CENWW-OD-T **Date:** 7 August 2014

MEMORANDUM FOR THE RECORD

SUBJECT: 14 MCN 19 MFR Oregon Shore Ladder Tainter Valve

Narrative: After a recent storm event, the McNary project experienced unusually high (3 foot) differentials on the trash rack upstream from the travelling screens near the exit of the Oregon ladder. Normal differentials are typically less than 1 foot. Such a severe obstruction endangered the water flow to both the Tainter valve, which supplies the upper 7 attraction water diffusers to the Oregon shore fish ladder, as well as the Chapman valve that supplies the local irrigation district and the lakes and streams in the McNary Wildlife Area.

Results: We resolved the problem by temporarily shutting down the Tainter valve, and stomping the trash down with the 7300 pound "guillotine" weight that is normally used to clear the intakes to the Wasco PUD turbine on the Washington shore. The technique worked: The trash rack differential was lowered to 1 foot, an acceptable level, and the Tainter valve was re-opened. The 1000 CFS flow of the Tainter valve, which is less than 1/6 of the 6680 CFS Oregon shore fish ladder, was shut down at 1300 hours and fully re-opened by 1640 hours (it takes about 1.5 hours to re-open it, to avoid blowing off diffuser gratings downstream). We plan to dive the same trash rack, during the scheduled February ladder outage, to remove any excess accumulated material.

We have never tried this technique before, but it worked quite well.

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