CENWP-OD 20 August 2009

MEMORANDUM FOR THE RECORD

Subject: FINAL minutes for the 20 August 2009 FPOM meeting.

The meeting was held in the St. Helens Room at NOAA's Portland Office. In attendance:

Last	First	Agency	Office/Mobile	Email
Bailey	John	USACE	509-527-7123	John.c.bailey@usace.army.mil
Baus	Doug	USACE	503-808-3995	Douglas.M.Baus@usace.army.mil
Benner	David	FPC	503-230-7564	dbenner@fpc.org
Bettin	Scott	BPA	503-230-4573	swbettin@bpa.gov
Burger	Carl	Smith-Root	360-573-0202 x112	
Clugston	David	USACE	503-808-4751	David.a.clugston@usace.army.mil
Cordie	Bob	USACE	541-506-7800	Robert.p.cordie@usace.army.mil
Dykstra	Tim	USACE	509-527-7125	Timothy.A.Dykstra@usace.army.mil
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Fryer	Derek	USACE	509-527-7280	Derek.s.fryer@usace.army.mil
Hevlin	Bill	NOAA	503-230-5415	Bill.hevlin@noaa.gov
Kiefer	Russ	IDFG	208-334-3791	rkiefer@idfg.idaho.gov
Klatte	Bern	USACE	503-808-4318	Bernard.a.klatte@usace.army.mil
Kruger	Rick	ODFW	971-673-6012	Rick.kruger@coho2.dfw.state.or.us
Lorz	Tom	CRITFC	503-238-3574	lort@critfc.org
Mackey	Tammy	USACE	541-374-4552	Tammy.m.mackey@usace.army.mil
Martinson	Rick	PSMFC	541-296-8989	rickdm@gorge.net
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Parkin	John	Smith-Root	360-694-8378	
Rerecich	Jon	USACE	541-374-7984	Jonathan.g.rerecich@usace.army.mil
Sawka	Mark	USACE	503-808-4951	Mark.J.Sawka@usace.army.mil
Schwartz	Dennis	USACE	541-374-4567	Dennis.e.schwartz@usace.army.mil
Scott	Shane	NWRP	360-576-4830	Sscott06@earthlink.net
Stephenson	Ann	WDFW	360-906-6769	stephaes@dfw.wa.gov
Sweet	Jason	BPA	503-230-3349	jcsweet@bpa.gov
Volkman	Eric	BPA	503-230-3182	etvolkman@bpa.gov
Wills	David	USFWS	360-604-2500	David_wills@fws.gov

Cordie, Fryer, Hevlin, Kiefer, Mesa, Morris called in. Thank you to BPA for getting a conference line.

1. **Finalized results from this meeting.**
   - **1.1.** July FPOM minutes approved.
   - **1.2.** .FPOM approved FPP change form 10IHR001.
   - **1.3.** FPOM approved coordination for the LWG RSW repairs starting 15 October.
   - **1.4.** FPOM could not come to a resolution regarding the removal of the LWG spillbay weir. TMT will continue the discussion.
   - **1.5.** FPOM says ok to closing LGS NSE-2 to 2.5'.
   - **1.6.** FPOM approved the spill response plans, noting that they expect each project to use some common sense and coordinate with multiple agencies and Project Fisheries before determining it is necessary to shutdown fish passage facilities.
   - **1.7.** FPOM says no to the BON spillway survey, since there are still a lot of fish passing the dam in early September.

1.8. FPOM could not come to a resolution regarding the BON Maintenance and CRITFC Treaty Fishery issue. TMT will further discuss the issues.
1.9. FPOM could not come to a resolution regarding the TDA ITS study.
1.10. FPOM says ok to the one day outage of the ITS on 27 October, if needed, for transducer replacement.

2. The following documents were provided or discussed.
2.1. *Agenda, Fish Passage O&M Coordination Team.*
2.2. *MCN daily collection data for 1 July though 19 August.* Page 10
2.3. *Coordination forms* Pages 11-13
2.3.1. *MCN fish pump #3.* Page 11
2.3.2. *MCN trash rack cleaning.* Page 12
2.3.3. *LWG RSW repairs.* Page 13
2.4. *FPOM contact information list.* Page 14
2.5. *BON spill response plan.* Pages 15-16
2.6. *TDA/JDA spill response plans.* Page 17
2.7. *Outage schedules.* Pages 18-19
2.7.1. *BON outage schedule.* Page 18
2.7.2. *TDA outage schedule.* Page 19
2.7.3. *JDA outage schedule.* Page 19
2.8. *CRITFC Treaty Fishery (2009-C5)* Pages 20-21
2.9. *Draft minutes from the TDA ITS meeting.* Page 22
2.10. *TDA ITS Ops for Overwintering Adult Summer Steelhead Downstream Passage.* Available at http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2009/
2.11. *Smith-Root UMT proposal.* Pages 23-29
2.12. *FPP change forms.* Page 30
2.13. *Fisheries calendar.* Pages 31-33
2.14. *NWW updates.* Pages 34-35

