



City of Seattle

Michael Patrick McGinn, Mayor

Seattle City Light

Jorge Carrasco, Superintendent

November 30, 2010

Karin Baldwin
Water Quality Program
WA State Department of Ecology
4601 North Monroe
Spokane, WA 99205
Email: Karen.Baldwin@ecy.wa.gov

VIA E-MAIL AND US MAIL

RE: Draft Pend Oreille River Temperature TMDL

Dear Karin:

This letter provides Seattle City Light's ("SCL") comments on the October 2010 Draft Pend Oreille River Temperature Total Maximum Daily Load Water Quality Improvement Report ("TMDL").

SCL very much appreciates the opportunities Ecology has provided for review and discussion of the technical issues addressed in the TMDL. Ecology's collaborative approach over the last several years has resulted in a greatly improved report.

SCL has two general comments regarding the application of standards in the TMDL and several detailed comments on the remainder of the report. The general comments are contained in this letter, and the specific comments in an attachment. We have discussed the general comments with Ecology previously. We understand the agency's previously-stated position on these two issues and its decision not to make related changes to the TMDL. Nevertheless, we must reiterate them here to preserve SCL's concerns.

General Comments on Application of Standards

Use of maximum temperatures in the water column is not appropriate or representative of conditions in the river. As SCL and Ecology have discussed on numerous occasions, SCL believes that, for the Pend Oreille River TMDL, flow-weighted daily maximum



700 Fifth Avenue, P.O. Box 34023, Seattle, WA 98124-4023

Tel: (206) 684-3000, TTY/TDD: (206) 684-3225, Fax: (206) 625-3709

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temperature is the most appropriate metric for assessing compliance with water quality standards because it is most representative of conditions in the river. Rather than reargue the issue, SCL incorporates herein by reference its earlier comments on this issue as provided in our letters to Ecology and other addressees dated April 15, 2008, September 26, 2007 and May 24, 2007. In addition, the results of SCL's analysis using flow-weighted temperatures and indicating no exceedances of water quality standards in the Boundary forebay and no contribution of the Boundary project to exceedances, are contained in the technical memorandum regarding "Temperature Modeling and Alternative Operations Analyses for Boundary Hydroelectric Project – CWA 401 Certification Support," dated August 19, 2009 and in Exhibit E to the SCL's September 2009 License Application to the Federal Energy Regulatory Commission for the Boundary Project. SCL has previously provided both the Memorandum and Exhibit E to Ecology, and incorporates them herein by reference. We would be happy to provide additional copies of any of these materials at Ecology's request.

Application of the "Part 2" formula. SCL respectfully disagrees with Ecology's application of the "Part 2" formula in the TMDL context. Rather, SCL agrees with the Attorney General's initial interpretation of the water quality standards (August 14, 2009 memorandum from Ron Lavigne to Susan Braley re "Pend Oreille Temp"). Specifically, the only relevant criteria for assessing impairment / attainment in the TMDL context is 20.0°C or, if natural condition is above 20.0°C, natural condition + 0.3 degrees. The "Part 2" formula is only applicable in the NPDES permitting context, where a point source discharge can be compared to observed background conditions in real time. The formula is not applicable in the TMDL context where existing conditions are compared to modeled natural conditions.

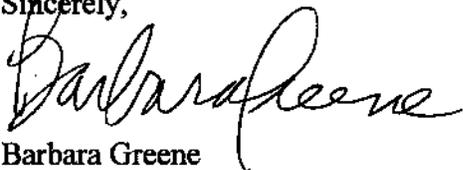
In addition to the Attorney General's August 2009 memorandum, this interpretation is supported by closely comparing the Pend Oreille River's special temperature criteria to the general water quality criteria that it replaces. Specifically, the off-peak formula in the Pend Oreille criteria directly correlates with the general criteria provisions at WAC 173-201A-200(c)(ii); those provisions contain a very similarly phrased formula that applies exclusively to "Incremental temperature increases resulting from individual point source activities." The general criteria provision goes on to define the method for measuring compliance with the formula, indicating that it is a real time measurement relative to background, not a modeling comparison between existing and theoretical natural conditions (the temperature increase is "...as measured at the edge of a mixing zone boundary (where T=the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge)). Accordingly, the Part 2 formula is not applicable in the TMDL context and all sections of the TMDL related to the formula should be removed from the final document.



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Thank you very much for your consideration of our comments. We look forward to continuing to work with Ecology as it finalizes and implements the TMDL.

Sincerely,



Barbara Greene
Boundary Relicensing Project Manager

CP:sw

Attachment:

cc: Marci Mangold, Ecology
Christine Pratt, SCL



SCL's Detailed Comments on October 2010 Draft

Pend Oreille River Temperature TMDL

Load Allocations

Part 1 allocation

The Part 1 load allocation to the Boundary facility should acknowledge the cumulative effect of Box Canyon in the Boundary forebay reach. Assuming that the load allocation of 0.12°C to each hydropower facility is reasonable, SCL has concerns about the TMDL's application of the allocation at the Boundary forebay. Specifically, SCL is concerned that the allocation as calculated ignores the effect of Box Canyon on temperature conditions in the Boundary reaches that the report elsewhere acknowledges.¹ This issue becomes relevant in the TMDL's establishment of the temperature reductions necessary to meet the load allocation. Whereas the TMDL currently indicates that 0.88°C of temperature reduction is required at the Boundary forebay to meet the allocation (i.e., to achieve temperatures of Natural + 0.12°C), SCL believes that the reduction required should be 0.76°C (i.e., to achieve temperatures of Natural + 0.24°C, which would be the cumulative allowance at this location, calculated as the sum of the 0.12°C allowance to Box Canyon carried downstream and added to SCL's 0.12°C allowance). This issue appears at p. xii, p.79, and in Tables 15 and 17 (p. 80 and 95, respectively) of the TMDL.

