CENWP-OD 02 June 2020

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 02 June 2020 Willamette Fish Facility Design Work Group meeting.

The meeting was held via conference call. In attendance:

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**Meeting Purpose:**

Finalize previous meeting notes. Provide an update on status of active design projects and presentation/discussion by the Cougar DSP PDT of the internal hydraulics of the FSS.

1. Final decisions or recommendations made at this meeting.
	1. May meeting minutes were approved.
	2. ACTION: Dunlop will consult the modeling in the report to figure out the predicted depths.
2. Review Dates

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| **Document** | **Review Dates** |
| Foster Ladder 30%DDR Report | comments due 25 June |
| Foster DSP with modeling results | coming soon |
| Cougar DSP 90% Plans and Specs | August |
| High Head Bypass 60% report | completed |

1. Updates on active design/construction projects
	1. Fall Creek AFF – Valley Maintenance staff is moving through the punch list of deficiencies. The pipeline contract will resume after the fish season is over. Khan asked to clarify if the list of repairs is internal or with the PDT. Garletts said the original PDT is working with Maintenance. The facility is currently operating. The fish are ~ 3 weeks early this year; returns are up to 425 CHS already. Hicks (the PM) is back from his detail.
	2. Cougar DSP 2.0 – Not much to update. Low said they are still working on modifying the A/E contract to assess three alternatives rather than one.
	3. Detroit Temp Control and DSP – The team is focusing on the EIS and the physical model. No update since last month.
	4. High Head Bypass – The PDT is going to do an ATR (agency technical review) where a separate district reviews the report. No update is expected until July or August. The PDT will continue to evaluate the alternatives internally beyond the A/E contractors work.
	5. Foster AFF ladder Improvements – no update since last month. The 30% DDR is out for review and comments are due 25 June. Kelley had a question about the current Green Peter (GPR) spill operation. She asked where the warm water from GPR would go in the Foster reservoir and to what depth. Temperature modeling that showed a warming effect that would extend to the turbine intakes of Foster; specific depths were not known. Kelley wants to know if the warm water would stay downstream near the dam or if it would extend upstream. Khan said that according to the USGS modeling, the water will slowly flow down to Foster and mix in the reservoir. It takes 6-12 days for the water to travel from GPR to Foster and mix at the depth of the penstock elevation. Since the time frame is short (3 weeks), Khan didn’t think it could warm up the entire reservoir. If the operation was continued for the whole summer, the warm water could easily spread out. Kelley said that she did not remember seeing the presentation on this operation. Khan said the modeling results and a proposed similar operation was presented a couple of months ago. Khan discussed the GPR operation with Brett Boyd (ODFW) to make sure it wouldn’t affect the hatchery operations. The spill started last week. Originally, the operation was supposed to start on 20 April but due to high rain, they waited so they could have a valid test. The operation has been going on for a week and the temperature loggers should start to show results soon. Boyd has not seen many fish at the hatchery yet. Pierce noticed that the TDG in the Foster tailrace is bouncing up and down during the day on the Willamette Tea Cup web page. Khan said that the GPR spill wouldn’t affect the TDG at Foster very much because the gas would have dissipated by then. The tailrace TDG pattern is due to the interim nighttime spill at Foster for downstream fish passage. The nighttime spill ends next week. The fish weir surface spill starts on or around 10 June to warm up the river downstream of Foster to help get returning adult salmon back to the fish facility. The fish weir spill operation will be after the end of the GPR spill so that they can validate the results without confusing the effects of the two spill operations. Mullan said that the TDG was bouncing between 108 and 116 and asked if a study verified that those levels do not cause problems. Khan said that back in 2015/16 when they did all the studies for the Foster fish weir, PNNL did a TDG study specifically looking at spill operations. The highest levels were ~125 and the gas levels dissipated quickly. They did not find any effects on spawning grounds below the dam.
	6. Foster DSP - Fish Weir Design Improvements – The PDT is looking at several options as a solution to the fish weir problem including old alternatives from the EDR.
	7. Cougar DSP FSS –[Presentation] Currently, the PDT is internally reviewing the 70% Plans and Specs package. They considered sending the 70% to the region but it is not a standard review milestone and they wouldn’t have time to address any comments. The 90% will be provided to the WFFDWG in August for review.

The goal of the presentation is to get the group familiar with the fish handling area in preparation for the 90% review. The design details have not all been worked out. They are trying to get operational flexibility in the design and any changes will have cascading effects. The fish handling area is in the back of the vessel. Litzenberg gave an overview of the system and the water flow pathway. Design specifics can be found in the presentation. Kelley asked about the dewatering level for the fish in the counter area. It is a sheeting flow, so the fish starts in 1-2” and is then dewatered to a minimal sheet of water. The counter requires this minimal sheeting flow. The counting area is 10 feet total. Welton said the length of the dewatering area is 63” before the water is added back in. Jundt asked where else this type of counter is used. Welton said it was found through internet research and aquaculture operations. This model was selected because it has a smaller form size, the range of fish size that they are expecting to see and high capacity. This particular model is not currently used in any Corps facilities that they were aware of. Litzenberg will provide information on the counter for people to research: Aqua Scan Fish Counter (CSW28002). There is some flexibility in the water level, but it is currently set at 5gpm of sheeting action flow. Jundt asked if you could do sample flows to see if the counter worked at different levels. Welton said that yes, you could turn off the dewatering and do a time based sample. Welton pointed out that the rotary style sample tank was unusual but was chosen because of the copepod issue and to minimize handling. Rerecich said that the holding capacity should be more than adequate and is based on the maximum fish size. There are two rotary style sample tanks on the vessel. Mullan asked to clarify what part wasn’t being used. Litzenberg said that the flume will be U-shaped without a top. He didn’t have an updated image to use.

Next WFFDWG meeting currently scheduled for July 7