# SYSTEM OPERATIONAL REQUEST: #2006-4

***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, Nez Perce Tribe, Shoshone-Bannock Tribes, and the Columbia River Inter-Tribal Fish Commission.***

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Russell B. Kiefer

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

**DATE:** **April 11, 2006**

**SUBJECT**: **The Dalles Dam Spillway Limitations**

**SPECIFICATIONS**: In the event that daily flows exceed 360 Kcfs at The Dalles Dam in the next several weeks, add hours to the John Day Dam daily spill period to maintain mainstem juvenile passage survival through the Lower Columbia River. (This specification assumes Spillway 7 is back in operation on April 10, 2006. However, if Spillway 7 is not available, the specification should be implemented when flow exceeds 315 Kcfs.)

Additional hours can be added to spill at John Day Dam to increase survival at this project. This alternative will not exceed the total dissolved gas level at this project. The daily volume of spill foregone at The Dalles Dam should be determined on a real time basis when spill percentages fall below 40%. This volume should be added to spill at John Day Dam in hourly increments when the computed volume allows an hourly increment at John Day Dam to meet 25% of instantaneous flow. The 25% of hourly instantaneous flow is the minimum needed to achieve adequate egress conditions below this project. The first hourly increment should be added prior to the nighttime spill period. If additional hours exist they should also be added prior to the daily spill period.

**JUSTIFICATION**: Past studies have shown that the best spill pattern (for effectiveness, tailrace egress conditions, and survival) at The Dalles Dam occurs at spillways 1 through 9 when implemented sequentially. Spillway wire ropes are being replaced in Bays 1-9 in 2006.

However, bays 8-9 will not be available prior to the start of the spill for fish passage season. Spillway volume limitation of 21 Kcfs per bay and the scheduling of repairs to bays 8-9 during the fish passage season (between April 10 and May 15) will result in the inability to spill 40% of instantaneous volume through bays 1-7 when flow exceeds 360 Kcfs. The alternative operations suggested, spilling less than 40% or spilling outside the preferred fish passage spill patterns, would result in lower biological benefits than called for in the court order. The Salmon Managers do not recommend spilling outside the preferred fish passage spill pattern to achieve the 40% spill level under any circumstance. Spilling less than 40% also presents problems by decreasing overall fish survival past the project; however, with this alternative operation juvenile survival could be maintained by increasing spill at an upriver project.

The Salmon Managers recognize that the likelihood of exceeding 360 Kcfs prior to May 15 is small based on the latest flow forecasts. However, in order to facilitate the timely implementation of measures in the event that the flow does exceed 360 Kcfs, the Salmon Managers recommend that the operational strategy outlined in the specifications be implemented.