

MEMORANDUM FOR THE RECORD

Subject: FINAL minutes for the 09 June 2011 FPOM meeting.

The meeting was held in the NOAA Fisheries St. Helen's Room, Portland OR. In attendance:

Last	First	Agency	Office/Mobile	Email
Bailey	John	USACE-NWW	509-527-7123	John.c.bailey@usace.army.mil
Baus	Doug	USACE-RCC	503-808-3995	Douglas.M.Baus@usace.army.mil
Bettin	Scott	BPA	503-230-4573	swbettin@bpa.gov
Conder	Trevor	NOAA	503-231-2306	Trevor.conder@noaa.gov
Cordie	Bob	USACE-TDA	541-506-7800	Robert.p.cordie@usace.army.mil
Dykstra	Tim	USACE-NWW	509-527-7125	Timothy.A.Dykstra@usace.army.mil
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Hausmann	Ben	USACE-BON	541-374-4598	Ben.J.Hausmann@usace.army.mil
Hevlin	Bill	NOAA	503-230-5415	Bill.hevlin@noaa.gov
Jackson	Aaron	CTUIR		AaronJackson@ctuir.com
Kiefer	Russ	IDFG	208-334-3791	russ.kiefer@idfg.idaho.gov
Lorz	Tom	CRITFC	503-238-3574	lorz@critfc.org
Mackey	Tammy	USACE-NWP	541-374-4552	Tammy.m.mackey@usace.army.mil
Martinson	Rick	PSMFC	541-296-8989	rickdm@gorge.net
Meyer	Ed	NOAA	503-230-5411	Ed.meyer@noaa.gov
Moody	Greg	USACE-NWW	509-527-7124	Gregory.p.moody@usace.army.mil
Richards	Steven	WDFW	509-545-2050	richaspr@dfw.wa.gov
Schwartz	Dennis	USACE-NWP	541-374-4567	Dennis.e.schwartz@usace.army.mil
Scott	Shane	NWRP	360-576-4830	Sscott06@earthlink.net
Statler	Dave	Nez Perce		daves@nezperce.org
Stephenson	Ann	WDFW	360-600-8274	stephaes@dfw.wa.gov
Wright	Lisa	USACE-RCC	503-808-3943	Lisa.S.Wright@usace.army.mil
Zyndol	Miro	USACE-JDA	541-506-7860	Miroslaw.a.zyndol@usace.army.mil

A. Jackson, R. Kiefer, S. Richards, D. Statler called in.

Announcements.

- a. D. Baus introduced Lisa Wright as the new RCC biologist on his team.
- b. Happy Birthday to a prominent member of FPOM.
- c. Warm wishes to Tim Dykstra. June is his last FPOM meeting as he will be filling Paul Ocker's old position at NWD.
- d. Mackey reported she would not be at the July FPOM and recommended attendees bring snacks. The group suggested the meeting be cancelled.

1. Finalized results from this meeting.

- 1.1. May meeting minutes were approved.
- 1.2. CTUIR lamprey traps at TDA. FPOM is ok with adding two traps at the entrance and three at the south channel; with the limitations on checking the entrance traps until after the peak salmon activity.
- 1.3. Yakama Nation requests permission to fish for shad at the junction pool at TDA to collect sturgeon bait. FPOM says no fishing in the fishways.
- 1.4. MCN. Cranes 9 and 10 replacement. FPOM did not object to the work over the water during the 2013 winter maintenance season

- 1.5. **MCN.** WFE (No. 4) closure and NFE No. 3- permanent closures and equipment removal scheduled for winter 2012/13. FPOM is ok with permanently closing the entrances by filling them with concrete. Fredricks would like to have the fishway back by 1 March so if an extension is needed, then maybe on the front end though a two-year construction period would be far better.
 - 1.6. **BON PH1 Turbine ops.** Those FPOM members in attendance were in agreement with the movement of the 300 cfs from the bottom to the top of the 1% curve. This will be in conjunction with issuing a teletype for implementation when screens are re-installed at PH2.
 - 1.7. **Coordination forms.**
 - 1.7.1. JDA N Ladder outage in winter 2012_2013. *Approved.*
 - 1.7.2. MCN hydroacoustic removal/recalibration. Fredricks expressed concern about the temperatures in the collection channel. *Approved.*
 - 1.7.3. MCN Trolley pipe installation. *Approved.*
 - 1.7.4. LMN Trolley pipe installation. *Approved.*
 - 1.7.5. LWG Trolley pipe installation. *Approved.*
 - 1.7.6. LMN Switchgear replacement. *Approved.*
 - 1.8. **FPP Change forms.**
 - 1.8.1. 12TDA001- spill pattern. *Approved, though begrudgingly since FPOM would like to see the wire ropes repaired.*
 - 1.8.2. 12IHR001- 4. Turbine unit operations. *Approved.*
2. The following documents were provided or discussed. Documents may be found at <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>
- 2.1. *Agenda, Fish Passage O&M Coordination Team.*
 - 2.2. *May FPOM meeting minutes.*
 - 2.3. *TDA lamprey trap locations (.pdf).*
 - 2.4. *BON spill issues handout and ppt.*
 - 2.5. *USDA Avian EA (.pdf)*
 - 2.6. *BON survival estimates in support of PH1 turbine operations.*
 - 2.7. *Coordination/Notification Forms (NWW/NWP)*
 - 2.7.1. *BON PH1 turbine ops*
 - 2.7.2. *JDA N Ladder outage in winter 2012_2013*
 - 2.7.3. *MCN hydroacoustic removal/recalibration*
 - 2.7.4. *MCN Trolley pipe installation*
 - 2.7.5. *LMN Switchgear replacement.*
 - 2.7.6. *LMN Trolley pipe installation.*
 - 2.7.7. *LWG Trolley pipe installation.*
 - 2.8. *FPP change forms (NWD/NWP/NWW)*
 - 2.8.1. *12TDA001- spill pattern.*
 - 2.8.2. *12IHR001- 4. Turbine unit operations.*
3. **Action Items**
- 3.1. **NWP Action Items**
 - 3.1.1. [May 11] BON Gantry 7 outage. **ACTION:** Bettin will get BPA's response to Mackey by 20 May. **STATUS:** *completed. The Gantry 7 mods will go forward as coordinated.*
 - 3.1.2. [Jun 11] BON PH1 turbine ops. **ACTION:** Schwartz will set up another special meeting to work through the FPOM concerns. **STATUS:** *a meeting was set for 0900 – 1200 on 27 June.*

