

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 06 November 2018 Willamette Fish Facility Design Work Group meeting.

The meeting was held in the Lobby Conference Room at Block 300 Building in Portland, OR (NWP). In attendance:

Last name	First Name	Agency	Email
Ament	Jeff	NWP-PM-F	Jeffrey.M.Ament@usace.army.mil
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Wertheimer	Bob	NWP-TF-FFU	Robert.H.Wertheimer@usace.army.mil
Ziller	Jeff	ODFW	Jeffrey.S.Ziller@state.or.us

On the phone: Eppard, Hudson, Murauskas, Pierce, Romer, Schwabe, Weiland and Ziller.

Meeting Purpose:

Finalize previous meeting notes. Provide an update on status of active design projects and a presentation and discussion of the Cougar DSP FSS 90% DDR.

All documents related to this meeting can be found at:

http://pweb.crohms.org/tmt/documents/FPOM/2010/Willamette_Coordination/Willamette%20FPT/

1. Final Decisions made at this meeting.
 - 1.1. Jundt requested more time to review the October meeting minutes. Comments are due on 9 November 2018.
 - 1.2. Comments on the EA and the Cougar DSP 90% DDR will be kept separate for accurate record keeping. All EA comments should be sent to Janes and copy Khan. All DDR comments should be sent to Fielding and copy Khan. Comments on the DDR should use the excel sheet that Khan provided.

2. Review Dates

Document	Review Dates
Cougar DDR and EA	05 November - 03 December
Cougar Draft EA	07 November- 06 December
High Head By-pass Report 60%	Late November/early December
Detroit revised SWS 60% DDR	Late November/December
Detroit SWS DDR90%	March
Detroit FSS DDR 90%	Late November
Detroit FSS DDR 95% new tower location	March/April
Detroit EIS	February/March

3. Cougar DSP PDT 90% DDR presentation
 - 3.1. The review period is 15-30 November. The AMRDEC is not working. Eppard copied the DDR Appendices onto a CD. **EMAIL UPDATE FROM KHAN: The correct due date for review comments is 03 December.**
 - 3.2. Britton explained the changes/progress since the 60% review. The drawings are in six volumes. Pods will be used for fish transport. The naval architecture AE has joined the team and a design has been completed. The FSS hydraulic connection to the TCT was very challenging but Britton thinks the concept will work well. A design flaw where a flow of water going through the penstock bypass gate slot into a wet well instead of passing through the FSS was discovered. Concrete blocks are being added to plug the gap. The trash racks will still need to be back flushed for cleaning so they are adding an opening that water can pass through. A request to lower the pool to 1516 (minimum operating) for two months (December and January) for Geotechnical Exploration has been made in order to give the workers enough time to evacuate the site in the event of a flood. Slide Creek is the current site for assembly and launch of the FSS but North Sunnyside is now being considered. Due to the fire, the team hasn't been able to visit the site. A cultural resource survey will be done at both sites. The team is trying to build in flexibility for piped bypass by excavating ~30' behind the FSS instead of the typical 10" buffer. There may also be pipe blackouts in the building designs.
 - 3.3. Physical model – The main goals are to verify the computed head losses and look at biologically beneficial minor modifications. The model is now under construction in Alden Labs, north of Seattle. Calibrations will begin in mid-December. The agency partners trip is scheduled for the mid to end of March and Phillips will coordinated as a more accurate date is known. The scale is 1 to 10.
 - 3.4. FSS design

- 3.4.1. Water path – There are two collection channels – star board can hold 400cfs flow and the port can hold 600cfs of flow. The water immediately enters the primary screens and then into secondary screens. The screened water is combined in the junction pool and then out to the temperature control tower. There is a small amount of water that stays with the fish to the tertiary screens (targeting ~12cfs).
- 3.4.2. Fish Path – Fish are continually accelerated at no greater than 4fps through the collection channels. About midway through the secondary screens, the fish are at capture velocity (targeting ~8fps for capture velocity). Fish will pass through PIT TAG detections system and into tertiary dewatering. The flow will drop down to 0.5cfs at this point. Fish will then pass over separator bars where target fish drop down and large fish and debris keep moving to tank. The small fish going through a flume to a person for sampling. An optical counter could be used here. There will be three pods available for target fish. Large fish and debris will be separated into two tanks and onto the AV.
- 3.4.3. Debris Path – The team is taking a multi-layer approach to debris removal and is expecting a lot of debris. The primary defense is a debris boom with a skirt and dorsal fin. The second layer is entrance trash racks with 4” center spacing on the top 4’ of the water column and 8” on center below the water column. An automated trash rake will be programmed to remove debris; there will be a manual setting as well. Algae and small sticks will pass through. The primary screen cleaners are brushes which will be automated based on head pressure across the screens. A water burst system will be used to clean the secondary system which will also be automatic and based on head pressure. The cleanings will run sequential from brush to water burst cleaning. Jundt said that at Norfolk, the water burst cleaning system works better than the brush system. There will also be a rotating cleaner to skim debris off the top of the tank and move it to the debris pod. A monorail hoist will move the debris pods to the AV. The AV will take the dam access road to the release site. Jundt has concerns about ice limiting the passage of the AV to the boat ramp. The crews will have snow blowers to help keep the road passage and they may need to add concrete texture to the ramp at certain elevations. The AV has 4WD. Dishman asked about capacity on the FSS if there is a reason that the pods cannot be transported. The pods are 750 galleons for juveniles and 250 galleons for the large fish and debris. The pods can stay on the FSS. Heaters or housing structures may have to be added around equipment to prevent ice build-up. The primary screens are adjustable to accommodate the change in flow and the secondary screens are set. Jundt asked about the optimization of the physical model and how to be informed of any changes. Some calibration of the FSS hydraulics will be available for the 30% Plans and Specs review. Philips said that any changes will be communicated to the group. **ACTION: The contractor has a test plan that Philips will share with the group.** Ziller asked where the separation between debris and adults would be if a piped bypass is added. Juveniles and adults would go down the same pipe. The naval architect AE was asked to put blocks in the back of the FSS where pipes could be added. Griff said that the 30’ excavation buffer is based on an estimate of a structure that could combine the flow and an additional dewatering unit for piped bypass. Since a piped bypass plan is not known, this is a just place holder based on a rough estimate of how much space they would need.
- 3.4.4. Fish Collection – The release site has been decided but the design of the pipe and the exact location in river are still be worked out. Eppard pointed out that the location for the release

