SYSTEM OPERATIONAL REQUEST: #2004-11

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, Shoshone-Bannock Tribes, and the Columbia River Inter Tribal Fish Commission.

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FROM: **David A. Wills, Chairperson, Salmon Managers**

DATE: **May 18, 2004**

SUBJECT: **McNary Turbine Operations**

SPECIFICATIONS:

- Operate all McNary turbine units within the 1% peak efficiency range during spring and summer 2004 as described in RPA Measure 58 in the 2000 Biological Opinion
- Immediately terminate Vertical Barrier Screen tests, which require operation of turbine units outside the 1% peak efficiency range.

JUSTIFICATION:

The salmon management agencies and tribes submitted SOR 2004-1 on March 16, 2004 requesting McNary turbine operations within the 1% peak efficiency range, rather than implement a proposal to run the entire project above the 1% peak efficiency range. The justification for that SOR summarized the biological information indicating that operations outside the 1% peak efficiency range would increase the immediate and delayed mortality imposed upon ESA listed and non-listed fish by the FCRPS.

Tests are being conducted at McNary Dam in an effort to evaluate the impacts and efficacy of newly designed extended vertical barrier screens (VBS) under increased turbine discharges, which are periods of operation above the 1% of peak efficiency range. Associated with each of these test periods increased mortality and descaling rates have occurred. The increased fish injury and mortality rates compel us to recommend the cessation of this study. Seasonal facility

mortality rates in 2004 are nearly five times the 1999-2003 average for yearling chinook and over seven times the 1999-2003 average for steelhead (Figure 1). Seasonal descaling rates in 2004 are 1.7% higher than the 2000-2003 average for yearling chinook and 1.5% higher than the 1999-2003 average for steelhead (Figure 2). Furthermore, the mortality rates for yearling chinook appear to increase with the number of units operated beyond the 1% limits (Figure 3). For these reasons, we recommend that operations outside of 1% for the purpose of testing the extended VBS cease.

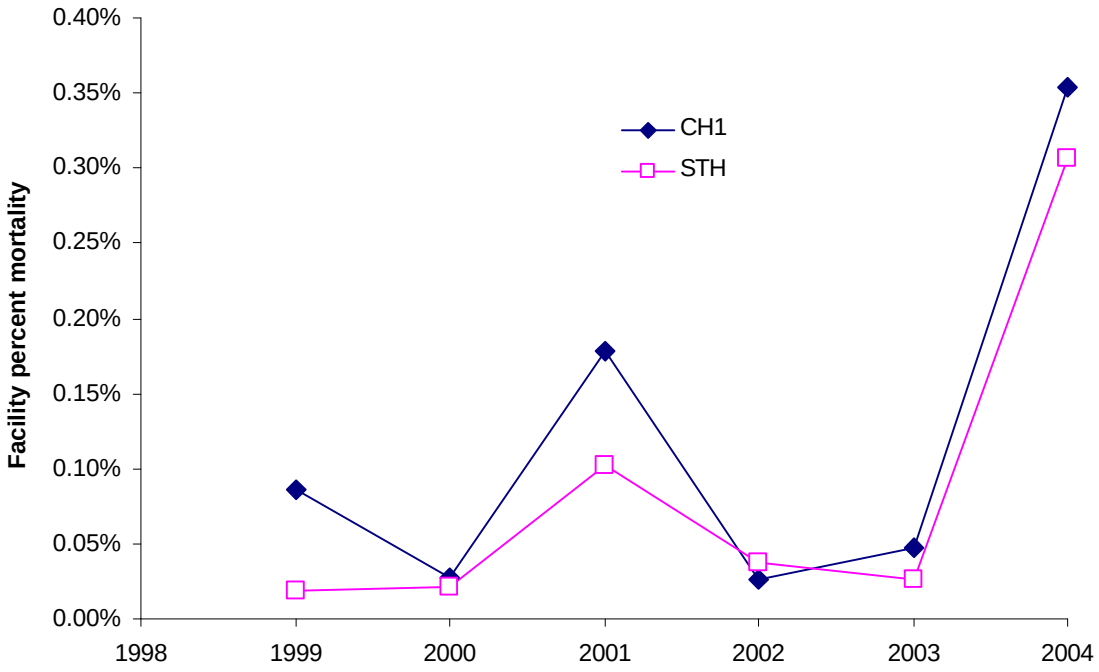

Figure 1. Percent mortality at the MCN monitoring facility, April 3 through May 17, 1999-2004.

Figure 2. Percent descaling at the MCN monitoring facility, April 3 through May 17, 1999-2004.

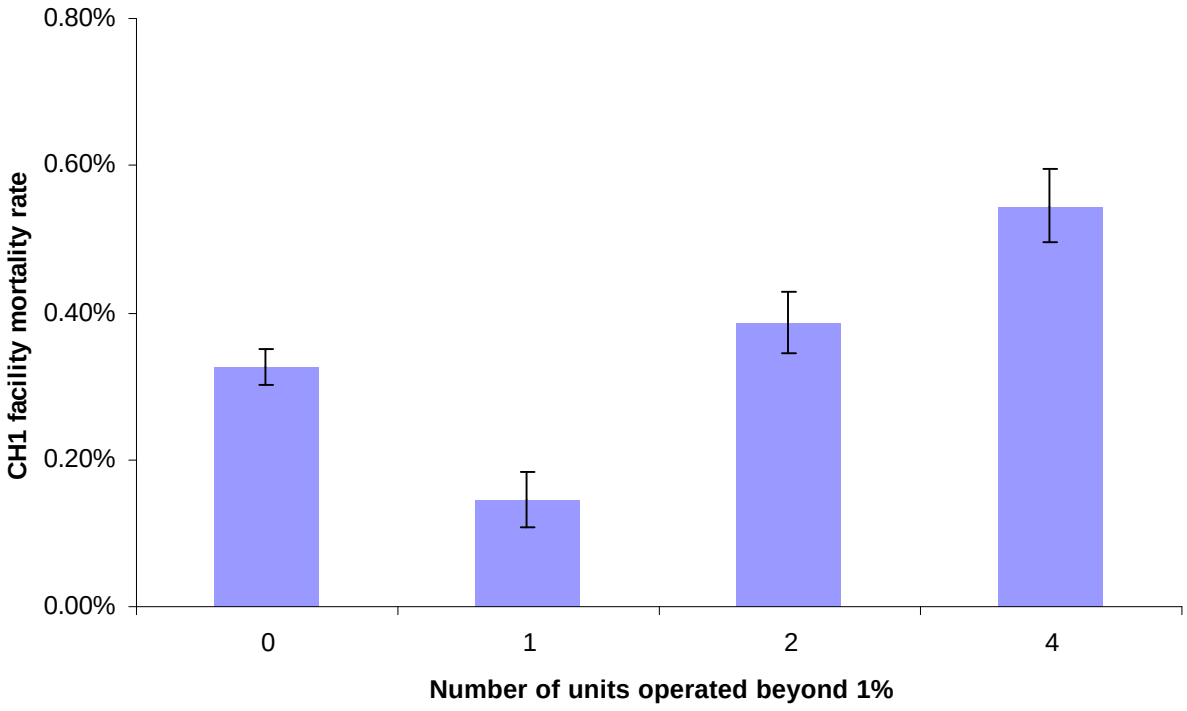

Figure 3. Yearling Chinook percent mortality at the MCN monitoring facility by the number of units operating above the 1% of peak efficiency limits. Error bars represent +/- two standard errors.