3.2.NWW Action Items

- 3.2.1. [Dec 10] MCN emergency bypass operations. **ACTION:** NWW engineers will send drawings to Dykstra, who will then send them to FPOM. Information will include depths and velocities, etc. **STATUS:** *This will be carried over until August.*
- 3.2.2. [Apr 11] LMN spill patterns. **ACTION:** Hevlin and WW District have begin work on a new spill pattern which integrates the bulk and uniform spill patterns to achieve good egress conditions at the new outfall site. **STATUS:** *After final model evaluation of the new pattern in the fall, a change form will be developed in the winter to request replacement of the two existing patterns with the one new pattern, which will work at all river flows. Captured in the potential change forms list.*
- 3.2.3. [May 11] LMN RSW SOP. **ACTION:** NWW will provide SOP at August FPOM.
- 3.2.4. [May 11] LGS T-1 Transformer Iso-Phase Bus Seal Repairs & T-1/T-2 500 KV Disconnects Inspection. **ACTION:** Stephenson will investigate the potential for an emergency fishing closure during this work. **STATUS:** Moody added that he contacted Glen Mendel (WDFW) about the fishing closure.
- 3.2.5. [Jun 11] MCN count station debris on the picket leads. **ACTION:** NWW will confirm if there is a hole in the upstream lead and if there isn't, the upstream leads will be left out of the water all the time.
- 3.2.6. [Jun 11] LGS adult passage. **ACTION:** Moody and Dykstra will bring this issue to the SRWG forum. They will develop a draft one-pager, in conjunction with FPOM members.
- 3.2.7. [Jun 11] Mid-C dams' spill patterns. **ACTION:** Regional entities offer to work with the Mid-C dams to develop better spill patterns. NOAA Fisheries is the only agency that has a representative on the MCC. **STATUS:** *Hevlin talked to Bios at Chelan PUD. As of 7 June, they are experimenting with a uniform spill pattern at Rocky Reach to see if it reduces tailrace TDG.*
- 3.2.8. [Jun 11] MCN TSW removal. **ACTION:** Dykstra will provide Fredricks with times when the spill pattern was altered.
- 3.2.9. [Jun 11] Spill weir debris clogs. **ACTION:** NWW will draft language to allow for immediate spills when debris builds up in front of surface routes.
- 3.2.10. [Jun 11] MCN unused fishway entrances. **ACTION:** NWW will bring back a schedule detailing how much time it would take to fill the openings with concrete.

3.3.Action Items to be discussed later in the agenda

- 3.3.1. [Apr 11] IHR unit priority. **ACTION:** Bettin will re-write the unit priority table to better reflect the dates for unit priority when in single unit operation.
- 3.3.2. [May 11] LGS Pelicans. **ACTION:** Dykstra will check on the option of doubling up the hazers.

4. Updates

4.1.NWW Updates (Dykstra)

- 4.1.1. NWW Turbine cooling water strainer update. The spreadsheet will be posted to the website. <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>.
- 4.1.2. Transportation. Several interruptions to transport this year;
 - 4.1.2.1. TDA navlock outage resulted in a four day halt to transport.
 - 4.1.2.2. Flows prevented transport from all locations at times as well. Fredricks asked what the issues are related to barging and flow. Dykstra said the turbulence at the loading site make it difficult to get the barge in place and loaded.

- 4.1.2.3. Due to the tailrace elevation, the fish loading boom is close to being at a near flat angle, which will result in transport operations ceasing. Dykstra reported the units at LWG and LMN are at maximum production.
- 4.1.2.4. Hevlin commented that NWW realizes the importance of transport to NOAA Fisheries, and he commends NWW for keeping transport going during these flows, however, he doesn't feel the fish are going to suffer any given the temperatures and flows in river. NOAA Fisheries suggested the concern would be in TDG levels were exceeding 120%.
- 4.1.2.5. Dykstra reported that transported fish numbers are down a little from previous years but are in the ballpark of previous transport years.
- 4.1.3. MCN- Debris at WA count station and raising of picket leads for night time operation. Dykstra reported that tumbleweeds are building up on the count station picket leads. The Project suggested they would need to run the crane and clean the leads all night or lift the picket leads at nights. Moody said both sets of leads are out from 2100 until the morning. Fredricks suggested that once the leads are lifted, they need to keep the upper leads out so as not to trap fish. Richards suggested that years ago Brad Eby had cut a hole (guessed to be 16" x 12") in the upstream picket lead to let the fish move out if they do become trapped. Cordie said the shad won't leave though and TDA used to have a hole in the upstream lead but it has since been closed. At JDA, they have new leads so there is no hole in the upstream lead. **ACTION:** NWW will confirm if there is a hole in the upstream lead and if there isn't, the upstream leads will be left out of the water all the time.
- 4.1.4. MCN- Unit 7 OOS. RTS- 22 June 2011. Unit 10 rewind delayed until U7 RTS. Fredricks reported the gas levels are almost as high as Coulee (MCN levels are 140%) so taking units out of service won't help the TDG levels. Bettin asked when FPOM would discuss the option of going beyond the 1% turbine ops. Fredricks said USACE needs to recognize the importance of keeping gas levels down. He expects to see impacts in adults with TDG levels as high as they are.
- 4.1.4.1. Meyer asked if there were any signs of headburn being reported by the fish counters. Stephenson said she hasn't heard any reports of unusual fish conditions. Fredricks suggested the cause of headburn was never determined. Richards reported that NWW counters are seeing higher numbers of headburn but he couldn't say if the rate was increasing as well. He recommended talking to John Dalen for more detailed information. **ACTION:** Regional entities offer to work with the Mid-C dams to develop better spill patterns. NOAA Fisheries is the only agency that has a representative on the MCC.
- 4.1.5. MCN- TSW removal. TSWs were removed the afternoon of 8 June. The spill pattern was altered to allow for the removal. Lorz and Fredricks suggested that was the cause of the increase in TDG levels. Bettin asked if it removal results in a 10% jump in TDG, would be worthwhile to include a flow criteria for removal of the TSWs. Fredricks agreed that it may be a good idea. **ACTION:** Dykstra will provide Fredricks with times when the spill pattern was altered.
- 4.1.6. IHR- STS inspection. Scheduled for the end of May but turbidity was too high. The inspection will be completed as soon as conditions allow.
- 4.1.7. IHR- Unit 3 and Unit 4 OOS for 45 minutes on 2 June. Fish pumps OOS. Project personnel reported seeing a bird fly out of the tower and a puff of smoke. There was some debate as to whether the bird was an osprey or a crow. Spill was increased from 75K to 100K. The fish pumps were out of service for about a day.
- 4.1.8. LMN- Pelicans at outfall. 24 hour hazing has been implemented, though it stopped on 2 June when the birds left. If the hazing is needed, it may be resumed. There was talk of an Avian Task Force; to be called in for special ops...

