

MEMORANDUM FOR RECORD 17 MCN 18 MFR TSW operational configuration

SUBJECT: Placement of lower leaf gate in upstream bulkhead slots during Spillway Weir operation at McNary Dam

Spillway Weirs have been operated in spillbays 19 and 20 during spring months at McNary since 2009. These weirs have always been operated with a lower leaf in the upstream spillbay slot while operating with the current crest configuration. This operation was recommended based on hydraulic sectional modeling done in 2006/2007. The purpose of placing the leaf gate in the upstream slot was to minimize the volume of an eddy that could influence the survival or passage of juvenile fish. While the formation of eddying areas was extensively reviewed during early spillway weir operation, none of the post construction monitoring found any evidence of fish holding within the areas encompassed by the theorized vertical eddies. No documentation for operating with any restriction mandating use of these lower leaves was ever developed as they were considered an "extra safeguard" feature. Because no biological value has ever been determined, allowing the project to return the leaf gate to its originally designed purpose is the path forward. This MFR is to document agreement through informal consultation [FFDRWG mtg 8-30-17] of this change to spillway weir annual operations at McNary.

These lower leaves were spares meant to serve, along with accompanying upper leaves, for emergency use and spillbay maintenance. Operation of the spillbay weirs using the leaf gate stored in the upstream slot has impacted these uses. The Columbia River Fisheries Mitigation program (CRFM) is committed to return the McNary spillway to its full operating capability. In order to do this, the lower leaves used in the upstream slots during spillway weir operation would either have to be replaced in kind, or moved from the spillway weir bays.

This topic was discussed at the 31 August 2017 Fish Facility Design Review Work Group (FFDRWG) meeting. Meeting participants included representatives from NOAA Fisheries, Nez Perce Tribe, Columbia River Intertribal Fish Commission, Fish Passage Center, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service and the Bonneville Power Administration, as well as the Corps of Engineers. At the meeting, the Corps requested that the McNary project be allowed to operate the spillway weirs without the lower leaves in the upstream slot beginning in 2018. After some discussion, there were no objections to this request.

Given the details outlined above, it is recommended that McNary project operate the spillway weirs without the lower leaves in the upstream slots in the future. Exception to this will be that the weir in bay 20 will have the lower leaf in place until the new closure leaves are constructed and delivered. This bay is currently operated from the upstream slot with a crane because the spillway weir has no matching closure piece to shut off the flow directly at the weir crest.

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