EXHIBIT B

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Fisheries Science Center
2725 Montlake Boulevard East
Seattle, WA 98112-2097

January 12, 2006

Mr. Erik Merrill
Coordinator, Independent Scientific Advisory Board
851 SW 6th Avenue, Ste 1100
Portland, OR 97204

RE: **Request for review of the COMPASS model**

Dear Mr. Merrill:

The Northwest Fisheries Science Center, along with federal, state and tribal agencies and the University of Washington, are developing the COMPASS (Comprehensive Passage) model. The purpose of the model is to predict the effects of alternative hydropower operations on salmon survival rates, expressed both within the hydrosystem and outside the hydrosystem as latent effects. The COMPASS model is designed to replace the SIMPAS model, which was developed by NOAA's Northwest Regional Office. SIMPAS was used for analyses in the 2004 BIOP and received the following criticisms: 1) it only produces seasonal survival predictions; 2) it is not stochastic; and 3) it does not adequately deal with effects expressed outside of the hydrosystem. With these criticisms in mind, we began developing a new model with the following capabilities: 1) realistically portray the hydrosystem and variable river conditions; 2) allow users to simulate the effects of management actions; 3) operate on daily time steps; 4) accurately reflect available data, particularly PIT-tag data; 5) characterize uncertainty in predictions; 6) account for hydrosystem-related effects that occur outside of the hydrosystem.

Before beginning to develop a new model, we reviewed all existing passage models (report attached) to determine if any existing model could perform the aforementioned functions. We determined that none could, but that the CRiSP model (developed by the University of Washington with funding from BPA) had many desirable features, including a flexible geographic representation of the river system, daily time steps, methods to move fish downstream based on peer-reviewed papers, detailed representations of dam passage, and a hydrological component that models river flow and temperature. Also, CRiSP is written in C code and can be run on several computer platforms, which is desirable. However, CRiSP has been criticized as too complex, so we decided to use the CRiSP model as an "engine" but to also modify it substantially to remove certain

complex components not supported by the data. In particular, we modified the reservoir survival function to be based on PIT-tag survival data. We also modified how the model will represent stochasticity. In addition, the model has a new "post-Bonneville" component, which models survival through the adult return stage and contains any mortality (latent or delayed mortality) that may be associated with migrating through the hydrosystem or transportation around it.

This modeling effort is a high priority as it is proposed to play a pivotal role in the new Federal Columbia River Power System Biological Opinion (BiOp). In addition to its role in the new BiOp, the model will likely also be used for other management purposes, including in-season management. It is therefore important that the model be subject to thorough and transparent scientific review.

We propose that the ISAB review the model and address the following questions:

1) Does the model successfully perform the desired capabilities, as outlined in the first paragraph?
2) Is it too complex or too simple?
3) Does the model realistically represent the data and its variability?
4) Are the statistical methods sound?
5) Is the documentation adequate?
6) Is the graphical user interface easy to understand, intuitive, and transparent?

In order to be most useful in the development of a new FCRPS BiOp, we request that this review be competed by March 15th, 2006.

If you have any questions regarding this request, please direct them to Michael Ford.

Very truly yours,

Usha Varanasi

Usha Varanasi
Science and Research Director

cc: D. Robert Lohn, Northwest Regional Administrator, NOAA Fisheries
Olney Patt, Jr., Executive Director, Columbia River Inter-Tribal Fish Commission
Melinda Eden, Chair, Northwest Power and Conservation Council