



October 19, 2007

Tom Karier, Chairman
Northwest Power and Conservation Council
851 S.W. Sixth Avenue, Suite 1100
Portland, OR, 97204

Re: Carbon Dioxide Footprint of the Northwest Power System Analysis

Dear Tom:

Northwest RiverPartners commends the Council and its staff for the thorough analysis of the challenges our region faces in managing CO₂ production from the electric power industry. The draft paper examines the objective of returning to 1990 levels of CO₂ production and conducts a technically rigorous analysis of what that really means. There are several obvious, and troubling, take away messages in this analysis and it would be helpful for the Council to make sure its conclusions are broadly communicated to the public, the media and our political leaders. It is critical that there be a common base of understanding as the region continues to wrestle with, and make decisions about, managing CO₂ production in the Northwest.

The paper describes a detailed and technically complex analysis conducted by your staff using state-of-the-art computer models of the electric power system that serves the entire Western United States and Canada. The elaborate network of electric power transmission facilities that integrates all power generators in the west with electric power loads is simulated so that the changes in any one area can be analyzed to determine the impacts on the entire power system.

The paper makes clear how fortunate the northwest is to have the amount of hydro generation it has, particularly from a CO₂ impact perspective, but also from a reliability and renewable resource perspective. It is also clear, based on the analysis, that it will likely be impossible for the northwest to return to the level of CO₂ produced in 1990.

Table 1 shows that the nominal 1990 CO₂ goal of 44 million tons of CO₂ per year, currently sought by the states of Washington and Oregon, are not likely to be reached without dramatic and expensive strategies that would include retiring existing thermal power plants and replacing them with emissions free generation. And, at this point, it is not clear that these emissions free generators will be able to be integrated with the existing hydropower system in a way that maintains system reliability.

(Table 1 is a good summary of all the scenarios studied. However, it would be helpful for the changes to be reported to one decimal place so that values in this table align with values of changes in CO2 production reported else where in the paper).

The paper estimates that the region's CO2 production in 2005 was 59 million tons when corrected for actual hydropower generation in that year. From 2005 levels of CO2 production, the region would have to retire approximately 2,000 MW of coal fired power plants to return to 1990 levels. And even if we set out to do that today, electric power demand continues to grow. Assuming the resources recommended by the Council in the Northwest Power Plan are developed, the CO2 emissions predicted for 2024 will grow to 71 million tons of CO2 per year. To return from this emission rate to 1990 levels would require the removal of 3,600 MW of coal fired resources that must be replaced with new generation free of CO2 emissions.

The draft paper shows that returning to 1990 levels is an infeasible strategy that only makes sense when viewed without the knowledge provided by the Council's analysis. This underscores the need to ensure that it is broadly disseminated and understood. It serves as a cold hard dose of reality as regional decisionmakers move forward with initiatives aimed at returning the region's power system to 1990 levels of CO2 production.

Two of the scenarios analyzed in the draft paper are of particular interest to Northwest RiverPartners because they are fundamentally in conflict with the goal of reducing CO2 production. These scenarios are the CO2 impacts of removing the Lower Snake River dams and summer spill. These scenarios are extremely helpful in illustrating the value of the northwest's hydro resource as a renewable, reliable and CO2 emissions free resource.

The analysis of removal of the Snake River dams is admittedly focused on only the potential impacts on the electric power system and the attendant emissions of CO2. The public policy, economic and environmental issues associated with a hypothetical decision to remove the Snake River dams is obviously far more complex than the analysis conducted by the Council's staff.

For this reason, the staff was correct in carefully framing the scope of this analysis. The preliminary analysis that attempted to evaluate replacement of the Snake River dams with either increased purchases from the wholesale competitive power market or by acquiring more conservation and renewable resources were technically flawed. The draft paper recognizes that relying on market purchases would degrade system reliability which makes any analysis of this scenario not comparable to other scenarios.

The scenario of replacing the Lower Snake River dams with conservation and renewable resources was also fatally flawed. The paper recognizes that the Council's Power Plan has evaluated and incorporated all conservation and renewables that were determined by the Council to meet the requirements of the Northwest Power Act. To the extent that additional conservation and renewables become available, reliable and cost-effective in the future, the Act requires the Council to include them in future power plans to meet regional load growth. Because of the statutory requirements of the NW Power Act, there will never be large amounts of unused conservation and renewable resources available to replace the Snake River dams.

