OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE – 17 IHR 003 Trolley and Fish Pipe Install Outage
COORDINATION DATE – 4 April 2017
PROJECT- Ice Harbor
RESPONSE DATE - 21 April 2017

Description of the problem: The installation of the new turbine runner in Unit 2 at Ice Harbor is scheduled for completion in early winter of 2017. Biological testing for that unit and the existing turbine in Unit 1 is scheduled for February of 2018. Fish are currently being cultured for use in this testing by PNNL. Trolley pipes were not installed in January and February 2017 because of early high water and multiple turbine outages at Ice Harbor. Unit 2 will likely be commissioned during the next in water work window and biological testing will need to begin during or soon after the work window we request and extension of the work window (November 15, 2017 through February 28, 2018) for installation of the trolley pipes required for this testing. This time extension would allow for flexibility to complete all pipe installs before the biological testing needs to begin.

Other outage times considered included late summer and early fall. These alternatives are associated with greater negative impacts to fisheries resources and were discarded for that reason.

Type of outage required: Work will be performed during an extended winter work window (November 15, 2017 – February 28, 2018). Outage will require different combinations of turbines and fish pumps depending on the trolley or fish pipe being installed (See Attachment 1). Due to the complexity of the work and conditions, all installations (dives) will be performed during the day. To the degree possible, work that directly impacts priority units, fish pumps, and fishways will be performed during the normal winter maintenance period. Outage includes time for project staff to dewater and secure fish pumps and fishways.

Dates of impacts/repairs: November 15, 2017 – February 28, 2018.

Length of time for repairs: Total time of work on site is estimated between 40 to 60 days (See Attachment 1). Actual number of work days required are estimated at 26 to 30 days.

Impact on fish facility operation: Short term impacts will include fish pump and fishway outages during pipe installs.

Impact on project operations (*unit priority, forebay/tailwater operation and/or spill*): Operations will be altered to accommodate pipe installations and associated dive time. Attachment 1 shows proposed outage needs, but does not yet provide specific dates.

Priority units will require outages to allow fish pipe and trolley pipe installs. For example, unit 1 will require outages totaling 276 hours to complete all installs. Dive safety will require all spillbays to be out of operation for all dive times.

Analysis of potential impacts to fish:

1. 10-year average passage during the dates of impact for adults and juveniles for each affected listed species.

   On average 2,059 (0.7%) adult salmon and steelhead pass Ice Harbor dam from November 15 to December 31. Of these, 2,008 are steelhead, 49 are Chinook, and 4 are Coho. No adult sockeye or lamprey pass during this time period. At least one of the two ladders at the project will be in operation at all times, but priority units and fish pumps may be out of service. The north fish ladder and fish pumps will be operational for fish passage while the south ladder is out of service.

   Lower Monumental data was used as a surrogate for smolt passage at Ice Harbor Dam. On average 3,286 (0.1%) smolts pass Lower Monumental dam from November 15 to December 31. Of these 3,212 are Chinook subs, 12 are Chinook yearlings, 23 are Coho, 4 are Sockeye, and 36 are steelhead. Fifteen juvenile lamprey also pass during this time. Passage via the turbines and bypass facility will be available.

2. Statement about the current year's run (e.g., higher or lower than 10-year average).

   Steelhead forecast for the Snake River to Lower Granite dam is 59,700 for 2017, with B run component estimated to be 5,475. This is below the 10 yr average run of 151,687.

3. Estimated exposure to impact for adults and/or juveniles, as appropriate, by species (number or percentage of the 10 yr average that occurs during dates of action).

   See number 1 above - To the degree possible, work that directly impacts priority units, fish pumps, and fishways will be performed during the normal winter maintenance period. Short term delays may occur for a small portion of adult populations as priority units are switched to accommodate dives and fish search for fish ways. No anticipated future impacts to fish from proposed actions.

4. Type of impact for adults and/or juveniles, as appropriate, by species (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.).

   Short term delays may occur for a small portion of adult populations as priority units are switched to accommodate dives and fish search for fish ways. No anticipated future impacts to fish from proposed actions.

Final judgement on scale of expected impacts (negligible, minor, significant**) on:**

   a. **Downstream migrants:** Negligible. Less than $1/10^{th}$ of a percent of juvenile fish are moving during this time period. Installation would have no direct effect on those that are.

b. **Upstream migrants (including Bull Trout):** Negligible. Less than 1 percent of adult fish are migrating during this time period and at least one ladder will remain open at all times.

c. **Lamprey:** Negligible. No adults are passing at this time and about $1/10^{th}$ of one percent of all juveniles pass during this time. Passage will still be open.

Comments from agencies

Final coordination results

MOC was withdrawn. Work is scheduled to be completed during normal winter maintenance period.

After action update

Please email or call with questions or concerns.
Thank you,

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