- 4.1.9.** LGS- Powerhouse outage and adult passage. Returned to service a little after 1500 on 2 June. Prior to the return of the powerhouse, there was an average of about 100 fish passing. After the powerhouse returned to service, there was an average of about 1000 fish passing for several hours. Conder commented that just after the powerhouse was taken off-line, the fish counts increased as well. Dykstra said he asked Darren Ogden for a report on the condition of adults coming through after the powerhouse returned to service. D. Ogden reported back that the fish looked to be in good condition. Kiefer suggested we need a study that clearly determines what conditions delay adults at LGS. In 2005, there were primary turbines out and delays were seen in adult passage. Since then, there have been changes to the spill patterns. Fredricks suggested there is a large amount of RT data. Hevlin said he agrees with Kiefer. He and Moody need to get the team together to take a look at the data gathered from this year and previous years. Richards said that the 100% spill was spread across the spillway, in the past, the spill was concentrated in the southern bays. He suggested the north spill is what kept the fish passing the project. Dykstra also added that using a uniform pattern tends to pass more adults. **ACTION: Moody and Dykstra will bring this issue to the SRWG forum. They will develop a draft one-pager, in conjunction with FPOM members.**
- 4.1.9.1.** Dykstra reported that units 1-5 were returned to service. Unit 6 remains OOS.
- 4.1.10.** LGS- Damaged adult fishway fencing at north shore entrance. Due in part to the 100% spill, there is no longer handrail along the fishway but hanging into the fishway. The handrail was pulled out of the fishway but due to algae growth, a plan for complete removal and repair will be developed and implemented later (winter maintenance period). The vehicle access on the peninsula has been eroded as well. Bailey reported that the fishway inspection will not be completed in that area due to the safety concerns. Richards also reported that the waves resulting from the 100% spill washed over the orifice gates and back into the fishway.
- 4.1.11.** LGS- SW configuration. Currently in the low crest position and will remain there for awhile.
- 4.1.12.** LWG- Debris spill on 17 May. Dykstra retold the tale of an acre of debris backing up behind the RSW. Two large trees had caught, sub-surface, in front of the RSW and created a debris boom. As soon as the RSW was shutdown, the trees floated to the surface and everything floated over to spillbay 3. Fredricks asked how quickly the process took place. Hevlin got a call and an email was sent. Fredricks suggested a change form that would allow for a debris spill when these conditions are noted. He would like to see the Project have guidance for direct access to RCC in these types of events. **ACTION: NWW will draft language to allow for immediate spills when debris builds up in front of surface routes.**

4.2.NWP Updates

- 4.2.1.** TIE crane outage. Hausmann reported the crane has returned to service.
- 4.2.2.** BON PH2 fish screens. Hausmann is not ready to put anything back in place. The Project is using the fish units as an indicator of debris loading. The fish units are getting about 10' of drawdown during the day, but they seem to clear quickly when taken down to float trash.
- 4.2.3.** JDA STS inspections. Same issue as IHR. STS inspection will occur as soon as conditions allow.
- 4.2.3.1.** Lorz asked about an email that indicated a lot of debris on some screen. Zyndol clarified that it was the Unit 2 trashrack. The impacts of which are reported in the normal reporting from the smolt monitoring crew. Martinson asked if there were morts in the debris as it was removed from the trashrack. Zyndol reported that most

of the bio-techs are now sitting at the separator bars monitoring debris over the bars so they were not available on the deck when the rack was raked.

4.3. Researcher updates.

4.3.1. USFWS collecting 200 adult and 200 juvenile shad at BON.

4.3.2. Yakama Nation sampling adult coho at BON. Schwartz asked if the CRITFC researchers are collecting GBT data on the adults collected.

4.3.3. USGS collected juvenile lamprey from JDA.

4.3.4. TDA- Tribal lamprey trappers (headed by CTUIR) are looking for additional locations to set traps. Cordie referred to the pdf sent with the agenda and posted to the FPOM website. These are locations for additional traps. Jackson explained that there is increased need for translocation fish. There are several tribes attempting to collect adult lamprey. Each tribe is looking for about 100 lamprey from TDA. Last year they collected one lamprey, which was radio-tagged and released. These additional traps would be operated by Yakama and CTUIR tribes. Fredricks asked if these are the PVC funnel traps and how often and when they are checked. Jackson confirmed they are the funnel traps and the traps are checked in the morning after sitting overnight. Fredricks said the morning is when the adult salmon move as well so that isn't the best time for checking the entrance traps. Jackson explained that the trap would not be directly in front of any entrance, but off to the side. Right now this request is only for TDA. At JDA the traps are at the picket leads. At BON they are using surplus research fish and exploring the tailrace traps. Conder asked what was being used for bait. Jackson said there was no bait, just volitional entry. Fredricks asked how many traps at each location indicated on the pdf. Jackson said there would probably be two traps at the entrances; three to five at the count station; and three in the south channel. The locations will be closely coordinated with Project Fisheries. Fredricks didn't see an issue with the entrance traps as long as they are on the side, but the channel may impact migrating salmon though the south channel isn't the most used channel. Jackson said the traps will be on the bottom. Fredricks said he was concerned about the setting and checking activity, scent, etc. He doesn't anticipate a big issue but as the trap numbers increase, there may be more impacts. He also suggested checking the traps later in the day rather than first thing in the morning when salmon are entering the fishway. Lorz suggested checking the picket leads in the morning and the entrances later in the day (around noonish), maybe make it the last trap to check.

FPOM is ok with the increase in traps with the limitations on checking the entrance traps until after the peak salmon activity.

4.3.5. TDA- Yakama sturgeon broodstock fishermen are running out of bait and wanting to collect some shad. The fishermen are collecting plenty of sturgeon but not many of usable size. As a result, they are running out of bait and would like to drop a fishing line in the junction pool to pull out a couple of shad. They are checking with SMF and JMF personnel to see if shad are coming over the bars. Schwartz suggested the hoop net fishermen might be able to supply some shad. Hausmann said they are getting shad from the AFF. **FPOM says no fishing in the fishways.**

4.3.6. WDFW mortality study update. Conder reported that NOAA is holding to the AFF protocols, but working with WDFW to see if the AFF may be used while adhering to the protocols. WDFW may reduce their sample size. Discussions will continue. Hausmann added that some equipment may not be usable so it would be good to keep in mind that the condition of the AFF is pretty much the condition it will be in.

4.3.7. Kintama research. Martinson provided an update on the condition of fish collected. While holding 50 fish, 17 died and all had GBT. The idea is that the fish were held in

shallow tanks, the gas came out of solution and the fish died. This may indicate a more significant impact to their research fish than originally expected.

4.3.8. LMN testing. Dykstra reported that testing on new 6mm PIT-tags (for juvenile lamprey) occurred on 08 June.

4.4.FFDRWG Updates. No updates to report.

4.5.RCC update. Baus provided day 5 and day 10 inflow info. Priest day 5-290K, day 10- 269K. LWG day 5- 192K, day 10- 180K. BON day 5- 496K, day 10-471K.

4.6.BPA updates. Working collaboratively with the wind power.

