OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- 16 IHR 002 – Fish ladder entrance gate calibration
COORDINATION DATE- March 8, 2016
PROJECT- Ice Harbor
RESPONSE DATE- March 15, 2016

Description of the problem
The fish ladder entrance weir gate elevation readouts need to be calibrated with the actual gate elevations. This requires taking measurements and readings while the gate is all the way down on sill, all the way up at its upper limits, and at increments in-between. This was not be done while the ladders were out of service for annual winter maintenance, because for most of the time the entrance gates were raised up and locked/tagged out to safely perform maintenance in the channel.

Type of outage required
The two downstream adult fishway entrance gates at the south shore, north powerhouse, and north shore will be calibrated one gate at a time. At each location, the adjacent gate that is not being calibrated will be opened for fish passage while the other gate is being calibrated. Each gate will take approximately 5 hours to calibrate. Five south shore auxiliary water supply (AWS) pumps will most likely be operating while the work is occurring on the south fish ladder entrance gates, instead of the normal six pumps, to lessen the water pressure against the gates so they don't get stuck while being lowered from their raised positions. The calibration of the north fish ladder entrance gates will occur on the day that ladder is out of service for the diffuser 10 intake trash rack guide slot inspection (see MOC 16 IHR 001), during the week of March 21-25. The calibration of the south fish ladder entrance gates will occur on two other days during that week.

Impact on facility operation
The fish ladders will be operating with at least one entrance gate open at each entrance location. The specific gate at each location that is normally open, per the Fish Passage Plan, will be closed part of the time while it is being calibrated. The south fish ladder will have five AWS pumps operating instead of six

Dates of impacts/repairs
The south fish ladder calibration will occur on two days during the March 21-25 period. The north fish ladder calibration will occur on the same day that the ladder is out of service for the diffuser 10 trash rack guide slot inspection.

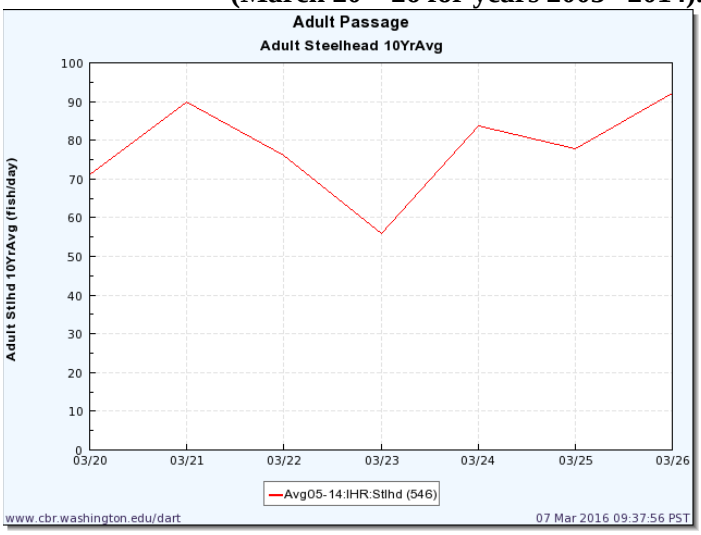
Length of time for repairs
0630 hours to 1700 hours each day.

Expected impacts on fish passage

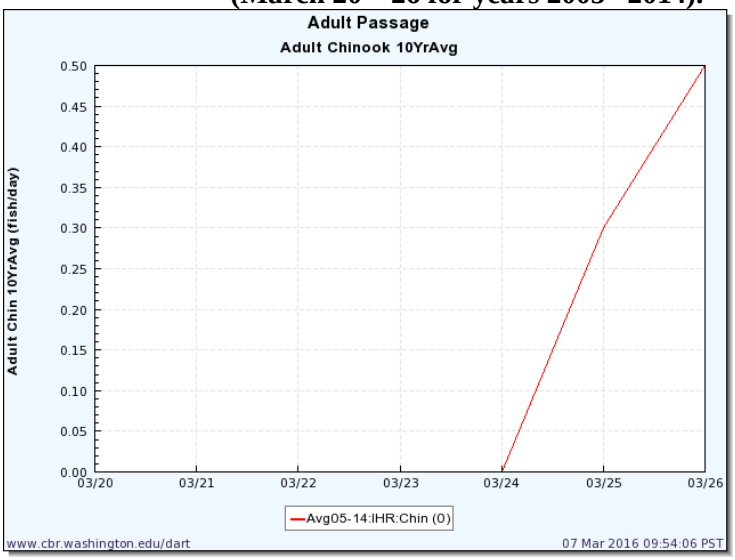
In 2013 (the last year that counts were done in March), the maximum number of adult steelhead and chinook adults/jacks passing the Ice Harbor fish ladder count windows per day from March 6 to April 2 was 110 and 5, respectively. During that period, the daily percentage of adult steelhead using the south fish ladder (versus the north fish ladder) ranged from 48.7% to 90.9%. (The breakdown for chinook was highly variable due to the very small numbers of fish counted.) The majority of steelhead used the south fish ladder.

The average numbers of adult steelhead and adult chinook passing the Ice Harbor count windows on March 20 through March 26 for the combined years 2005, 2006, 2007, and 2013 (years that counts were done in March) are shown in the graphs below.

Average 10 Year Ice Harbor Adult Steelhead Passage Counts (March 20 – 26 for years 2005 –2014).



Average 10 Year Ice Harbor Adult Chinook Passage Counts (March 20 – 26 for years 2005 –2014).



There will be no additional impacts to fish passage in the north fish ladder beyond that described in MOC 16 IHR 001. The operation of five AWS pumps, instead of six pumps, for the south fish ladder will probably result in the entrance head differentials and entrance gate depths sometimes being slightly below criteria. South shore fishway entrance #2 (SFE-2) will be open in place of entrance #1 (SFE-1) for several hours. These actions may negatively affect fish entry into the south ladder. However, unit 1 will be in service to help attract adult fish to the south fish ladder entrances.

Comments from agencies

Final results

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