

## **OFFICIAL COORDINATION REQUEST FOR NON-ROUTINE OPERATIONS AND MAINTENANCE**

**COORDINATION TITLE-** 23 IHR 09 – Unit 3 Exciter Testing

**COORDINATION DATE-** August 9, 2023

**PROJECT-** Ice Harbor Dam

**RESPONSE DATE-** August 21, 2023

### **Description of the problem**

The newly installed exciter **controls** in unit 3 need to be tested as part of returning the unit to operation after its major rehab. The exciter **controls** were installed by the project and was not part of the work conducted by the contractor, Voith. The testing will involve running the unit at various speeds, including outside of the 1% operating efficiency range, for up to 25 hours over a period of three days. During periods of low river flows, unit 3 may be operated out of priority ahead of unit 2 to accomplish the testing. Testing is scheduled for August 22-24.

### **Type of outage required**

#### **Impact on facility operation (FPP deviations)**

Unit 3 may be run above or below the 1% operating efficiency range during part or all of the on-line testing, up to 25 hours.

#### **Impact on unit priority**

The August 7 STP forecast for the period of testing is for roughly 27 kcfs of inflow to the project. At this level of river flow, one to two units will be operating to provide generation while approximately 9 kcfs is spilled for fish passage. Unit 3 will be generating power while on-line for the exciter tests and may be operated ahead of unit 2 as the only unit operating. Unit 1 is out of service for the runner replacement and stator rewind.

#### **Impact on forebay/tailwater operation**

No impacts are expected.

#### **Impact on spill**

None expected.

### **Dates of impacts/repairs**

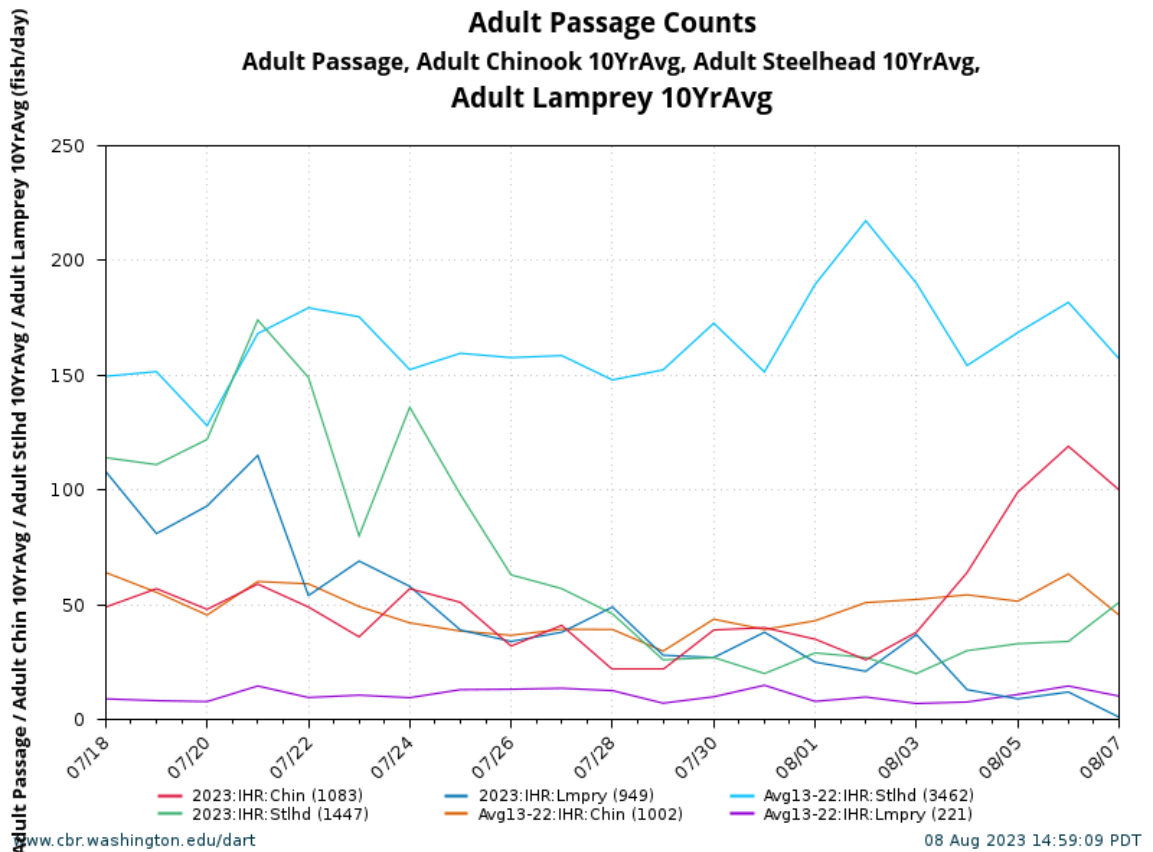
The on-line testing of the exciter will be taking place on August 22, 23, and 24.

### **Length of time for repairs**

Up to 25 hours.

### **Analysis of potential impacts to fish**

- 10-year average passage by run during the period of impact for adults and juvenile listed species, as appropriate for the proposed action and time of year;  
Very few juvenile salmon are expected to be passing the project August 22-24.  
There is a 10-year average total of 706 adult chinook, 317 adult steelhead, and 19 adult lamprey counted at Ice Harbor Dam from August 22 to August 24.
- Statement about the current year's run (e.g., higher or lower than 10-year average);



The Snake River adult steelhead run is forecast to be well below the 10-year average. Adult Chinook numbers at Ice Harbor have been near-average for the last several weeks. Adult lamprey counts have been above the 10-year average.

- Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action);  
The percentage of the adult fish passing the dam exposed to the action is estimated at 1.8% of fall Chinook, 0.4% of steelhead, and 8.8% of lamprey.

4. Type of impact by species and age class;

When unit 3 is run out of the 1% operating range, smolts and adult fallbacks passing through the unit may be exposed to a less-favorable physical environment. Most of the fish heading towards the unit would be diverted by the submersible traveling screen away from the turbine into the juvenile fish bypass.

Upstream migrating adults may experience minor passage delay if unit 3 is operated out of priority. Statistical analysis of adult fish passage data at the south fish ladder indicated there was no significant difference in fish passage relative to unit 1 or unit 3 operating singly (Trumbo et al 2014).

**Summary statement - expected impacts on:**

**Downstream migrants**

The impacts should be minimal as only a small fraction of downstream migrants will pass through unit 3 turbine.

**Upstream migrants (including Bull Trout)**

The impacts on adult fish of operating unit 3 out of priority should be negligible. Very few bull trout have observed using the fish ladders during the last 10 years.

**Lamprey**

There are very few juvenile lamprey migrating this time of year, and the impacts should be minimal. There have been an average number of adult lamprey passing the dam the last several days. Adult lamprey will likely have adequate attraction to the south shore fish ladder lamprey entrance with unit 3 operating.

**Comments from agencies**

**Final coordination results** Consensus reached.

**After Action update**

The testing did not get completed on August 24 as originally planned, but was finished on August 28. Unit 3 was not operated out of priority for the testing. The unit was run outside of the 1% operating efficiency range for a total of approximately 7 hours on August 23, 24, and 28. Off-line testing at speed-no-load occurred on August 23 and on-line testing (tied to the grid) was performed on August 24 and 28.

Please email or call with questions or concerns.

Thank you,

Ken Fone  
Ice Harbor Dam  
Fishery Biologist

kenneth.r.fone@usace.army.mil