- 5. BON Spillway Issues.** Schwartz explained Matt Cutts is the new PM for this project. Schwartz gave a brief background on the BON spillway erosion issues. He said Bay 9 is one of the more troublesome since the erosion is about five feet from the Main Dam gallery. He is requesting concurrence for doing a survey after spill season. The team expressed concern about the erosion under the apron between Bays 3 and 4. NWP is developing a contingency plan in the event there is a failure of the apron and/or Bay 9, 12, or 14. The team will head to ERDC to look at patterns with bays closed. They are aware that the BON spill pattern becomes less fish friendly when there are closed bays. Bettin asked what would happen if there is a failure. Schwartz said there is a bentonite seam at Bays 3 and 4, which will erode in the event of the apron failing. If there is a failure, there will need to be a coffer dam around half the spillway and complete reconstruction will need to occur. Fredricks suggested it would be easy to fill with grout and concrete, but that needs to occur. Fredricks suggested that a discussion needs to occur to determine if summer spill will be 95k flat or gas cap at night and how that would impact the erosion. Some FPOM members asked why this hasn't been addressed sooner. Schwartz explained that there is not a human life impact if the spillway fails, unlike if Willamette Valley spill gates or the MCR jetties fail.
- 6. Avian Hazing EA.** Please review and provide comments to Schwartz or Mackey by COB 21 June. Schwartz suggested this would be a good way to plug in to lethal take.
- 7. MCN.** Cranes 9 and 10 replacement. Will likely need to work above water on the Washington Shore during Jan and Feb 2013. Moody explained how the crane replacement would be carried out. **FPOM did not object to the work over the water during the winter maintenance season.**
- 8. MCN.** WFE (No. 4) closure and NFE No. 3- permanent closures and equipment removal scheduled for winter2012/13. These entrances have never been used and the bulkheads are starting to fail. The Project would like to concrete in the entrances. The work will take about six weeks and may get into the fish passage season. **FPOM is ok with permanently closing the entrances by filling them with concrete. ACTION: NWW will bring back a schedule detailing how much time it would take to fill the openings with concrete. Fredricks would like to have the fishway back by 1 March so if an extension is needed, then maybe on the front end though a two-year construction period would be far better.**
- 9. LWG NSE-1 condition.** Lower Granite personnel plan to restore partial operation to the NSE tomorrow morning (June 7). Although a planned outage window is scheduled from 1200 hours to 1600 hours, the actual work is expected to take 1.5 hours. Work includes raising the inoperative weir NSE-1 to the fully closed position, and the restoration of NSE-2 to normal operation. Currently NSE-1 is on sill and NSE-2 is "dogged off at 630.2' elevation. The planned changes will help the Lower Granite adult fishway meet criteria more efficiently. A crane was brought up from Little Goose to Lower Granite today. This crane will allow personnel and equipment access to NPE-1 and NPE-2 as the north elevator remains out of service. A bulkhead will need to be temporarily installed at the NPE

to reduce outside water pressure and allow weir movement. Fish pumps will also need to be out of service for 1 to 1.5 hours to reduce water pressure inside the fishway. For safety reasons, spillbay 8 (the spillbay closest to NPE 1 & 2) will need to be shut down to allow safe crane operation and working conditions. Scheduled spill will be distributed among the remaining 7 spillbays. No overall reduction in spill is planned. Once the work is completed, the temporary bulkhead will be pulled, the fish pumps will return to normal operation and the usual spill pattern over 8 spillbays will resume. During this work window, the ladder itself and the entrances at NPE and SSE will remain operational. This outage has been coordinated with NMFS and RCC. If for some reason this work cannot be accomplished as planned, the work will be accomplished on another day in a similar time period and work window.

10. Coordination/Notification forms needing approval.

10.1. BON PH1 turbine ops. Schwartz gave the background on this request. He reported that at FFDRWG there was a request for more historical information included in the white paper. He provided a handout showing the survival estimates from 2010.

10.1.1. Potential implementation limitations include;

- A. Spring/summer spill ops > 100K, concerns about fallback, and sea lion presence.** Lorz said delay was noted at 110K, so he recommends >110K and how many sea lions is too many. Fredricks said one sea lion in the spring but he does accept the 110K.
- B. Exceeding 120% TDG waiver.** Lorz has concerns about where the TDG is measured. **FPOM agrees to Warrendale gauge.** Lorz suggested there would be no noticeable difference by moving 20K from 300K spill. CRITFC doesn't support this and recommends USACE reconvene their TDG task force. Lorz doesn't believe gas is a problem above 120%. Fredricks said it is an action to assist in reducing TDG to meet the waiver. Conder said it is a baby step in the right direction.
- C. As a method to keep screens in at PH2.** Lorz agrees to this and suggests it could be better sold to the managers. He claims he doesn't see a biological benefit to this overall action and measuring biological benefit is nearly impossible. He suggests packaging this with the operation at PH2 as a way to keep the turbine volume neutral.
- D. Prior to 10 April, avoid forced spill by exceeding 1% at PH1.**

10.1.2. Lorz and Fredricks has some discussions about whether more fish passed PH2 and the spillway. Fredricks conceded and agreed with Lorz that more fish will pass PH2 and the spillway when PH1 is not running.

10.1.3. Lorz suggested Schwartz needs to break out the spillway survival since there were two treatments in 2010 (85k/gas cap v. 95K flat).

10.1.4. Fredricks and Lorz agreed that there was no desire to neither split the powerhouse nor cut into the 100K spill for BON. Fredricks suggested there were some options for implementation of the proposed action: implement as a whole; step-wise implementation as detailed in **10.1.1**; not implement the proposal but at least consider cutting off the bottom of the 1%, which is about 300 cfs. Bettin said he has been instructed not to give up operation so if we can add the 300 cfs to the top end, then BPA would be more agreeable. Fredricks agreed that this would be an additional component of the step-wise implementation. **Those FPOM members in attendance were in agreement with the movement of the 300 cfs from the bottom to the top of the 1% curve.**

10.1.5. ACTION: Schwartz will set up another special meeting to work through the FPOM concerns. This will be in conjunction with issuing a teletype for implementation when screens are re-installed at PH2.

10.2. JDA N Ladder outage in winter 2012_2013. *Approved.*

- 10.3. MCN hydroacoustic removal/recalibration. Fredricks expressed concern about the temperatures in the collection channel. *Approved.*
- 10.4. MCN Trolley pipe installation. *Approved.*
- 10.5. LMN Trolley pipe installation. *Approved.*
- 10.6. LWG Trolley pipe installation. *Approved.*
- 10.7. LMN Switchgear replacement. *Approved.*

11. Task Group Updates.

- 11.1. **FFU sea lion update.** No updates.
- 11.2. **FFU Avian observations.** No updates.
- 11.3. **Shad Fishery (Cordie).** No updates.
- 11.4. **AFF mods (Mackey).** CRITFC will provide information about what mods they would like to see. A future meeting will be scheduled with TAC and other policy folks. Mackey reported the grating and supports are in need of replacement sooner rather than later. The tank is going forward. Mods to the brail pool to keep the fish from getting under have been completed. PIT tag detection on the brail pool exit has not moved forward. **The task group will meet after the August FPOM.**
- 11.5. **Sturgeon task group (Hausmann).** Currently investigating tanks for salvage.

12. 2012 FPP Change Forms.

