUBJECT: Request to Modify Scope of Scenario 4A – Unanticipated Loss of Major Resource

BACKGROUND:

Presenter: Tom Eckman

Summary: Council Chair Rockefeller and Power Committee Chair Smith received a letter from the Oregon Physicians for Social Responsibility (PSR Council) requesting that the Council consider a scenario in which Columbia Generating Station (CGS) be designated as the resource that would be lost on a pre-determined schedule rather than without notice under Scenario 4A.

Scenarios 4A and 4B were designed to assess the resource strategies that would need to be employed in response to either an anticipated or an unanticipated loss of a major regional resource. They were not intended to address “why” the resource would be retired or otherwise removed from the regional generation fleet. Therefore, from the perspective of conducting either of these scenario analyses, it is not necessary to identify the specific resource that would be assumed to be removed in scenario 4A or 4B.

However, it appears from the PSR’s letter (attached) that they are also requesting that as part of their proposed scenario, the Council evaluate

the economics of retiring CGS rather than continuing its operation. This would add considerably to the scope of this analysis. While the RPM already includes estimates of the fixed and variable cost that CGS and all other existing resources incur to operate (i.e. their *dispatch cost*), conduct of the analysis being requested by PSR would require a forecast of the future cost of maintaining CGS and decommissioning prior to its currently anticipated retirement.

The staff recommends that the description of Scenarios 4A and 4B be revised to clearly indicate that they are designed to assess the resource strategies that would need to be employed in response to either an anticipated or an unanticipated loss of a major regional resource without specifically identifying those resources.

Staff also recommends that the Council not include a review of the economic viability of CGS as part of the Seventh Plan's development. Under the Northwest Power and Conservation Act the Council is required to assess the need for new resources and develop a plan to meet that need. The Act does not direct the Council to review the economics of continued operation of existing resources in the region as part of its plan development process. As originally proposed Scenarios 4A and 4B address the strategic risk question of what new resources would be best deployed should the region experience a planned or unplanned resource loss.

However, should the Council wish to consider modification of the scope of Scenarios 4A and 4B, there are two options available to the Council to fulfill PSR's request for an economic analysis. The first option is to direct staff to conduct an in-depth review of these estimates to develop its own forecast of future costs for use in the Regional Portfolio Model. This option would require significant time and staff resources and could not be completed on the current schedule for Seventh Plan.

The second option is to conduct a sensitivity test on the economic viability of CGS. The Council may recall from the presentation at its May 2014 meeting in Boise that there are significant differences in the PSR's consultant's assessment of these costs and those of Energy Northwest's (the owner of CGS) own consultant. Under this option, staff would perform two sensitivity tests. One test would use the PSR consultant's estimates of future costs and one would use Energy Northwest's consultant's estimates as inputs to the RPM. This option would require less additional time and staff resources to develop the required RPM inputs. Depending upon the time required to verify with each party that their cost assumptions were accurately represented in the model this option may or may not impact the Seventh Plan's development schedule.

Either of the above options could also be pursued following the development of the Seventh Plan.

Relevance: The Council uses scenario analysis to stress test potential resource strategies to inform the development of its regional power plans.

Workplan: 1.B. Develop Seventh Power Plan and maintain analytical capability
Draft sensitivity studies for resource strategy

Background: The Council uses scenario analysis to stress test potential resource strategies to inform the development of its regional power plans. Four of the fifteen scenarios scheduled for analysis involve the resource uncertainty. Two of these scenarios (4C and 4D) assess the impact on cost and risk of achieving faster or slower development of energy efficiency. The two other scenarios (4A and 4B) are designed to assess the cost and risk associated with the either an anticipated or unanticipated loss of a major region resource(s). The narrative describing these scenarios cited Columbia Generating Station (CGS) as an example of a resource that might be subject to an unanticipated loss and the four lower Snake River Dams as examples of resources that might be lost on a pre-determined schedule.

