UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

September 27, 2006

Barry Burnell, Administrator
Water Quality Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

Dear Mr. Burnell:

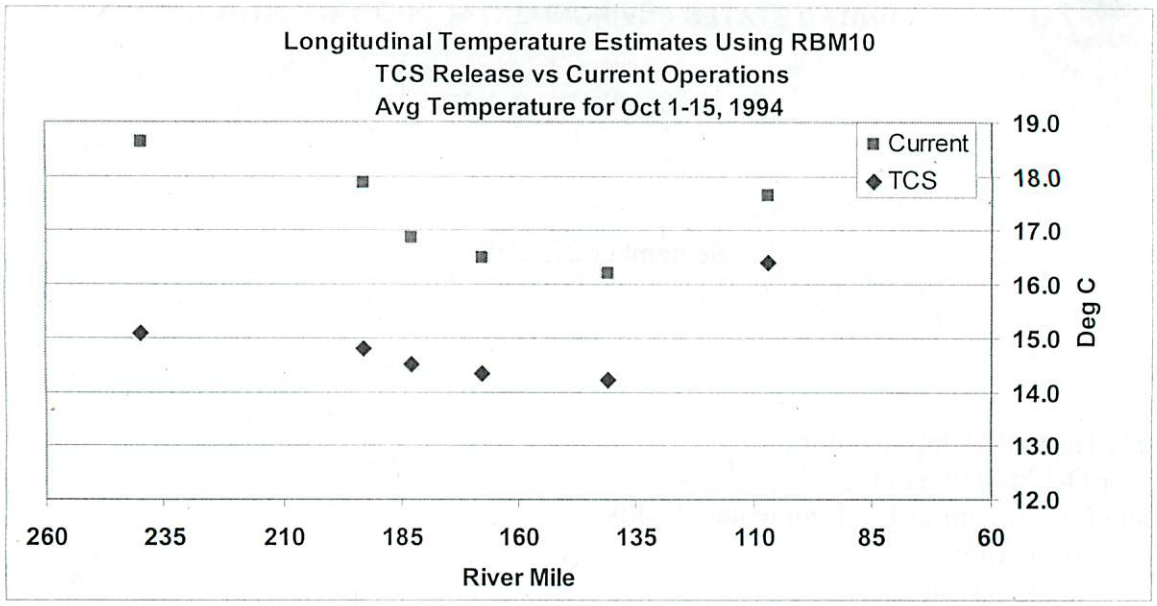
The letter is in response to your July 5, 2006 letter seeking our comments on Idaho Power Company's (IPC) request for site-specific temperature criteria to protect salmon spawning and egg incubation in the Hells Canyon reach of the Snake River. Based on our preliminary review we offer the following comments.

Although the concept of site-specific declining temperature criteria to protect salmon spawning and egg incubation has merit, the IPC's proposal is unlikely to be protective of salmon spawning and egg incubation. Of particular concern is the 16.5°C initial temperature criterion. There is a significant body of scientific evidence that indicates that temperatures less than 16.5°C are needed to protect both gametes in holding adults just prior to spawning and the eggs after they have been deposited in the gravel. This body of scientific research is summarized in *EPA Region 10's Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards* and supporting technical issue papers.

IPC cited a recent study by Geist *et al* in support of its proposal. Although this study indicated good success for eggs incubated at a 16.5°C initial temperature, the adult fish were held at 12°C prior to spawning. The adult holding temperature in this study calls into question the applicability of the results of this study. Under IPC's proposed criteria, pre-spawning Chinook salmon in the Snake River would likely be exposed to temperatures in the 16.5-18°C range.

The IPC proposal also suggests that attaining the current 13°C 7DADM criteria (applicable October 23rd) would result in prolonged egg incubation and emergence and increased mortality of out migrating juveniles in the late summer months due to exposure to elevated temperatures in the lower Snake and Columbia Rivers. We question the

Figure 9: Adult Migration Season (Late Sept, 17 deg C at Hells Canyon Dam)



References

Cook, C.B., C.L Rakowski, M.C. Richmond, S.P. Titzler, A.M. Coleman, M.D. Bleich. 2003. Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River. Pacific Northwest National Laboratory. Richland, WA. Prepared for the Bonneville Power Administration, U.S. Department of Energy. Contract DE-AC06-76RLO1830.