- 12.1. 12TDA001- spill pattern. *Approved, though begrudgingly since FPOM would like to see the wire ropes repaired.*
- 12.2. 12IHR001- 4. Turbine unit operations. *Approved.*

13. Potential 2012 FPP change forms.

- 13.1. BON ITS gate settings for kelts.
- 13.2. LMN spill pattern.
- 13.3. Updated acronyms from NWW and NWP. (specifically referring to TSWs, RSWs, SWs, etc)

14. Agenda Items for the July FPOM

- 14.1. Fish counting. This would be a discussion about when and where fish counting occurs. Budgets are getting squeezed so USACE would like to ensure fish counts are occurring for a purpose.
- 14.2. Critical Infrastructure. Fredricks would like a discussion about failing infrastructure

**OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE**



COORDINATION DATE- 8 June 2011

PROJECT- Bonneville Dam, First Powerhouse (PH1)

RESPONSE DATE- 9 JUNE 2011

Description of the problem- The NWP Corps of Engineers Turbine Survival Team submitted a White Paper to regional fish managers back in late May 2011 to review and discuss recommendations to extend the current PH1 operating limits. The recommendations are as follows:

Based on model observations, bead analysis data as well as the supporting biological data contained within this white paper, the TSP recommends moving the lower operating limit of these units up from the current lower end of the 1% range to the peak efficiency point (7.3 kcfs to 7.5 kcfs, as a hard constraint. We also recommend adopting a new upper operating limit at the best geometry point (11.5 kcfs under the model head condition tested). The TSP team recommends changing the current operating range for BI at a 55 ft. to 60 ft. of head from 7.3-9.8 kcfs to 7.5-11.5 kcfs. It is also understood that these new operating ranges may vary slightly up or down by 0.1-0.2 kcfs due to increasing or decreasing head over the season. This newly proposed operating limit expands the BI operating range per unit from the current 2.5 kcfs to 4 kcfs (7.5-11.5 kcfs). This TSP team recommendation will improve the hydraulic conditions within the BI MGR units thus providing a more safe route of passage for migrating juvenile salmonids that use BI turbines as one of their primary routes of passage past Bonneville Dam.

Type of outage required- NA

Impact on facility operation/Change of Conditions- At this time there are specific river conditions and flows that if met will allow the extended operation of the PH1 units outside of their current 1% operational range. The TSP recommends extending the operational range if situations below warrant extending the range:

1. Spring or Summer spill operations exceed 100K FPP Spill/Sea Lion Fallback Concerns
2. 120% TDG waiver is being compromised or is imminent
3. PH2 Unit Operational ranges need to be curtailed downward due to debris issues at either the VBS or STSs
4. Prior to implementation of Spring spill operations (10 April) to reduce the chances of forced spill due to exceeding PH hydraulic capacity of project.

Length of time for repairs/change- These proposed conditional changes will be put into effect once approved through the FPOM Process on 9 June, 2011.

Expected impacts on fish passage- Juvenile passage through PH1 MGR units at their best geometry configuration have been physically modeled and also biologically tested and results are showing improved and biologically positive conditions through the runner and tailrace area. Adult impacts will be expressed by reducing spill that exceeds the 100K limit thus reducing the

chances of adult fallback and increased tailrace predation by California Sea Lions. Water Quality impacts may be reduced by keeping TDG levels close to or below water quality standards of 120%.

Comments from agencies.

NOAA Fisheries- approved.

USFWS- -----Original Message-----

From: David_Wills@fws.gov [mailto:David_Wills@fws.gov]

Sent: Wednesday, June 08, 2011 4:53 PM

To: Schwartz, Dennis E NWP

Subject: Re: FPOM: Official Coordination (BON PH1 Operational Range)

Dennis,

I will not be able to attend the FPOM meeting tomorrow, so I am forwarding on my comments now.

Until a revised and comprehensive White Paper is submitted and thoroughly reviewed and discussed by the regional managers the Service will not support the implementation of the proposed Bonneville Powerhouse 1 turbine operations above the 1% range of peak efficiency, as requested in the coordination request. The coordination request is lacking in any comprehensive discussion of the impacts to the passage of juvenile fish being diverted to the turbines from the ice and trash sluice way and spill routes. The impact to juvenile fish passage and survival at the higher operation point of best geometry is speculative. Current smolt monitoring for GBT is not indicating that a problem exists for juvenile salmonids migrating in-river with the current elevated levels of TDG.

IDFG- Kiefer would like to see TDG over 130% before implementing this change.

Final results-



COORDINATION DATE- 17 May 2011

PROJECT- John Day Lock and Dam- North Fish Ladder

RESPONSE DATE- 09 June 2011

Description of the problem- The Corps of Engineers has been tasked with redesigning the John Day North Fish Ladder (JDAN) to improve adult salmon and lamprey passage, with construction scheduled to begin during the 2011-2012 in-water-work (IWW) period. Two IWW seasons are required to complete fishway improvements and construction requires work outside the anticipated normal 2012-2013 IWW period of 1 December through 29 February. In order to complete modifications and allow adequate time for post-construction testing, the Corps is requesting an extension of the IWW period to 5 November through 29 March. This necessitates a double ladder outage during the winter maintenance season, as the South Fish Ladder requires annual maintenance.

Type of outage required- North Fish Ladder outage outside normal IWW period; double ladder outage in winter (January or February).

Impact on facility operation- Early dewatering. Limited maintenance on south ladder.

Expected impacts on fish passage: Some potential for impact on Fall Chinook and steelhead passage while Units 2, 3, 4 are down to remove transducer from Unit 3. No affect on transport different than the other BPA outages.

Comments from agencies

Final results:



COORDINATION DATE- June 2, 2011

PROJECT- McNary Trolley Pipe Installation.

RESPONSE DATE- June 9, 2011 June FPOM meeting

Project General Description & Background: The Walla Walla District, Corps of Engineers (Corps) plans to install trolley pipes on the upstream face of McNary Dam during the period November 1 – 10 for the powerhouse and November 12 – 26, 2011 for the spill bays. These pipes are needed for the deployment of acoustic telemetry hydrophones for performance standard evaluations that are required by the 2010 Biological Opinion. The proposed project would remove the existing 8-inch trolley pipes from the pier noses and replace them with new, 4-inch pipes. The objective of this project is to fabricate and install a total of 38 trolley pipes ranging from 80-feet (for spillway pipes) to 140-feet in length (for power house pipes) across the power house and spillway at McNary Dam.

Trolley pipes will be mounted on all spillway pier noses. Power house trolley pipes will be mounted on the main pier noses between each series of three turbine intakes. The new pipes will extend up level with the spillway and power house deck of the dam, enabling research personnel to insert fish tracking equipment while standing on the deck of the dam. They will be lowered into place with a crane from the deck of the dam.

Divers will attach the pipes to the dam with anchor bolts. This will involve concrete drilling, installing anchors and bolting the pipe brackets in place.

Project Timing: The PDT for this project has met with the Operations and Maintenance Staff at McNary Dam with regards to start dates for trolley pipe installation. Considering turbine outage schedules and maintenance for 2011 they have agreed that the best time to start installation would be November, 2011, about two months after spill operations end for the year. The power house pipes would be installed first.

Description of the problem: The problem this work addresses is primarily safety of fish research personnel. Presently, trolley pipes are mounted on some or all of the spillway pier noses. These pipes generally extend 3 to 5 feet above the forebay water surface (25 to 35 feet below the deck of the dam). Thus, the researchers must obtain project permission to install equipment in these pipes via a boat in the forebay. Secondary benefits of installing the trolley pipes is less logistical work for the Project (i.e. spill or power house outages while research personnel insert fish tracking equipment into the pipes while standing in a boat in the forebay) and time-savings for the Walla Walla District and the research personnel.