Recommendation: The text of the TMDL at pages xii and p. 79 should be revised to state that a reduction of 0.76°C is needed at the Boundary forebay to achieve standards. The same change should be made to Table 15. Table 17 should be revised to indicate that the final target for the Boundary forebay is Natural condition + 0.24°C.

Part 2 allocation

Assuming that the Part 2 criteria apply (see SCL General Comments), the TMDL's discussion of the Part 2 load allocation should be more clear that the allocation is set for each reach (not source), and that all parties' actions will cumulatively help achieve temperature reductions. The required reductions for Boundary reaches are a result of actions throughout the river, and the Part 2 reductions in the Boundary reaches are expected to be fulfilled by the cumulative benefit of actions taken by all parties.

¹ See p. 62 "A temperature signal from Box Canyon is evident in the temperature profiles of the Boundary forebay. Lower magnitude daily maximum temperatures are maintained by the Box Canyon facility for a longer period in comparison to what occurred naturally. This results in the continued exceedance of the Pend Oreille River temperature criteria in the Boundary reaches despite the absence of the Boundary facility." See also p. 79 "So, the temperature impacts observed in the Boundary reaches are associated with the combined operations of the Box Canyon and Boundary facilities resulting in a complex relationship."

Recommendation: The following new sentence should be added to page 79, at the end of the last paragraph in the section “Hydroelectric facilities:” “The temperature reductions needed to achieve the Part 2 load allocations in each reach would be shared between the two hydropower facilities based on responsibility.”

Other Detailed Comments

1. Page xii and xiii. In the Executive Summary, the characterization of temperature conditions in the river implies that the maximum criteria exceedances occur throughout the entire critical periods, over-stating the typical temperature variances between natural and existing condition, even though the criteria are frequently met during the critical periods where the TMDL applies.

Part 1. At page xxii, the TMDL states that “These reductions apply during July and August in the forebays of the dams, which are the areas of maximum temperature impairment.”

SCL recommendation: The statement above should be rephrased as follows: “While the River often meets the criteria in July and August, these reductions are based on the maximum temperature impairment during the entire July – August period, that is, they are what is needed to meet standards on the worst case day in July and August. The reductions apply in the forebays of the dams, which are the areas of maximum temperature impairment.”

Part 2. At page xiii, the TMDL states that “To achieve criteria during September and October, the level of temperature reduction required for the reaches are . . .”

SCL recommendation: Assuming that the Part 2 criteria apply (see SCL General Comments), SCL recommends that the following statement be added after the list of temperature reductions for the four Boundary reaches: “While the River often meets the criteria in September and October, these reductions are based on the maximum temperature impairment in each reach during the entire September – October period, that is, they are what is needed to meet standards on the worst case day in September and October.”

2. Page 32. A reference to natural and existing temperatures appears to be reversed. In the subsection titled “Peak temperature criteria”, the sentence “To determine compliance with criteria, the existing condition temperature CFD was subtracted from the associated natural condition temperature CFD, based on similar percentiles, to derive what is referred to as a temperature differential.”

SCL recommendation: Based on the methodology presented in the remainder of this section, SCL believes that the sentence should read, “To determine compliance with criteria, the natural condition temperature CFD was subtracted from the associated existing condition temperature CFD, based on similar percentiles, to derive what is referred to as a temperature differential.”

3. Pages 41-43 and 54. In the discussion of results, the TMDL should acknowledge the potential upstream impacts of Seven Mile Dam. The Results sections for peak and

off-peak temperatures (pp. 41-43 and 54, respectively) do not acknowledge the potential effects of Seven Mile Dam reservoir operations on the existing condition. As noted in SCL's September 26, 2007 comment letter on the August 2007 Draft TMDL, these operations were not fully modeled in the tailrace reach. While specific exceedance levels in the tailrace may be moot due to the TMDL's application of load allocations to the forebays, SCL requests that the TMDL acknowledge the potential effect on the tailrace reach.

SCL recommendation: SCL recommends that the following new sentence be added to both the peak and off-peak results sections: "Seven Mile Dam creates a backwater effect that may contribute to thermal load at the Boundary tailrace but that has not been accounted for in the modeling."

4. Page 43, paragraph 3, last sentence.

SCL recommendation: To more accurately represent Boundary dam operating conditions, SCL recommends deleting the word "selective" from the following sentence: "The decrease in temperature, considering the full daily maximum temperature profile, is approximately 0.70°C between the forebay and tailrace due to the selective withdrawal of deeper, cooler water."

5. Page 73, Table 11.

SCL recommendation: There is a typo at the asterisk on Table 11. The note should read identically to the asterisk note on Table ES-2 (p.xii), i.e., "...0.3°C for part 1 and the allowable temperature increase for part 2".

6. Page 80, title of Table 15.

SCL recommendation: SCL recommends that the title be revised to read "Temperature load allocations," because there are both facility and reach specific allocations in the table. "Hydroelectric facilities load allocations," should be revised to more accurately reflect the contents of the table.

7. Page 96.

SCL recommendation: SCL recommends that the description of the timeline for SCL's actions be revised for consistency as follows: "Boundary dam will receive ~~one year from completion of the WQIP to finalize a water quality attainment plan~~ and have up to ten years from the issuance of its FERC license to meet water quality standards."

8. Page 98, Table 18.

SCL recommendation: SCL recommends adding a footnote to the Boundary Dam Tailrace row in Table 18 (p.98) to state, "SCL will work with Ecology during the development of the QAPP to confirm the specific location of the tailrace monitoring station." This is due to safety concerns at the tailrace monitoring station location and recognizing that the location may need to be adjusted.