More Info: See attached letter from the Oregon Physicians for Social Responsibility.



May 22, 2015

Phil Rockefeller, Council Chair

Pat Smith, Power Committee Chair

Power Committee Members Karier, Lorenzen, and Yost

Council Members Anders (Power Committee Chair), Booth (Vice Chair), and Bradbury (Fish and Wildlife Chair)

Northwest Power and Conservation Council

851 S.W. Sixth Avenue, Suite 1100

Portland, Oregon 97204

Dear Chairs Rockefeller and Smith, and Council Members,

I am writing on behalf of the Oregon and Washington chapters of Physicians for Social Responsibility to request that you consider adjusting your staff work plan in completing the 7th Regional Plan. Specifically, our chapters are asking you to consider instructing your staff to expand scenarios under Scenario 4: Major Resource Uncertainty.

The memorandum to Council Members from Tom Eckman and Ben Kujala on "Proposed Seventh Plan Scenarios, Priority Rankings and Analysis" dated March 3, 2015 includes Scenario 4A "Major Resource Uncertainty – Unexpected Loss of Major Resource (e.g., CGS Forced Retirement) and Scenario 4B "Major Resource Uncertainty – Anticipated Loss of Major Resource(s) (e.g., Snake River Dam Removal).

We are not clear as to why the reverse question would not be considered in the case of the Columbia Generating Station. That is, would it not be reasonable to consider the anticipated loss of the CGS due to a decision to close the reactor because of, for example, a large known repair expense, such as the estimated \$150 million cost of replacing the steam generators which are known to be at the end of their expected operating lives? The discussion at your meeting a year ago in Boise in which our economic consultant Robert McCullough and Energy Northwest's economic consultant Lawrence Makovich presented their findings on the economic viability of the Columbia Generating Station to the Council anticipated that your staff would be addressing the gulf between these two estimates in the 7th Regional Plan. So far, this is not in the work plan.

The unexpected loss scenario for the CGS does not address its ongoing economic strength or weakness in comparison to the market and other possible low carbon alternatives, but does look at what could be done to replace its power. However, it does it in a way that would be more costly and probably have a larger carbon impact than it would if it were a clear, planned decision to close the reactor and replace its power.

I am enclosing Mr. McCullough's latest paper on the ongoing expense of operating the CGS nuclear power plant when compared to prices on the Mid-C Market. The trends he found for the five years previous have continued in the two years of data since his original report. While FY 2014 was a pretty good year for the CGS versus the market – it only lost a little over \$30 million, less than average of \$100 million per year projected by Mr. McCullough over the coming seventeen years of operation remaining in his amortization table – FY 2015, ending next month, looks to be about as bad as FY 2013 was. In both years, operating the CGS cost the region around \$200 million more than purchasing at Mid-C Market rates.

The total three year loss from FY 2013 – FY 2015 is estimated by McCullough Research to be just over \$425 million. That is a pretty intriguing gulf between the market and the operation of an aging resource that is known to need significant upgrades to meet Nuclear Regulatory Commission Fukushima requirements and delayed major repairs, such as the steam generators previously mentioned.

This three year time period in which the CGS is costing significantly above market prices to operate is during a time in which the CGS has been setting records for operating efficiency. Should increased CGS efficiency not be sustained due to needing to make significant repairs at the nuclear plant, the losses will be all the greater.

For these reasons, we believe it makes sense to include in Scenario 4 an "E" sub-scenario that looks at what it would cost to replace the CGS nuclear power plant in a planned way, as Scenario 4B does for the Snake River Dams. This would yield the actual costs of replacement in a way that would make sense for the region economically and with the lowest carbon impact – rather than what would be done in an emergency, as was forced upon California when San Onofre Nuclear Generating Station's steam generator tube replacement was botched and it unexpectedly was shut down permanently.

Thank you for considering our request. We look forward to discussing it further with you at your convenience.

Warm Regards,



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