

SYSTEM OPERATIONAL REQUEST: #2010-01

The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: US Fish and Wildlife Service, the Shoshone-Bannock Tribes, the Columbia River Inter-Tribal Fish Commission, and the Nez Perce Tribe.

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FROM: Tom Lorz, Vice-Chairperson, Salmon Managers

DATE: April 6th, 2010

SUBJECT: 2010 Low Flow Spill Operations at Bonneville Dam

SPECIFICATIONS: Use all available options to provide an instantaneous 75 Kcfs spill at Bonneville Dam over the beginning of the 2010 spill period, with an absolute minimum spill level of 50 Kcfs. The following options should be considered:

1. If necessary to meet the spill specifications with currently projected flows, immediately begin storing water in the John Day Pool while still maintaining a minimum flow of 100 Kcfs at Bonneville Dam. Water can be stored through April 10, 2010 and released over the early portion of the spill period at Bonneville Dam as needed to provide a spill level of at least 50 Kcfs up to the preferred 75 Kcfs level. The John Day Pool can be drafted down to the bottom of Minimum Irrigation Pool (MIP) of 262.5 feet as needed to provide flows at Bonneville needed to achieve desired spill levels.

2. Use the Bonneville Pool as needed to maintain the flow level for an instantaneous spill level at least 50 Kcfs up to the preferred 75 Kcfs level and to moderate daily fluctuations in discharge.
3. Consider closing the Ice and trash Sluiceway at Bonneville Dam and the Bonneville Zero Unit in an effort to reduce the total flow needed to help achieve a spill level of at least 50 Kcfs up to the preferred 75 Kcfs spill level at Bonneville Dam. This operation should only last as long as the low flow period at Bonneville Dam.

JUSTIFICATION:

The 2008 Biological Opinion and the 2010 Fish Operations Plan both specify a spill level of 100 Kcfs at Bonneville Dam during the spring season to provide adequate passage and survival conditions. Discussions have taken place concerning operations at Bonneville Dam during the low flow period that is projected to occur during the first seventeen days of the spring spill period in 2010 and during the month of August. Studies are being conducted to inform the recommendations during the August spill period, but the early portion of the 2010 spring spill period at Bonneville Dam is a current concern. The Army Corps of Engineers (COE) has indicated that a total flow at Bonneville Dam of 123 Kcfs is needed to provide a minimum spill level of 75 Kcfs, this includes 36 Kcfs for minimum generation, 12 Kcfs for miscellaneous flows, and 75 Kcfs spill. The COE has also indicated that it may be possible to reduce this total flow at Bonneville by approximately 3 Kcfs if both the Ice and Trash Sluiceway and Bonneville Zero Unit were not used, reducing the needed flow at Bonneville to approximately 120 Kcfs.

According to the 4-6-10 STP at http://www.nwrfc.noaa.gov/stp/stp_table.cgi, the time period when Bonneville flows are expected to be less than either 123 Kcfs or 120 Kcfs is the period between April 10th, 2010 and April 26th, 2010, a period of 17 days. The use of both the John Day and Bonneville Pools provides an option to better assist in providing the volume of water needed to achieve flows at Bonneville that would be necessary to provide the preferred minimum of 75 Kcfs spill at Bonneville Dam for more days during this low flow period.

The Salmon Mangers realize that the increase in elevation to John Day pool over the low flow period would increase Water Travel Times (decrease water velocities) through John Day pool. It is important to recognize that the preferred recommendation would be to meet both the spill and drawdown objectives. However, if the modification to John Day elevation is necessary to achieve the 75 Kcfs spill volume, this operation would have benefits for fish passing Bonneville Dam, but would cause slight delays to fish passing through John Day pool. It is also recognized that an increase in WTT (decrease in velocity) through the John Day Pool may be more of a concern during the warmer summer period with increased levels of predation.

Both wild/natural and hatchery fish will be present in large numbers in the Bonneville Pool during the possible 17 days of low flow over the beginning of the 2010 spill season. The hatchery fish scheduled to be released in the Lower Columbia below John Day Dam during this 17 day period is near 9.9 million. This includes the Spring Creek Hatchery Tule Fall Chinook release of 6.1 million. Significant reprogramming has occurred over the past few years to

eliminate the Spring Creek Hatchery March release that required spill outside of the spring spill period. Overall, the Salmon Managers have significant concern regarding the passage of almost 10 million fish at Bonneville Dam with less than adequate spill conditions. Without adequate spill there is potential for overcrowding in the bypass.

The Salmon Managers have considered the large number of wild/natural and hatchery fish that will be present in the Bonneville pool over the beginning of the spring spill period and the potential impact to those fish with either a no spill or reduced spill operation at Bonneville Dam. We have considered this potential impact with the possibility of decreased water velocities through the John Day pool over the same period. However, in consideration of all available information, the Salmon Managers feel that maintaining a preferred spill level of 75 Kcfs at Bonneville Dam (with an absolute minimum of 50 Kcfs spill) over the projected low flow period would provide the maximum benefit to migrating juvenile fish during the early portion of the spill period in 2010. By utilizing the options presented in this SOR and potentially other Action Agency options, the Salmon Managers feel that providing appropriate spill levels at Bonneville Dam requested in this SOR can be accomplished at the beginning of the 2010 spill season.