

CENWW-ODO

6 January 2020

MEMORANDUM FOR THE RECORD 20 LMN 01 Returning Units 4 and 5 to Service with Hydraulically Fixed Blades

SUBJECT: Lower Monumental Dam, Main Units 4 and 5

Main Unit 5 was removed from service on October 3, 2019 due to suspected blade packing leakage. The Project removed the oil from the static oil head, drained the hub and hydraulically blocked the governor blade servo to speed the units' return to service. This procedure was successful and Unit 5 was brought back online December 23 at 0900 hrs. The temporary repair of unit 5 included hydraulically locking the unit at an estimated 22 degree angle of pitch which is expected to be in the mid-range on the 1% peak efficiency curves. Unit 5 is scheduled for index testing by HDC in January to ensure compliance with 1% operating range.

Main Unit 4 was removed from service on October 9, 2019 also due to suspected blade packing leakage. The Project removed the oil from the static oil head, drained the hub and hydraulically blocked the governor blade servo to speed the units' return to service. This procedure was successful and Unit 4 was brought back online December 23 at 1625 hrs. The temporary repair of Unit 4 included hydraulically locking the unit at an estimated 25 degree angle of pitch which is at the upper end of the 1% range. This angle was previously used and index tested for Unit 4 by HDC in 2017.

Sincerely,
Chuck Barnes
Project Fisheries