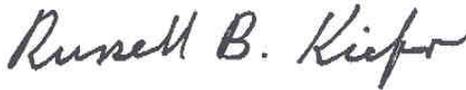


## **SYSTEM OPERATIONAL REQUEST: #2006-3**

*The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, NOAA Fisheries, Nez Perce Tribe, Shoshone-Bannock Tribes, and the Columbia River Inter-Tribal Fish Commission.*

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**FROM:** Russ Kiefer, Chairperson, Salmon Managers

**DATE:** April 4, 2006

**SUBJECT:** Spill Operations at John Day

**SPECIFICATIONS:** Due to the outage of the T-1 line at John Day, the nighttime spill level of 60% should be spread out evenly over a 24-hour period to aid in both juvenile and adult migration until the T-1 line can be repaired or other operations can be arranged.

**JUSTIFICATION:** Due to a failure of the T-1 line during start-up turbine units 1-4 at John Day Dam will not be available until the transformer is repaired. Current estimates for completion are anywhere from April to September. Units 1-4 provide adult attraction flow for the south fish ladder, as well as aid in hydraulic conditions at the juvenile bypass. Without the use of units 1 – 4 the adult and juvenile passage routes will be impaired. It is anticipated that an eddy will form at the juvenile bypass outfall both during the nighttime spill and potentially at high river flows during the zero daytime spill. We are concerned that this condition will likely decrease the survival of juveniles using this route.

In addition flows from the adult entrance appear be stagnant, which will likely make the entrance for adult salmon difficult to find. This is especially troubling since the south shore passes the majority of the adults and does so with the least delay. There is a trip to ERDC set for next week where outfall and adult entrance conditions will be evaluated if the hydraulic model is available.

We believe that the 30% 24-hour spill operation will help to alleviate both of these issues. Reviewing past years' of data from 2000 to 2002, juvenile survival through the bypass facility was higher at 30% than at 60% and the eddy does not form as strongly at 30% than at 60%. By going to a 30% spill for 24-hours the migrants are more evenly spread across the different passage routes so there would not be the as great a reliance on the bypass for the daytime passage, which may be impaired this year. With the change in operation due to the T1 line outage we risk a significant decrease in the project fish survival.

The 30% 24-hour spill operation will also help to spread the adult migrants across the project and not be as dependant on the south shore, where the lack of unit 1 -4 will make it more difficult for the adults to find the entrances. There is a concern that without the spill, or increases in adult attraction, significant delay to adults will occurs. Given the decrease in adult returns forecasted for Spring Chinook it would be unwise to risk imposing additional delay on these fish.

Until the T-1 line can be repaired the Salmon Managers recommend that the spring spill operation of 0 daytime spill and 60 night time spill be altered to a 30% 24-hour a day spill program similar to the summer spill program. If the T-1 line is still not functional after the termination of summer spill additional adult attraction spill should be provided out of Spill Bay 2 (above the current 1.8 kcfs). The exact volume can be determined and recommended by the FFDRWG group. Furthermore, if the 30% 24-hour spill is not implemented for the spring, then additional adult attraction spill from Spill Bay 2 will be needed.