Date 10/20/20

**Re; Non-routine Fisheries Maintenance List for The Dalles Dam**

1) Spillbay 9 Trunnion Pin

Spillbay 9 is out of service due to a faulty trunnion pin. Operation of this spillgate could result in catastrophic failure. The new pin is on site but the work requires a contractor with large crane.  The spillway has numerous deficiencies that need to be corrected. Top priority is a reliable gantry crane. A study (MRER) is underway to evaluate condition and prioritization of all aspects of the spillway. The importance of spillbay 9 for fish passage has been included in this evaluation.

Without spillbay 9 as a functional spillbay, spill volumes that exceed the capacity of bays 1-8 will be moved to bay 12 because bays 10 and 11 are out of service of other reasons.  This does not provide ideal egress conditions due to very large recirculation eddy that forms in below this bays. In addition there are concerns for erosion along the bay 8/9 spillwall (constructed in 2010).

Costs to replace the trunnion pin are estimated at $1M and will likely involve additional funds to get the spillway crane functional or rent a floating crane. High priority.

1. Diffuser Valve Overhaul

Diffuser valves for both fishways are difficult to access. Many are inoperable for various reasons and require extensive labor and funding to repair. Diffusers for the north ladder, lower east ladder, junction pool and east entrance remain full open and will do not need to be moved. Diffusers for the collection channel are closed and do not need to be moved. Diffuser valves for the west and south entrances are normally open but may need to operate during use of the AWS backup system. Plans are to secure valves that do not need to operate and remove unnecessary equipment. Then to repair the valves that need to remain functional.

Without repair, many of these will fall apart and potentially cause flow problems within the fishway. Cost to rehab the diffuser system can vary depend on extent of repair. Many valves are inaccessible due to dewatering constraints. Medium priority

1. Fishway SCADA Upgrade

The fishway automation system is outdated and is becoming less reliable to maintain criteria conditions at the entrances. An entire new system was designed and purchased in FY19. Much of it was installed FY20. Completion is expected FY21 if funding allows.

If funding does not allow completion FY21 there will be unreliable operation of the fishway, causing reduced criteria operation. High priority

1. North Fishladder Rock Stabilize

The north fishladder is cut into basalt for approximately 50% of its length. Many portions are unstable. Geotech staff from NWP assessed and identified several areas that require varying stabilization methods. Excessive vegetation is also a problem requiring annual labor to keep relatively under control. This has been on a budget list of ~5 years but not over the cut line.

A large failure of the rock wall could result in fishladder blockage, potentially causing fish passage blockage.

Cost estimate $3M. Medium priority and increasing.

1. PUD Rake Power

The PUD rake system uses a 480V track to power the rake system that cleans the PUD intake for AWS water to the north fishladder. It also is used to clean the north fishway exit trashrack. The system failed within the last year and is deemed unsafe to return with the original design. Alternatives are being investigated for replacement.

If not corrected, raking via mobile crane will continue with less efficient trashrack cleaning and more out of criteria occurrances.

Cost unknown. High priority.