3. Review/Approve Agenda and July Minutes. July minutes approved.

4. Action Items
4.1. [Jun 09] JDA avian array. **ACTION:** Cordie will provide an update at the July FPOM.
STATUS: *To summarize the status of the avian array design:*
4.1.1. *We are currently completing an internal review of the 60% report.*
4.1.2. *60% report will go out for regional review within a couple of days*
4.1.3. *The PDT has tentatively selected Alternative 2 as the preferred alternative (synthetic lines, no pole in river)*
4.1.4. *VE study is complete, and report should be back to the PDT in a few days. The VE team recommended that the PDT look at aluminum cables for the array lines (aluminum is used for transmission lines), and they will suggest improvements for anchoring and break joints for safety.*
4.1.5. *The PDT will review the VE recommendations and consider integrating the proposals into the design.*
4.1.6. *PDT is on schedule to send contract out in October. 90% report in September.*
4.1.7. *As a side note, Scott Pastere is trying to coordinate a demonstration of the LRAD technology in Hood River sometime in September. This may be in conjunction with the John Day gull predation mgmt meeting I'm organizing (if scheduling allows). If*

time allows, you may want to float the idea of installing eagle nesting platforms at John Day and/or at Miller Rocks.

4.1.8. Klatte asked why synthetic lines. Cordie responded that the synthetic line is a small diameter rope that is stronger and lighter than stainless steel. They will also be able to span the entire tailrace without a pole in the river. He also commented that the VE study suggested using aluminum instead of synthetic line. The strength is supposed to be superior.

4.1.9. No start up date set yet. Cordie stated that the schedule is really tight; there is no room for lost time.

4.1.10. Lorz asked if the array will be the one that was designed for the 2009 season. Cordie confirmed that the array will cover the entire BRZ.

4.1.11. Wills asked about diameter and color of the line. Cordie said that color was discussed and the possibility of varying color to further confuse avian predators.

4.1.12. Will the wire need to be removed to install the deflector? Depends on when the deflector gets installed.

4.1.13. This will need to be discussed at the September FPOM and Tackley is trying to schedule a meeting for the week of 21 September for Regional discussion.

4.1.14. Cordie also mentioned that the team is looking at some sound deterrents as well.

4.2. [Jul 09] Nighttime vs. lamprey counting language in the contract. **ACTION:** Moody will look at the contract language to clarify whether the counters are recording everything on the nighttime video or if they are just counting lamprey. ***STATUS:*** *Lamprey are the only fish being reported, as per the contract language. The counters are seeing other fish but as per the contract, USACE is receiving only lamprey counts. At LWG, there are sockeye counts as well. The next contract will be worded differently.*

4.3. [Jul 09] LWG operation of fish trap. **ACTION:** Dykstra will bring the results of the inspection to the December or January FPOM. ***STATUS:*** *Did the inspection; couldn't find anything obvious. Sean Milligan anticipated the pipe would be plain steel but it is a concrete lined pipe. This means there is increased roughness which could change flow, and it changes the potential volume capabilities of the pipe. Calculations were based on a steel pipe, not a concrete lined pipe.*

4.4. [Jun 09] BON spillway repairs. **ACTION:** Lee will provide updates to FPOM.

4.5. [Jun 09] JDA fish ladder outages. **ACTION:** Kruger will inquire as to any concerns within ODFW but gives his concurrence now.

4.6. [Aug 09] LWG operation of fish trap. **ACTION:** Dykstra will provide an updated report to FPOM in September.

4.7. [Aug] BON ITS automated gates. **ACTION:** Rerecich to provide update in Sept.

4.8. [Aug 08] MCN temperatures. **ACTION:** Lorz will draft FPP language.

4.9. [Aug 08] MCN crane. **ACTION:** Dykstra will provide an update when possible.

4.10. [Aug 08] MCN lamprey entrance test. **ACTION:** D. Fryer to send data to FPOM.

4.11. [Aug 08] LGS spillbay weir. **ACTION:** Dykstra will send the study to Kiefer.

4.12. [Aug 08] BON Fish counts. **ACTION:** NWP will draft language clarifying that split flows can only occur when flows are greater than 100kcfs.

4.13. [Aug 08] BON spillway survey. **ACTION:** Mackey to find out why the survey can not wait until October. ***STATUS:*** *The survey team has decided they can wait until the week of 26 October, when fish numbers have (historically) dropped below 1000 fish.*

4.14. [Aug 08] Smith-Root proposal. **ACTION:** Mesa to develop a detailed study plan and have available to FPOM by October.

5. Updates.

5.1. BON JMF flushing water. Rerecich says the timing issue has been corrected.

5.2. BON Fish unit trash rake. Klatte reported that a test has been designed. It will occur in mid-September. Prior to that, BON is going to install additional guides to the bottom so the rake won't float away from the trashrack. Rerecich will fly the ROV to look at the rake as it operates. If it doesn't work, the perf-plate and teeth will be modified and if that doesn't work, it may be scrapped. The rake is nearly at the maximum capacity of the gantry crane, so there are several issues that will need to be addressed. Klatte invited everyone to witness the test.