Cope, B. Temperature Simulation of the Snake River Above Lower Granite dam Using Transect Measurements and the CE-QUAL-W2 Model. EPA Region 10. EPA 910-R-02-008. Seattle, WA. September 2002.

Cope, B. Temperature Impacts in the Hells Canyon Reach of the Snake River. Memorandum from B. Cope to J. Jennings. EPA Region 10. September 16, 2003, and subsequent correction memo on October 15, 2003.

Idaho Power Company. Detailed Evaluation of Alternative Temperature Control Structures. Responses to FERC Additional Information Request WQ-2(c)). Hells Canyon Project. FERC No. P-171-079. September 2005.

Yearsley, J.R., Karna, D., Peene, S., Watson, B. Application of a 1-D Heat Budget Model to the Columbia River System. EPA Region 10. EPA 910-R-02-008. Seattle, WA. 2001.

validity of this conclusion and the IPC proposal does not present scientific evidence supporting this conclusion. However, we believe this argument, even if demonstrated to be true, is probably not a basis for a site-specific criterion. Rather, we believe this argument is better suited as a basis for an alternative criterion in conjunction with a 40 CFR §131.10(g) use attainability analysis. The reason for this is that when approving a site-specific criterion, EPA must determine the alternative criterion protects the designated use, which in this case, is salmon spawning and egg incubation. When approving an alternative criterion associated with a use attainability analysis, EPA can consider other factors such as whether the human caused condition would cause more environmental damage to correct than leave in place or whether hydrologic modifications are feasible.

Thank you for the opportunity to provide our initial comments on the IPC proposal. Please contact John Palmer at (206) 553-6521 if you have further questions. I can be reached at 206-553-1906.

Sincerely,

/s/

Christine Psyk, Associate Director
Office of Water and Watersheds

cc: Lauri Aunan (ODEQ)
Paul Devito (ODEQ)
Colleen Fagean (ODFW)
Cindy Robertson (IDFG)
Keith Kirkendall (NOAA)
Jeff Foss (USFWS)
Chris Randolph (IPC)
Olney Pratt, Jr. (CRITFC)
Rebecca Miles (Nez Perce Tribe)
Jim Werntz (EPA)

Enclosure 3

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Enclosure 4
Modeling Recommendations

EPA recommends the EIS contain a more detailed analysis of TCS options. The EIS should include a more detailed discussion on the projected impacts to salmon throughout the year for each option and include more detailed discussion on the costs to better understand economic feasibility of the options. Model inputs (elevation of selective withdrawals and flows) for each TSC option should be publicly available in order to better evaluate the management objectives, independently verify the model outputs, and allow for the development option customization.

EPA recommends that model runs be conducted to approximate the natural thermal regime to minimize adverse effects to salmon during criteria life stage periods in conjunction with providing summer cooling to mitigate dam impacts to fish. Specifically, EPA requests model runs for the Gated Wier/Tunnel, 12kcfs, and 35kcfs Tower options (for various flow conditions) under the following temperature objectives below Hells Canyon dam:

a) from January 1 thru May 14 increase current conditions by 2C (or as much as possible if a 2C increase in not feasible), but don't exceed 14C

b) from May 15 thru June 30 increase current conditions by 1C, but follow current conditions when temperatures reach 16C (not to exceed 18C)

c) from July 1 thru July 31target 18C

d) from August 1 thru August 31 allow temperature to rise to 20C if needed to store cold water

e) from September 1 thru September 30 target 18C or current condition, which ever is cooler

f) from October 1 to October 23 decrease temps to attain 13C by October 23, maintain temperatures in the 12-13C range until early November (when current temps reach 13C), then follow current condition cooling pattern the remainder of the year.