

MEMORANDUM FOR THE RECORD: 15 MCN 05 North powerhouse ladder entrance weir malfunction

SUBJECT: At 1015 on April 24, NFEW2 and NFEW3 were inspected and noted raised out of the water. FPP criterion is 8.0+ feet below tailwater elevation or on sill. There was about 4 feet of head on upstream side of the weirs. Pool differential criterion is 1.0 to 2.0 feet. The entrance was closed forcing the flow towards the south collection channel and the floating orifices. The south entrance recorded a pool differential of 3 feet due to the north entrance being closed.

The operator found NFEW1, which normally was raised and used only as a backup, had been activated. When operational, it became the master weir, resulting in rising NFEW2 and NFEW3 entrance weirs and blocking the entrance.

The operator returned NFEW1 to the normal out of service status. The operator then tried to manually lower the weirs from the control room. Due to the water head pressure, the weirs did not move.

From 1155 to 1225 hours on April 24, fish pumps 1 and 3 had their blade angles reduced to zero degrees. Once the head pressure was reduced, NFEW2 and NFEW3 were lowered and returned to automatic operation.

On April 22, the last adult fish ladder inspection all inspection points were in criteria. On the night of April 23 to the morning of the April 24, an operator inspected the newly installed panel view station near SFEW1 and SFW2. Both Oregon and Washington ladders entrances may also be viewed and adjusted at this location. This was when NFEW1 was inadvertently activated. The ladder may have been out of criteria for up to 18 hours.

No repairs were required, though the electrical staff were looking into the issue to resolve the weir programming or local weir control settings. This should eliminate the possibility of this happening again.

Expected impacts on fish passage: Flow volume at the open entrances was high. Conversations with the fish counters suggested the following: April 25 morning counts on the Washington ladder are lower than on April 24. This suggest while the Oregon ladder was out of criteria some Chinook moved over to the Washington ladder. The Oregon ladder counts were higher in the afternoon on April 24 than the morning counts after entrance set points were reestablished. April 25 morning counts on the Oregon shore were higher than on April 24. This suggests that there was some possible delay for Chinook entering the Oregon ladder on the morning of April 24. However, the afternoon counts for both days were about the same on the Oregon ladder, which would suggest every little delay. The table below from the Portland

District Adult Fish Count website shows a gradual increase in spring Chinook numbers for both ladders from April 23 to 25, which suggest very little delayed passage.

McNary Oregon Shore

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
4/23/2015	3667	3667	0	14	2	12	0	0	0	0	0	0
4/24/2015	5935	5929	6	8	2	6	0	0	0	0	0	0
4/25/2015	6169	6152	17	7	1	6	0	0	0	0	0	0
total	15771	15748	23	29	5	24	0	0	0	0	0	0

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
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McNary Washington Shore

Date	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
4/23/2015	1223	1168	55	7	2	5	0	0	0	0	0	0
4/24/2015	1445	1337	108	5	0	5	0	0	0	0	0	0
4/25/2015	1718	1656	62	2	2	0	0	0	0	0	0	0
total	4386	4161	225	14	4	10	0	0	0	0	0	0

Please email or call with questions or concerns.

Thanks you,

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