

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

**COORDINATION TITLE-** 20LGS16 Powerhouse Roof Repair

**COORDINATION DATE-** August 13, 2020

**PROJECT-** Little Goose Lock and Dam

**RESPONSE DATE-** August 27, 2020

### **Description of the problem**

The powerhouse roof at Little Goose Dam has reached the end of its projected life cycle and needs to be replaced. The reroofing effort will include the complete removal of the old built-up asphalt roofing system followed the installation of a new 2-ply membrane roof.

Proper sealing of the roof requires that it be installed during the summer when temperatures are high enough to properly seal the roofing material. The timeline for repairs would be from early July through September 2021. Performing the reroofing work at the Little Goose powerhouse is complicated by an electrical bus and 500 kVA power transmission lines that are located on the powerhouse roof structure directly above the proposed work area. The distance from the bottom of the bus structure to the surface of the roof averages 15 feet. The Corps requirement for safe clearance when working in the vicinity of power lines and bus supplying electrical power at a voltage of 500 kVA is 25 feet in any direction. Thus, the bus must be de-energized when performing the reroofing work.

To avoid shutting down all power generation for the duration of the reroofing project, Bonneville Power will cut the power to the bus and reroute it temporarily so that power is further than 25 feet from workers on the roof. This work to reroute the power is expected to take 4-5 days between 26-30 June 2021 and would require that all powerhouse units be out of service. An additional 4-5 day shut-down of the powerhouse will be required 11-15 October 2021 to reconnect the power.

### **Type of outage required**

**Impact on facility operation.** Power to the juvenile fish facility will be off requiring operation by generator during the first and last day of each line outage in June and October 2021 and the adult ladder cooling pump will also be out of service during the first and last day of the line outage in June (Fish Passage Plan, Chapter 8, 2.4.2.14.). Attraction flow to the powerhouse fishway entrances via turbine units will also be reduced for the duration of each outage.

**Impact on unit priority.** All units will be OOS for 4-5 days in June and October (Fish Passage Plan, Chapter 8, Table LGS-5.) except for station service.

**Impact on forebay/tailwater operation.** None

**Impact on spill.** Spill will increase for 4-5 days in June and October while the powerhouse is OOS (Fish Passage Plan, App. E, 8.2.).

**Dates of impacts/repairs.** 26-30 June 2021 and 11-15 October 2021.

**Length of time for repairs.** Powerhouse will be OOS for 4-5 days in June and October 2021. Roof repairs will occur 1 July-30 September 2021.

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

1. 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;  
The 10-year average daily fish passage during 26-30 June is 568 adult Chinook salmon, 173 jacks, 50 sockeye salmon and 25 steelhead. During 11-15 October, the 10-year average count is 162 adult Chinook salmon, 104 jacks and 2,273 steelhead.
2. Statement about the current year's run (e.g., higher or lower than 10-year average);  
Projections for 2021 fish runs are not yet available.
3. Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action);  
During 26-30 June, 4% of adult Chinook salmon, 5% of sockeye salmon and 0.7% of the steelhead run, on average, will be impacted. During 11-15 October, 2.5% of adult Chinook salmon and 6.4% of adult steelhead will be impacted.  
Based on 2019 smolt index data from Little Goose Dam, 16,140 Chinook salmon smolts were passed during 26-30 June, represented about 0.6% of the total of roughly 2.5 million smolts. In 2020, the number was 44,748 smolts, or about 1.8% of the annual number passed.
4. Type of impact by species and age class (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.);  
Juvenile salmon passage will be minimally impacted. TDG levels may be higher in June from increased spill. Adult salmonids passage will likely be delayed for the 4-5 day periods from lack of attractive flow via turbine units to the fishway entrances and from poor tailrace flow conditions (back eddy) during the powerhouse outages.

### **Summary statement - expected impacts on:**

**Downstream migrants.** Possible exposure to elevated TDG.

**Upstream migrants (including Bull Trout).** Up to 4 to 5 day passage delay during poor tailrace conditions.

**Lamprey.** Up to 4 to 5 day passage delay during poor tailrace conditions.

**Comments from agencies**

**Final coordination results**

**After Action update** (After action statement stating what the effect of the action was on listed species. This statement could simply state that the MOC analysis was correct and the action went as expected, or it could explain how the actual action changed the expected effect (e.g., you didn't need to close that AWS valve after all, so there was no impact of the action). List any actual mortality noted as a result of the action)

Please email or call with questions or concerns.

Thank you,