Request for Alternative Hydroelectric System Operations Summer 2005

Preliminary Council Staff Assessment of Possible Effects on Flows and Generation

NW Power and Conservation Council Meeting

April 13, 2005

Boise, Idaho

Summary of Proposal

- In the 2004 BiOp litigation, plaintiffs have requested the federal court to order an alternative to the summer 2005 hydroelectric operation under the 2004 BiOp.
- The plaintiffs requested increased water velocity through the lower Snake and Columbia rivers.
- The plaintiffs also requested increased spill at the four lower Snake projects and at McNary dam.
- They also asked for continued implementation of all other measures required by the 2000 BiOp RPA to the extent that they are not inconsistent with the above operations.
- This presentation summarizes the plaintiffs' request and provides a general discussion of possible effects on flow and power generation; no analysis or discussion of biological implications or legal merits of this request are provided.

Specific Details of Proposal

- In particular, speed up water particle travel time by 10 percent in both the lower Snake and lower Columbia rivers, over the travel time that would have otherwise occurred in 2004 under the BiOp.
- Spill all flow but that required for “station service” 24-hours per day at the four lower Snake dams.
- At McNary, spill 24-hours per day all flows above 50,000 cubic feet per second.

Achieving 10% Increase in Velocity
General

- By releasing additional water behind upstream reservoirs to increase river flow.
- By drawing down forebay elevations at the 4 lower Snake and the 4 lower Columbia river dams to decrease the cross-sectional area of the river.
- By doing some combination of the above operations.
- It is not clear at this time what combination would be most optimal – that is, accomplishing the objectives while minimizing impacts to power and other river users.

Achieving 10% Increase in Velocity
Specific – Flow Augmentation

- Snake – increase flow by 3,000 cubic feet per second from June 21 to August 31 (72 days). This equates to about 430,000 acre-feet of additional volume.
- Columbia – increase flow by 16,000 cfs from July 1 to August 31 (62 days). This equates to about 2 million acre-feet of additional volume.
- Not clear at this time where best to draft the additional water.

Achieving 10% Increase in Velocity
Specific – Drawdown

- Snake – the four lower Snake river dams would have to be drawn down an additional 6 feet from June 21 to August 31 (72 days).
- Columbia – the four lower Columbia river dams would have to be drawn down about 5.5 feet from July 1 to August 31 (62 days).

Summer Bypass Spill

	2000 BiOp	Injunction
Lower Granite	No summer spill	All but 11.5 kcfs 24-hours
Lower Mon.	No summer spill	All but 11.5 kcfs 24-hours
Little Goose	No summer spill	All but 11.5 kcfs 24-hours
Ice Harbor	In 2005 due to low flows all but 7.5 to 9.5 kcfs 24-hours	All but 7.5 to 9.5 kcfs 24-hours
McNary	No summer spill	All but 50 Kcfs 24-hours

Impacts

- Additional spill will cost on the order of about $100 million (using currently forecasted summer prices).
- Flow augmentation approach will increase summer generation (except for what is spilled) but the additional water will have to be replaced in upstream reservoirs over the winter months. The net cost of this operation is unknown because the origin of the additional water is not known at this time. This would also affect recreation and resident fish.
- Drawdown approach will reduce the power factors at the 4 lower Snake and 4 lower Columbia dams and it will also affect other river users. Cost unknown at this time.