Any analysis assuming conservation and renewables can replace the Snake River dams would result in substantial double counting of conservation and renewables incorporated in the Council's Plan. Even if large quantities of unfound conservation were discovered, it should be first used to retire older coal plants and thereby reduce CO2 emissions. For these reasons it was not only appropriate, but mandatory, that the Council not include the infeasible scenario that the dams could be replaced with unused conservation and renewables.

The analysis of the effects of decisions to provide summer spill at Lower Snake and Columbia River dams to provide improved passage conditions for fish is particularly enlightening. The effects of spilling large amounts of water and thereby not generating renewable hydropower are significant to the entire western power grid. The analysis presented in the draft paper can be viewed in two steps. First, the analysis compared the CO2 impacts of no summer spill to the summer spill volumes in the 2004 and 2000 Biological Opinions (BiOps). Both BiOps contain essentially the same spill volumes in July and August. The Council's analysis shows that this action increased CO2 production in the west by 3.4 million tons of CO2!

(The analysis presented in the draft paper could be made easier to interpret by choosing the "no spill" case as the base case. The choice of the 2004 BiOp as the base case made movement back to no spill negative and movement to the court ordered spill positive from a CO2 perspective, which is confusing to lay readers).

The Council's analysis then goes on to add the spill required by the court in response to Judge Redden granting Preliminary Injunctive Relief requested by the plaintiffs in litigation surrounding the 2004 BiOp. The Council's analysis estimates that the court ordered spill further increased CO2 production in the west by an additional 1.8 million tons of CO2 per year. The combined effect of the summer spill included in the 2004 BiOp and the spill ordered by the court is 5.2 million tons of CO2 per year.

The decision to implement increasing levels of spill during July and August was undertaken with a single minded focus on fish passage. This analysis is further informed by the Council's latest annual report to the governors of fish and wildlife costs to Bonneville in 2006. The Council reports that \$307.4 million in lost hydropower generation resulted from spring and summer spill in 2006, primarily during July and August. Summer spills are designed to aid one ESU (Snake River fall Chinook) in passing the dams.

The latest science is showing that a substantial portion of these fish are holding over in the system and not migrating out in July and August. For these fall Chinook the current strategy that forces a large amount of spill during July and August cannot possibly be effective because these fish are not migrating. Perhaps even more troubling, the region continues to harvest ESA protected Snake River fall Chinook at up to a 45 percent harvest rate, which begs the question of what the summer spill program is really for.

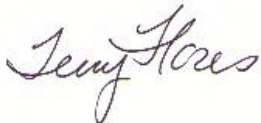
The draft paper on the CO2 affects of summer spill pours environmental salt in the economic wound created to the region's economy by a poorly thought out fish recovery strategy.

It is also interesting to note that the CO2 impacts in the northwest are far less than the west as a whole because during the hot summer months of July and August northwest hydropower is used to avoid running thermal power plants to meet loads in California and the desert southwest. Since CO2 is a global concern it does not matter where it is produced and released to the atmosphere. This is a classic example of where an action taken to achieve one objective (fish passage) can have far reaching and unintended consequences to accomplishing another competing objective, addressing climate change.

I am hopeful that this analysis by the Council will be used in future BiOps and court decisions to bring about a better balance between environmental objectives that are clearly in conflict. The desire for improved fish passage and survival needs to be balanced with the impacts on CO2 production and its implications on climate change. Even actions thought to be helpful to fish could in fact merely contribute more to the problem.

Thank you for the opportunity to comment on this important draft paper. I applaud the Council and your staff for tackling these analytically complex issues and providing the region with a clear and transparent paper (with editorial suggestions as noted above). The results of your analysis will be very helpful to educating and shaping environment policies and fish recovery strategies in the future. The Council has provided the region with a high quality technical analysis of a complex and politically charged issue. This is an extremely valuable role for the Council to provide to the region.

Sincerely,

A handwritten signature in dark ink, appearing to read "Terry Flores". The signature is fluid and cursive, with the first name "Terry" and last name "Flores" clearly distinguishable.

Terry Flores, Executive Director
Northwest RiverPartners

Cc:

Council members
Northwest Delegation offices
Bonneville Power Administration

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