



FISH PASSAGE CENTER

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MEMORANDUM

TO: FPAC

FROM: Michele DeHart

DATE: March 24th, 2009

RE: Meeting both April 10th needs at Grand Coulee and Chum needs below Bonneville

A the 3-24-09 FPAC meeting, the committee was advised that the Action Agencies had contacted NOAA and expressed their concern that both the chum requirements below Bonneville Dam and the April 10th Flood Control Elevation at Grand Coulee Dam could not both be met, requiring the agencies and tribes to select either the chum tailwater requirement or the April 10th Grand Coulee reservoir elevation target. Both of these fish protection operations are important. The Grand Coulee April 10th reservoir target provides water volume for spring out migration flows, while the Bonneville tailwater constraint for chum provides stable water level, avoids stranding and provides continuous access between and through egress areas for juvenile chum salmon. In response to the FPAC discussion the FPC staff reviewed the proposed operations, the current reservoir elevations and operations. As a result of this review, it appears that both the Grand Coulee reservoir elevation and the chum tailwater elevations can both be met. There are several possibilities for assuring that both of these needs are met. This requires utilizing flexibility to meet both fish protection requirements.

The action agencies could modify the proposed flood control shift between Dworshak and Grand Coulee reservoirs. The flood control shift between Dworshak Dam and Grand Coulee Dam in 2009 could be modified by limiting the flood control shift to only the additional amount of flood control space in Dworshak by March 31st, 2009, drafting Grand Coulee only as much as the volume put into Dworshak Dam by March 31st, 2009. Grand Coulee Dam is at an elevation of 1284.2 feet (3-23-09) and the end of March flood control shifted elevation is 1281.6 feet, between these elevations approximately 200 Kaf

will be drafted from Grand Coulee over the last 8 days of March. Dworshak Dam is currently at an elevation of 1535.5 feet and the end of March shifted elevation is 1542.7 feet, therefore if the full shift amount is to be realized, Dworshak will have to refill 7.2 feet over 8 days. Although Dworshak has been refilling nearly one foot per day over the last several days due to increased inflows, it is uncertain if Dworshak will be able to refill to its shifted elevation. Grand Coulee could be drafted only the amount actually shifted at Dworshak by the end of March, leaving extra water to be drafted from Grand Coulee over the beginning of April.

In addition the operating agencies could consider the possibility of delaying some of the end of March draft of Grand Coulee into early April (even if the full flood control shift amount is reached at Dworshak Dam). This operation would involve the Action Agencies operating to meet the April 10th elevation at Grand Coulee (1279.6 feet interpolating between the shifted end of March and April 15th elevations) and using the draft to the April 10th elevation as needed to meet chum needs below Bonneville. This would reduce the possibility to releasing more water than needed for chum over the end of March at Grand Coulee, then struggling to meet chum needs and remain near the April 10th elevation over the start of April.

The action agencies could consider additional sources of water to be used during the early April period to ensure that both the Chum needs and April 10th are met. The following points discuss potential operations that could enhance the ability to meet both fish protection constraints.

1. Use the draft of the Lower Snake pools to MOP to help meet the flow needs at Bonneville Dam. Typically, the draft of these reservoirs occurs on or around April 3rd, however these pools could be drafted as needed to meet flow needs beginning April 1 or earlier. The total volume of water available in the draft to MOP at Snake projects would be approximately 89 Kaf. At Lower Granite, 34.0 Kaf is available between elevation 737.1 feet (3-22-09 elevation) and MOP (733 feet). At Little Goose, 18.5 Kaf is available between elevation 634.9 feet (3-22-09 elevation) and MOP (633 feet). At Lower Monumental, 17.1 Kaf is available between elevation 539.7 feet (3-22-09 elevation) and MOP (537 feet). At Ice Harbor, 19.7 Kaf is available between elevation 439.6 feet (3-22-09 elevation) and MOP (437 feet).

2. Use the draft of the John Day pool to MIP to help meet the flow needs at Bonneville Dam. Typically, the draft of John Day reservoir occurs on or around April 10th, however this pool could be drafted as needed to meet flow needs beginning April 1 or earlier. The total volume of water available in the draft of John Day from 264.5 feet (3-22-09 elevation) to MIP (262 feet) would be approximately 124 Kaf.