# Joint Technical Staff Memorandum

**CRITFC, IDFG, ODFW, USFWS, WDFW,**

June 21, 2001

Mr. Mark Walker
Director of Public Affairs
Northwest Power Planning Council
851 SW Sixth Avenue
Suite 1100
Portland, Oregon 97201

Dear Mr. Walker:

We have reviewed the Northwest Power Planning Councils Issue Paper dated June 13, 2001, entitled " Analysis of Federal Columbia River Power System Operations on Fish Survival During Summer 2001", regarding summer spill operations in the lower Columbia River. We offer the following comments for Northwest Power Planning Council's (NPPC) consideration. We provided comments on two previous NPPC analyses regarding spring spill operations. Many of those comments are also applicable to the subject analysis by the NPPC. We have attached those previous comments.

This is the third analysis by the NPPC of the benefits of spill for fish passage. The National Marine Fisheries Service (NMFS) Biological Opinion and the NPPC Fish and Wildlife Program establish spill as a key fish recovery and mitigation under NMFS' and NPPC's programs. The establishment of these measures was based on extensive research, data analysis, regional consultation and public review and comment. The regional process and scientific review implemented to develop these mitigation measures has clearly shown that spill for fish passage is the most effective and safest means of juvenile fish passage (2000 FCRPS Biological Opinion, 9-82). Both the Biological Opinion and the NPPC Program measures programs are comprised of many individual protection measures designed as a whole to provide protection and mitigation for hydro impacts to listed and unlisted stocks of Columbia Basin salmon. The pursuit of incremental benefits analysis by the NPPC is counter productive. The tools applied by the NPPC such as SIMPAS are not adequate to address the myriad of variables that impact the cumulative results of the suite of fish protection measures established by the NPPC Fish and Wildlife Program and the NMFS Biological Opinion. The region has made significant investment and progress in

understanding the fact that fish protection measures are established with the recognition that benefits to fish are the sum of the total cumulative benefits of their implementation just as the adverse impacts of hydro system operations are cumulative. As technical representatives of state, tribal and federal fishery management agencies with Columbia and Snake rivers jurisdictions we offer the following technical conclusions and recommendations regarding the NPPC analysis of summer migration operations and their affect on fish passage.

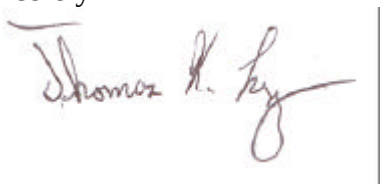
- We recommend that the NPPC abandon incremental benefits analysis and adopt a more realistic holistic approach to ecosystem analysis.
- The NPPC analysis is not adequately robust to provide a basis for decisions on summer operations for fish passage.
- The NPPC used an early version of SIMPAS and does not correctly apply the SIMPAS results. SIMPAS has serious limitations that are recognized by NMFS in their Biological Opinion. Further, in an Independent Scientific Advisory Board (ISAB) memorandum dated April 19, 2001, the ISAB recognized significant uncertainties regarding the application of SIMPAS results. SIMPAS is inadequate to estimate total system survival because it does not account for potential effects of various fish passage options on forebay passage in terms of reducing delay, residence time or predation. The NPPC apparently ignored earlier agency and tribal comments in this regard. SIMPAS is calibrated to reach survival estimates in primarily high flow years. Because the NPPC is using an earlier version of SIMPAS the calibration parameters are unknown. The NPPC does not consider the possibility that direct survival estimates utilized in SIMPAS may be too optimistic for low flow conditions expected in 2001. Applying existing FGE estimates to historically low flow conditions is inappropriate.
- There is considerable uncertainty with the in river survival estimates and "D" estimates of the analysis. For summer migrants the SIMPAS analysis is using survival rate estimates derived from very short reaches, potentially introducing considerable error. Also, the protracted migration makes predicting survival from a short time series of reach survival estimates problematic. Furthermore, the analysis does not take into account increased direct and indirect mortality effects due to forebay delay from lack of spill (radio tag studies conducted in the Snake River indicate that juveniles can be delayed up to a week under no spill operations) and higher mortality due to predation of fish passing through bypass and turbines. The NPPC analysis does not consider the lethal water temperature conditions that can occur in transportation facilities. During low flow summer periods this can cause high mortality in fish facilities. For example, during the 1994 drought, over 60,000 juvenile fall chinook were killed at McNary Dam due to elevated river and facility temperatures. This has been documented in other low flow years and spill has value in mitigating for these conditions.
- The NPPC analysis is specifically limited to two stocks of fall Chinook. There is significant hatchery and wild production of other summer migrating stocks that will benefit from provision of spill that are not included in the NPPC analysis. These other summer migrating stocks include, the Umatilla, Warm Springs, Klickitat, and

Little White Salmon rivers. Naturally spawning Deschutes summer migrants will also benefit from lower Columbia River spill. These releases account for approximately 8.5 million summer migrating Chinook, which are released from lower river tributaries and would benefit from lower Columbia River spill. Nearly 2.4 million summer migrating fish released from Wells and Yakima tribal facilities in the mid-Columbia reach are not included in the NPPC analysis. An additional 1.5 million fish are released from Snake River acclimation ponds. The NPPC analysis does not consider nearly 48% of the summer migrant hatchery releases, which will occur in 2001. Wild summer migrant production is not addressed in the NPPC analysis.

- BPA's updated financial analysis indicates the potential for approximately 600-megawatt months of summer spill, without jeopardizing regional power supply. There does not appear to be a summer energy crisis. Power rates have dropped continuously through June and are at the lowest point that has occurred in months. AC/DC transmission lines to California are fully loaded. The NPPC analysis does not provide a biological basis for elimination of a summer spill program. We recommend that the NPPC support the provision of summer spill. In addition we recommend that the NPPC explore additional hydro system measures that could increase spill for fish passage to provide mitigation closer to the levels intended by the Biological Opinion and NPPC Program measures.

In conclusion, in the interest of balance among river resources uses, we recommend that the NPPC support the implementation of the 600-megawatt month spill program being considered by the federal operators and regulators, and we recommend that the NPPC explore potential summer operations that would increase summer flow and spill for fish passage, that come nearer to the passage mitigation measures established by the NPPC program and the NMFS Biological Opinion.

Sincerely



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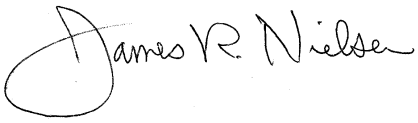

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