Type of outage required: The pipe installations on the power house will likely require up to three units out of service at a time. If winter flows result in involuntary spill at least three spill bays would be closed (i.e. the pier noses of the bay where pipes were being installed, and the spill bays on either side of trolley pipe installation).

Impact on facility operation: Unit operating priorities will be impacted during pipe installations. The 2011 FPP states that when McNary turbine units are in operation, they will be operated to enhance adult and juvenile fish passage and juvenile bypass from March 1 through November 30. During this time period turbine units will be operated as needed to meet generation requirements in the following order: 1, 2, 3, 4 or 5 and then 14 through 6 in descending order when units are available for operation. McNary unit operating priority may be coordinated differently to allow for fish research, construction, or project maintenance activities.

Based on the estimate of completing two to three pipes per day (Please refer to the next section), turbine or spill bay outages for any given pier nose installation would only last one day.

Length of time for repairs: It is anticipated that two, possibly three, pipes may be installed during a typical workday. Based on previous work at Little Goose and Ice Harbor dams, it is generally estimated to require about four weeks at McNary. During winter months weather conditions often prevent work at the dams for days at a time. These types of delays cannot be predicted. However, all trolley pipes will be attached at McNary no later than March 1, 2012.

Expected impacts on fish passage: Adult fall Chinook migrations are ongoing in October at McNary with passage numbers generally declining in late October into November. Steelhead passage at McNary declines beginning in early October and generally ends by November 1 but lasts until late December some years.

The 10 year daily average for November 1 - 30 for McNary Dam is approximately 32 adult Chinook, 3 jack Chinook and 185 steelhead. About 26% of the steelhead are wild fish. The concrete drilling, installing anchors and bolting the pipe brackets in place would generate noise levels that would most likely be comparable to normal project maintenance activities such as trash rack raking.

The exit for the Oregon shore fish ladder at McNary is about 2000 feet from the nearest pipe installation at unit 1. The Washington fish-way exit is located approximately 500 feet from the nearest pipe installation at spill bay 1. Most of the work will take place at distances greater than these from the fishway exits. Noise levels should have minimal, if any, effect on adult fish in the McNary forebay.

Operating unit priorities can have an effect on the tailrace hydraulics and thus impact the ability of fish to find fish-way entrances. The greatest impact on fish passage at McNary will likely be at times when both unit 1 and unit 2 (on the south end of the power house) or units 13 and 14 (north end of the power house) are out of service. This should only occur for approximately 4 – 8 hours on two days while pipes are being installed at both ends of the power house. Although at the low flows expected in November, the delay caused by this operation in adults reaching a fish-way entrance, if any, should be minimal.

Conclusion: The operations outlined above may affect but are unlikely to adversely affect listed populations of adult steelhead and adult and jack fall Chinook salmon at McNary Dam.

Comments from agencies

Final results:



COORDINATION DATE- May 31, 2011

PROJECT- Lower Monumental Dam

RESPONSE DATE- June 9, 2011

Description of the problem: Lower Monumental Trolley Pipe installation Contract 10-C-0047 The Walla Walla District, Corps of Engineers (Corps) plans to install trolley pipes on the upstream face of Lower Monumental Dam during the period October 17 – 28, 2011. These pipes are needed for the deployment of acoustic telemetry hydrophones for performance standard evaluations that are required by the 2010 Biological Opinion. The pipes will be placed at each major pier nose between powerhouse units and on all spillway pier noses, with the exception of those in the RSW spillbay. The powerhouse pipes are approximately 140-foot long and the spillway pipes are approximately 80-foot long. They will be lowered into place with a crane from the deck of the dam. Divers will attach the pipes to the dam with anchor bolts. This will involve concrete drilling, installing anchors and bolting the pipe brackets in place. Noise levels will most likely be comparable to normal project maintenance activities such as trash rack raking. It is anticipated that two, possibly three, pipes may be installed during a typical workday.

Type of outage required: The pipe installations will likely require up to two units out of service at a time.

Impact on facility operation: Unit operating priorities will be impacted during pipe installations. During October the unit priority, according to the 2011 Fish Passage Plan, is 2,3,4,5,6,1. A footnote adds “If no spill is occurring, U1 may be operated at any priority level at the discretion of project personnel.”

Length of time for repairs: The work for the power house is scheduled for the week of October 17-21, 2011. The spillway portion of this work will occur the week of October 24-28, 2011

Expected impacts on fish passage: Adult fall Chinook and steelhead migrations are ongoing in October, with passage numbers generally declining in late October into November. The 10 year daily average for October 17 – 28 is 23 adult Chinook, 32 jack Chinook and 1,187 steelhead. About 10 to 30% of the steelhead is typically of wild origin. Little to no adult sockeye or lamprey passage occurs in October.

The north fishway exit is located approximately 250 feet from the nearest pipe installation at unit 1. The south fishway exit is located approximately 100 feet from the nearest pipe installation at spillbay 1. Most of the work will take place at distances greater than these from the fishway exits. Noise levels should have minimal, if any, effect on adult fish in the Lower Monumental forebay.

The juvenile fish bypass is operated October 1 through December 15 for adult fallback. Juvenile fish numbers in November will be largely composed of shad juveniles with extremely few salmonids in the mix. In that the vast majority of the river flow during the outage will be spill, any juvenile outmigrants will pass via this route. Under normal November low flow conditions, gas levels will not likely exceed the 120% gas cap.

Current data on fish passage is unavailable for the period of November through March and historic data for this period is unlikely to accurately represent current passage numbers.

Comments from agencies

Final results:



COORDINATION DATE- June 2, 2011

PROJECT- Lower Granite Trolley Pipe Installation.

RESPONSE DATE- June 9, 2011 June FPOM meeting

Project General Description & Background: The Walla Walla District, Corps of Engineers (Corps) plans to install trolley pipes on the upstream face of Lower Granite Dam during the period December 16, 2011 through January 10, 2012. These pipes are needed for the deployment of acoustic telemetry hydrophones for performance standard evaluations that are required by the 2010 Biological Opinion. The proposed project would remove the existing 8-inch trolley pipes from the pier noses and replace them with new, 4-inch pipes. The objective of this project is to fabricate and install a total of 14 trolley pipes ranging from 80-feet (for spillway pipes) to 140-feet in length (for power house pipes) across the power house and spillway at Lower Granite Dam.

Trolley pipes will be mounted on all spillway pier noses EXCEPT pier noses on either side of spillways with a removable spillway weir (RSW). An RSW is located in spill bay 1 at Lower Granite Dam. Power house trolley pipes will be mounted on the main pier noses between each series of three turbine intakes. The new pipes will extend up level with the spillway and power house deck of the dam, enabling research personnel to insert fish tracking equipment while standing on the deck of the dam. They will be lowered into place with a crane from the deck of the dam.

Divers will attach the pipes to the dam with anchor bolts. This will involve concrete drilling, installing anchors and bolting the pipe brackets in place.

Project Timing: The 2011 Fish Passage Plan designates the winter maintenance period at Lower Granite Dam as December 16 through March 24. Trolley pipe installation at Lower Granite is expected to begin in December 2011 and be completed by January 10, 2012.