site in the DDR document is different than the one that Fielding just presented. (DDR Figure 2-5, pdf page 42) The release pipe location presented today is the accurate one.

ACTION: Fielding will correct the DDR location of the release pipe. The results from the site visit showed an ideal spot about 15' from the shore. The pipe from the AV would extend to that spot. Bird wires or water cannon during release may have to be added if needed.

4. EA review – Janes gave an overview of the EA.
 - 4.1. The document is structured into eight parts and appendices. Volitional passage was eliminated in the alternatives due to the current feasibility of that program. If a volitional passage system moves forward then another EA will need to be written.
 - 4.2. Details of the Drawdown schedule – The drawdown will last for 12 months starting in January 2021. The diversion tunnel will be used to drain the forebay to 1450. The average depth will be 58'. Usually in winter, the dam is storing water so starting in January, flows would be higher than normal. In the spring, the flow would continue to be higher than no action but in the summer than it will be lower. The ability to meet water flow targets will be limited so other dams will be operated to help. Temperatures in spring will be cooler and the fall will be warmer than the targets. Total dissolved gas levels should be acceptable due to the diversion tunnel. The turbidity during a drawdown of 1400 was very high which is why the team choose 1450. A storm could increase the turbidity a lot. Janes discussed the expected effects on the UWR Chinook and Bull Trout. Hudson asked what tag study the bull trout were in under the stranding assessment. It was a radio tag study and the reference will be in the report. Dishman asked about impacts on adult collection at the adult facility. Griff said that even in the minimum flows, the ladder should be able to operate. The diversion tunnel out flow is in the same tailrace but on the opposite side of the ladder. The ladder entrance should provide enough flow for attraction. The temperatures should not be a migration barrier. The EA will be sent out on 07 November with an extra week for review. The EA only goes to the regional agencies not to the WFFDWG group. Dishman, Hudson and Janes have been reviewing the Section 7 alignment to see if the incidental take section in the Bi Op will cover this action or if an additional permit will be required. **The EA and DDR comments will be kept separate for accurate record keeping.** Griff said that they would appreciate support for upcoming the public meeting like for the Detroit project. Dishman asked why the operations and monitoring was included in this EIS. Janes said that this EIS was started before the Willamette Valley EIS so this was an all-inclusive package. This evaluation makes the NEPA analysis complete. Dishman asked why the piped by-pass was not included as an alternative. Janes said there was not enough information to include it. Ziller asked if the piped bypass would be added, as information comes in. Janes said not in this EA but will be in the Willamette Valley EIS. Ziller finds this to be a mistake. Dishman suggested mentioning that the 30' buffer space was added in for a potential piped by-pass future add-on. Ament said that the high head bypass team is not far along and doesn't want to hint that things that may or may not happen. All EA comments go directly to Janes and copy Khan. For Cougar, comments should be sent to Fielding and copy Khan. Khan asks that agencies use the Excel spreadsheet and do not convert to pdf for record keeping purposes.
5. Updates on active design/construction projects
 - 5.1. Fall Creek AFF – Richards is still working on contract fixes and will update next month on the progress.

- 5.2. Foster DSP and AFF ladder –
 - 5.2.1. Foster weir - Khan said that field observation showed lots of injuries at both low flow and normal flow with high and low pool. The PDT met to look at modifications to address the injury problem. The plan for next year is unknown because the old weir is gone and cannot be put back in. Khan will continue to keep this group updated. The old weir had less injuries. Injuries include scrapes, bruises and hemorrhaging eyes and adult with broken spines. Khan will share the injury rate data as soon as it is ready.
 - 5.2.2. AFF ladder – The RME study to test if using warmer surface water from Green Peter (GP) would help mix the water temperature is being planned but they are waiting on some USGS modeling to see if it is feasible. They also need to fill the reservoir at GP to test spill. This study is in an early stage.
 - 5.3. High Head Bypass – The team is expecting the 60% report to be out for review in December. The scope of work for the contractor for the EDR for Detroit and Cougar are being worked through at the same time.
 - 5.4. Detroit Temp Control and DSP – The FSS 90% DDR is out with BPA now and will be sent out to the WFFDWG in November. Note: this DDR has the old location of the FSS. A 95% DDR will come out in March/April with the revised configuration. The SWS revised 60% DDR with the new location of the FSS will be out in early January for review.
 - 5.5. Janes will send out a doodle poll for a Section 7 NEPA meeting. Habitat impacts for Detroit in the various drawdown alternatives meeting will be scheduled as well. In February/March, agencies will need to provide input so that a draft EIS can go out in May.
6. Next Steps
 - 6.1. Next WFFDWG meeting (December 4, 2018) - The meeting will be in the Lobby Conference Room, Block 300.
 - 6.2. Upcoming reviews