Northwest Power and Conservation Council

November 30, 2006

DECISION MEMORANDUM

TO: Council Members

FROM: John Fazio

SUBJECT: Decision on a Funding Request from the Climate Impacts Group

PROPOSED ACTION: Fund a grant to the Washington Department of Ecology, which is to be applied toward its contract with the University of Washington's Climate Impacts Group to refine climate change analysis for the Northwest.

SIGNIFICANCE:

- Climate change continues to be a high priority topic for our elected representatives in government.
- Policy decisions regarding a tax on carbon production will affect future resource strategies for the Northwest.
- Global warming could have a significant impact on hydroelectric generation and on fish and wildlife populations. Developing mitigating actions early will ensure a higher likelihood of protecting fish and wildlife and of minimizing additional power costs.
- Analyses to evaluate the impacts to power production and to fish and wildlife require updated temperature and streamflow data for various warming scenarios. These data come from the University of Washington's Climate Impacts Group.

BUDGETARY/ECONOMIC IMPACTS:

- The grant is for a total of $25,000 for the current fiscal year (2006-07) with $10,000 coming from the Power Division's and the Fish and Wildlife Division's budgets and $5,000 from the Public Affairs' budget.
- No additional staff time or expenses are expected.

BACKGROUND:

In its Fifth Power Plan, the Council acknowledged the importance of climate change by incorporating the impacts of a potential carbon tax into its resource strategy. The Council also

recognized that climate change could have a significant impact on hydroelectric generation and on fish and wildlife populations. Using data from the University of Washington's Climate Impacts Group (CIG) developed in 2003, the Council analyzed the effects of projected shifts in temperature and river flows under various global warming scenarios. The Council understood that research in this area was an ongoing process and, therefore included an action item (MON-4) to "monitor climate change science and policy" in its plan.

The data used in previous Council analysis are in need of updating to include recent improvements made in climate change modeling. Unfortunately, the Climate Impacts Group has recently experienced a decline in both funding and in personnel. So, obtaining updated and higher resolution data from the CIG in the near term seemed to be unlikely. The good news, however, is that the Washington Department of Ecology (WDOE) is planning to fund the CIG (providing over $400,000) toward a study that would update temperature and streamflow data under various warming scenarios. The bad news is that the WDOE is only interested in sites located within the state of Washington. The CIG suggested that with an additional $100,000 over a two-year period, it could provide data for the entire Columbia River Basin, which is what the Council needs for its analysis.

The Council's Power, Fish and Wildlife and Public Affairs directors have agreed to contribute $25,000 toward the needed amount for this fiscal year and now await a Council decision to release the funds. A follow up decision to contribute an additional $25,000 in the next fiscal year will be made next fall. The remainder of the required funding ($50,000 over a two year period) is expected to come from the Bonneville Power Administration, which is currently attempting to procure the funds.

Besides incorporating more recent assumptions regarding global warming, the new CIG analysis will be done with better scale resolution. The following two paragraphs, taken from a draft proposal from the CIG, explain in more detail the scope of the work.

> One of the central challenges of producing a set of comprehensive and self-consistent climate change streamflow scenarios for the Columbia basin is that water planning must be conducted at a wide range of spatial scales ranging from relatively small-scale studies for individual sub-basins of the Columbia (e.g. the Yakima and Okanogan basins) to large scale studies encompassing the entire Columbia basin (e.g. for system-wide flood control and regional hydropower planning). Fine-scale hydrologic models are effective tools for providing detailed hydrologic information at the watershed scale, but are prohibitively expensive to implement and run over the continental scales that are needed for basin-wide planning efforts. Previous large-scale modeling efforts for the Columbia (e.g. 1/8th degree latitude longitude resolution hydrologic simulations used to support pilot planning studies at the NW Power and Conservation Council) have been successful at providing useful climate change scenarios for large-scale planning, but have limited ability to accurately resolve smaller sub-basins.
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> This proposal outlines improved technical methods and models and a scope of work designed to produce a comprehensive hydrologic data base for the entire Columbia River basin and coastal drainages in the PNW, providing climate change planning scenarios appropriate for both basin-wide planning efforts and more detailed planning studies in

moderate sized sub-basins such as the Okanogan and Yakima River basins. In addition, several pilot studies using fine scale hydrologic models are proposed to help assess the potential advantages of implementing these more costly approaches in small-scale watersheds.

ANALYSIS:

There is no analysis related to this decision memo. It should be noted, however, that funding this grant has the added benefit of expressing the Council's good faith effort toward climate change research. The Council is not a good candidate for long term funding of CIG research and strongly suggests that other funding sources be explored. However, by providing the funds for this grant, the Council and BPA will help cover the short-term needs until longer term funding is secured.

Because this is a grant, no statement of work is required. These funds will be provided to the Washington State Department of Ecology and are earmarked for its pending contract with the Climate Impacts Group. Staff is satisfied with the draft proposal and budget, which detail the work to be accomplished and the projected timeframe. It is assumed that by funding this grant CIG will make a good faith effort to provide the Council with results in a timely manner.

ALTERNATIVES:

- One alternative is to not fund this grant. Under this alternative, the CIG would not be able to ensure the development of new regional climate change data in a time frame consistent with the Council's work plan. While it is reasonable to assume that the data will ultimately be provided, the timing of the new data may not keep the Council at the forefront of hydrological climate change analysis. And, although our relationship with the CIG has been excellent to date, not funding this grant would likely create an uncomfortable future working relationship.
- A second alternative is to only partially fund the grant. This alternative would not likely ensure that relevant data be provided in a timely fashion and therefore would essentially be a waste of money.
- A third alternative is to fully fund the grant, that is, to provide $50,000 for this fiscal year (and possibly for the next fiscal year also). This alternative provides the highest chance of ensuring that the Council obtains updated CIG data in a timely fashion. Unfortunately, the division budgets are not sufficient to fully fund this grant, unless other uses of those funds are cut.

ATTACHMENTS:

There are no attachments provided with this decision memo. Upon request, Council members can review the draft proposal from the Climate Impacts Group to the Washington Department of Ecology or the draft budget associated with that proposal. These two documents are not available to the general public.