Description of the problem: The problem this work addresses is primarily safety of fish research personnel. Presently, trolley pipes are mounted on some or all of the spillway pier noses. These pipes generally extend 3 to 5 feet above the forebay water surface (25 to 35 feet below the deck of the dam). Thus, the researchers must obtain project permission to install equipment in these pipes via a boat in the forebay. Secondary benefits of installing the trolley pipes is less logistical work for the Project (i.e. spill or power house outages while research

personnel insert fish tracking equipment into the pipes while standing in a boat in the forebay) and time-savings for the Walla Walla District and the research personnel.

Type of outage required: The pipe installations on the power house will likely require up to three units out of service at a time. If winter flows result in involuntary spill at least three spill bays would be closed (i.e. the pier noses of the bay where pipes were being installed, and the spill bays on either side of trolley pipe installation).

Impact on facility operation: Unit operating priorities will be impacted during pipe installations. Lower Granite turbine operation priority is described in the 2011 FPP as:

From March 1 through December 15 turbine units will be operated as needed to meet generation requirements in priority 1, 2, 3, then 4-6 in any order. Unit operating priority may be coordinated differently to allow for fish research, construction, or project maintenance activities. From December 16 through February 28 the units may be run in any order.

Based on the estimate of completing two to three pipes per day (Please refer to the next section below), turbine or spill bay outages for any given pier nose installation would only last one day.

Length of time for repairs: It is anticipated that two, possibly three, pipes may be installed during a typical workday. Based on previous work at Little Goose and Ice Harbor dams, it is generally estimated to require about two weeks for installation at Lower Granite.

During winter months weather conditions often prevent work at the dams for days at a time. These types of delays cannot be predicted. However, all trolley pipes will be attached at Lower Granite Dam no later than March 1, 2012.

Expected impacts on fish passage: Adult fall Chinook migrations are ongoing as late as mid-December at Lower Granite, with passage numbers generally declining in September and October. Adult steelhead passage at Lower Granite is declining in October and November and ends by mid-December.

The 10 year daily average for December 1 – December 30 for Lower Granite Dam is less than one adult Chinook and jack per day, and 58 steelhead. About 18% of the steelhead are typically of wild origin. There is no adult sockeye or lamprey passage occurs in this time period.

The concrete drilling, installing anchors and bolting the pipe brackets in place would generate noise levels that would most likely be comparable to normal project maintenance activities such as trash rack raking.

The exit for the fish ladder on the south shore at Lower Granite Dam is about 160 feet from the nearest pipe installation at unit 1. The exit is over 1100 feet from spillbay 8 on the north side of the dam. Most of the work will take place over 200 feet from the fishway exit. Noise levels should have minimal, if any, effect on adult fish in the Lower Granite forebay.

Operating unit priorities can have an effect on the tailrace hydraulics and thus impact the ability of fish to find fish-way entrances. The greatest impact on fish passage at Lower Granite may occur when units 1 and 2, on the south side of the power house, or units 5 and 6, on the north end of the power house, are turned off.

This should only occur for approximately 4 – 8 hours on two days while pipes are being installed at the north and south ends of the power house. Although at the low flows expected in December and January, the delay caused by this operation in adults reaching a fish-way entrance, if any, should be minimal.

Conclusion: The operations outlined above may affect but are unlikely to adversely affect listed populations of adult steelhead and adult and jack fall Chinook salmon at Lower Granite Dam.

Comments from agencies

Final results:



FPP Change Forms



Change Request Number: 12TDA001 Spill Table Revision

Date: May 9, 2011

Proposed by: Greg Bowers, COE - NWD

Location of Change: Section Table TDA-6 2010 Spill Pattern

Proposed Change: Revised spill table for TDA.

Reason for Change: 2011 FPP Table TDA 6 - 2010 Spill Pattern, was misleading and needed clarification. Spillway bay numbers: 10, 11, 13, 16, 18, 19, and 23 are highlighted as “operationally restricted because of structural or wire rope issues” yet gate openings are identified as if they would actually be operated during normal operating conditions. This was misleading because these gates will not be operated under normal conditions due to these limitations. The revised spill table deleted the gate openings for the spillway gates that will not be used during normal operating conditions in an effort clarify the actual spill pattern.

Comments from others:

Record of Final Action:



Change Request Number: 1IHR001

Date: June 7, 2011

Proposed by: BPA

Proposed Change:

4. Turbine Unit Operation and Maintenance.

4.1. Turbine Unit Operation. When in operation, Units will be operated to enhance adult and juvenile fish passage from March 1 through November 30. During this time period Units will be operated as needed to meet generation requirements in the priority order shown in **Table IHR-4**. Model studies of Ice Harbor Dam show that spilling at lower river flows can cause eddying in front of the powerhouse. To provide the best fish passage conditions during periods of spill, it is important that the Units operate in a specific operating order to minimize eddying conditions. Unit 6 transformer has an internal fault and is generating gases that are indications of arcing and the levels are increasing with time, so it is desired to run this unit in a last on, first off.

The Sacajawea 500/115kV transformer is connected to the Ice Harbor-Franklin No. 2 115kV line, and Ice Harbor should not operate a single unit on Ice Harbor-Franklin No. 2 115kV line. The operation of a single unit on Ice Harbor-Franklin No. 2 115kV line jeopardizes BPA system reliability. IHR should not be run as a single or two unit project if that unit(s) is unit 3 and / or 4 without switching those units to the Ice Harbor-Franklin No. 3 115kV line, disconnecting the Ice Harbor-Franklin No. 2 115kV line from Ice Harbor and disabling the transfer trip for the Ice Harbor-Franklin No. 2 115kV line at Ice Harbor. This switching is necessary to prevent the loss of all Ice Harbor generation and the Sacajawea transformer if there is an outage of the Ice Harbor-Franklin No. 2 115kV line.

If single unit operation is necessary and switching has not occurred in the yard run unit 1, 2, 5, 6. Running units 3 and 4 alone on the Ice Harbor-Franklin No. 2 115kV line can only occur if the powerhouse operator can accomplish the needed switching. If unit 1 is out of service, and

switching has not occurred then operate the following unit priority when operating more than one unit: 2,3,5,4,6.

~~In order to provide BPA system reliability Ice Harbor is operationally restricted to single unit operation on Ice Harbor Franklin No. 1 115kV line and the Ice Harbor Franklin No. 3 115kV line only. Ice Harbor cannot operate a single unit on Ice Harbor Franklin No. 2 115kV line. The operation of a single unit on Ice Harbor Franklin No. 2 115kV line jeopardizes BPA system reliability. If single unit operation is necessary and switching has not occurred in the yard run unit 1, 2, 5, 6. Running units 3 and 4 alone on the Ice Harbor Franklin No. 2 115kV line can only occur if the powerhouse operator can accomplish the needed switching. If unit 1 is out of service then unit priority will be 2, 3, 5, 4, and 6, in order to limit the number of units out of service due to switching.~~

Table IHR-4. Unit Operating Priority for Ice Harbor Dam.

Season	Time of Day	Unit Priority*
January 1 – December 31 single unit operation w/o switching.	24 hours	1,2,5,6,
March 1-November 30	24 hours	<u>1,3,4,2,5,6 (see ref. 4.1 Par. 2 above)</u>
December 1 – February 28	24 hours	<u>Any order (see 4.1 Par. 2 above)</u>

4.1.1. The hours of operations may be coordinated and adjusted in-season by CENWW-OD-T (through coordination with TMT) if fish passage or other conditions at the project require it.

March

Reason for Change:

Comments from others:

Record of Final Action:



Change Request Number: 12AppALMN001 Special Project Operations Appendix A

Date: 4 May 2011

Proposed by: James Gale / Tim Dykstra /Greg Moody

Proposed Change: The following Special Project Operations need to be added to 2011 FPP Appendix A for Lower Monumental

1.8 Emergency Diesel / SQ2 installation contract (LSR Diesel Generator and Switchgear Replacement Projects); The contract work for on the SQ2 portion of this job will require two power house outages. The first outage will be necessary to install temporary power to keep critical systems online while the SQ2 is being replaced. The second outage will be necessary to remove the temporary power and cut over to the new SQ2 panel. The CO2 fire suppression is fed out of SQ2 and generation is not permitted unless the CO2 system is active. This work is subject to normal contractual delays and impacts. The placeholders for this work are in November of 2011. These outages will be all 6 units off line and back feeding the power house via BPA feed.

1.9 Lower Snake Exciter Replacement contract; A contract has been awarded to install new exciters on Units 4,5 and 6. Unit tests will be accomplished on units 4, 5 and 6. Testing will involve running the test unit out of fish priority sequence and outside the 1% criteria. The

anticipated work time is November 2011 to March 2012, however this is subject to normal contractual delays and impacts. Test durations will be minimized to the extent possible. Testing is subject to the contractor's approved plan and is unknown at this time. Portions of the testing are expected to occur outside the 1% criteria. Outages and testing will be scheduled through normal BPA and RCC channels.

1.10 Lower Monumental Trolley Pipe installation; The installation will happen in 2 phases, one for the power house and the second for the spillway. The work for the power house is scheduled for the week of October 17-21, 2011. This evolution involves diving to install the pipe. This work will affect unit priorities as units are out of service for this work. The outage will be up to 3 units out at a given time to facilitate the work. The spillway portion of this work will occur outside the week of October 17-21, 2011. Outages will be coordinated and scheduled through normal BPA and RCC channels.

1.11 Main Unit 3 Bearing Oil Pump installation; Lower Monumental has a capital improvement project to install new AC/DC turbine guide bearing pumps in Main units 1 - 3. In order to complete this project by the end of FY 11 it will be necessary to take unit 3 out of service prior to its scheduled annual outage in November. The pumps for units 1 & 2 shall be installed during their annual maintenance outage scheduled prior to September 30. The Unit 3 outage is tentatively scheduled for 6-9 September. This work will require a deviation in the fish unit priority sequence.

Reason for Change: Paragraph 1.8 and 1.9; At the time the FPP was in draft, it was thought this work would not need this level of outage necessary for this work. Since the contracts have been awarded and specific discussions of the work have evolved to a point to determine that we will need this level of outage to complete the work.

Paragraph 1.10; This work was scheduled for last fall. This work was delayed due to the amount of work taking place at the nav lock and fish winter maintenance.

Paragraph 1.11; this work was funded under BPA small cap and was not funded at the time of writing of the FPP. This work is now funded and we are scheduling it accordingly.

Comments from others:

Record of Final Action:

May 2011

May 2011							June 2011						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14
8	9	10	11	12	13	14	15	16	17	18	19	20	21
15	16	17	18	19	20	21	22	23	24	25	26	27	28
22	23	24	25	26	27	28	29	30	31	1	2	3	4

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 1 - 7	May 1 Happy Birthday	2	3 9:00am 10:00am FPAC	4 NWW FFDRWG	5	6	7
May 8 - 14	8 Mother's Day	9 1:00pm 3:00pm Special FFDRWG - TDA East Fish Ladder AWS backup (UNCLASSIFIED) (NOAA Portland Office - Mt. St. Helen	10 9:00am 10:00am FPAC delayed mortality workshop	11 9:00am 12:00pm TAC tour of AFF 9:00am 12:00pm TMT	12 9:00am 3:00pm FPOM	13 9:00am 4:00pm SRWG	14
May 15 - 21	15	16	17 12:30pm Conference and 9:00am 10:00am FPAC Workshop on Age and Size at Maturity of Ch3	18 11:30am 12:30pm FPOM call re: BON STs	19 6:00am 9:00am 12:00pm SCT	20 BON STs pulled units 14-16	21 6:30am
May 22 - 28	22	23 BON STs pulled units 12,13,17,18	24 9:00am 10:00am FPAC 10:30am 12:00pm BON MGR white paper	25 9:00am 12:00pm TMT	26	27	28
May 29 - Jun 4	29	30 Memorial Day Holiday	31 9:00am 10:00am FPAC	Jun 1	2	3	4

June 2011

June 2011							July 2011						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14
8	9	10	11	12	13	14	15	16	17	18	19	20	21
15	16	17	18	19	20	21	22	23	24	25	26	27	28
22	23	24	25	26	27	28	29	30	31				

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 29 - Jun 4	May 29	30	31	Jun 1	2 9:00am 1:00pm MWP-FFDRWG - Mackey, Tammy M MWP	3	4
Jun 5 - 11	5	6	7 9:00am 10:00am FPAC	8 9:00am 5:00pm COPS Regional Meeting #1 (The Dalles) 9:00am 12:00pm TMT	9 9:00am 3:00pm FPOM	10	11
Jun 12 - 18	12	13	14 9:00am 10:00am FPAC	15	16 9:00am 12:00pm SCT	17	18
Jun 19 - 25	19 Father's Day	20	21 9:00am 10:00am FPAC	22 9:00am 12:00pm TMT	23	24	25 Happy Birthday
Jun 26 - Jul 2	26	27	28 9:00am 10:00am FPAC	29	30	Jul 1	2

Mackey, Tammy M NWP

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5/27/2011 2:58 PM

July 2011

July 2011							August 2011						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
3	4	5	6	7	8	9	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28	29	30	31			
31													

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jun 26	27	28	29	30	Jul 1	2	
Jun 26 - Jul 2							
3	4	5	6	7	8	9	
Jul 3 - 9		Independence Day Holi	9:00am 10:00am FPAC	9:00am 12:00pm TMT		Happy Birthday	
10	11	12	13	14	15	16	
Jul 10 - 16		Happy Birthday	9:00am 10:00am FPAC	9:00am 5:00pm COPS Regional Meeting #2 - Granite + Transport (in Portland (Actual location TBD))	9:00am 3:00pm FPOM		
17	18	19	20	21	22	23	
Jul 17 - 23			9:00am 10:00am FPAC	9:00am 12:00pm TMT	9:00am 12:00pm SCT	Happy Birthday	
24	25	26	27	28	29	30	
Jul 24 - 30			9:00am 10:00am FPAC				
31	Aug 1	2	3	4	5	6	
Jul 31 - Aug 6							