5.3. BON truck pad alterations. Bailey reported that the mods were completed on 5 August. The mods were tested on 6 August. Bailey thanked Rerecich and Pat Hunter for their assistance on the project. The mods include a new ground catch basin so hoses and water lines can be flushed without eroding the gravel pad. For midi-tank (300 gallon tank) users there is a new 1.5" hose and hose hanger. For 3500 gallon trailer tanker users, a revamped 4" hose and new ¾" hose hanger are suspended from the overhead pipe. All flush hoses have individual shut-off valves and all hoses, except the 4" overhead hose, have nozzles. A draft operations procedure, which will incorporate the mods is drafted but needs pictures and editing before distribution.

5.4. BON ITS automated gates. Rerecich reported noise interference between the control room and the communications on the +77 level. 6C has issues with the cables; it appears to get hung up on the guides. Fredricks asked if the other gates are working. 6C is the only one with issues now and the contractor and Project are working on it now.
ACTION: Rerecich will update FPOM in September.

5.5. TDA juveniles in gatewells. Cordie would like this crossed off the list since they are not seeing any pattern as far as which gatewells have juveniles.

5.6. NWP ROV inspection results.

5.6.1. Rerecich explained that the Project has a new ROV so there was a bit of a learning curve. Inspections took a little longer than planned but times should get shorter as he gets more comfortable with navigating the ROV. No issues were found. Cordie asked if there were problems with ladder flow for the ROV. Rerecich reported that the fish valves were throttled back but the ladder flow wasn't a problem, though they didn't go over any weirs. Klatte asked if the plan is to no longer use the Army divers now that the Project has their own ROV. Rerecich said that is the plan.

5.6.2. Cordie reported no problems found at TDA or JDA. The ROV inspection was performed by the Army or Navy ROV team.

5.7. MCN Temperature. Dykstra provided a handout and reported that MCN is back to background levels of mortality. Lorz asked if a trigger should be included in the FPP. Fredricks commented that a model, which takes into account temperatures, is needed and should be doable, given the information available. The model should be able to predict temperatures and thermal shock and provide information for the best operation of units, spill, etc. Dykstra said the funds for development should come from CRFM. Fredricks said the model is on the SCT spreadsheet but it well below the line. **ACTION:** Lorz will draft FPP language.

5.7.1. As background- USACE began collecting juvenile fish for transport from MCN Dam on 15 July. The first barge load of fish departed MCN on 16 July. Water temps and juvenile fish mortality in the MCN bypass and holding facilities increased rapidly between 16-18 July, along with the hot weather in the area. Project staff reported river temps ranging between 64°F and 71°F at various points in the bypass system. It is believed that this relatively large temperature range stressed fish

acclimated to cooler water, then exposed to warmer water and then held up to 48 hours before being transported. The daily average mortality rate between 16 – 21 July was 9.3%. The highest mortalities were reported on 18 July, with 11101 mortalities counted in the bypass/collection system. This represented 17.1% of the fish collected that day. Mortalities have dropped substantially since then as a result of stabilized water temperatures, altered turbine operations (implementation of North powerhouse priority), and reduced fish holding times. Fish were bypassed from 22 – 23 July when collection for daily transport operations began. 23 July facility mortality rates have been 2% or less. Descaling rates since 23 July have remained less than 2% except on 18 August when the rate was 2.7%.

5.8. MCN- fish pump 3 return date. Bailey reported that the fish pumps returned to service on 13 August. A notification was sent earlier this month and is attached to the minutes.

5.8.1. The crane for the screens shed parts into the forebay earlier this week.

ACTION: Dykstra will provide an update as soon as he gets one.

5.9. MCN – OR ladder trash rack. Bailey reported the racks were cleaned on 18 August. Had divers in the water so they inspected the traveling AWS screens and found one broken. Needs to be replaced during winter maintenance. Can still provide irrigation water, but all AWS flow is going through one screen. Will repair the north and replace the south screen. Meyer asked if the north one was the one that doesn't meet criteria. Dykstra confirmed that is the one. Fredricks would like a separate discussion about this issue. There was further discussion and confusion as to what size the trash rack is and how effective it may be. **ACTION:** Discuss at September FPOM

5.10. IHR unit priority. Bettin gave a brief overview of the FPP change form. Can not run units 3 or 4 by themselves. This table puts the unit priority back to where is should be. The transformer should be good and a spare has been purchased. **FPOM approved 10IHR001.**

5.11. Fish count reporting. Klatte explained that John Dalen is the only one that can get the official numbers posted. He is currently out of the office due to illness but he has allowed FPC access so they can post the counts. Benner has some questions about the FTP site that Dalen uses. Due to computer security, Dalen is the only one that can access the computer and the program can't be applied to multiple computers. Updates will be provided until a solution has been found.

5.12. Start of truck transport. 16 August was the start of transport. Trucks are releasing on even days.

5.13. BON TIE crane. Should arrive sometime. Updates will continue at each meeting.

6. FPOM contact information. Please review the contact information and provide any updates to Mackey. An updated list will be provided in the August minutes.

6.1. Derek Fryer would like to be added.

7. Ladder operation at MCN and IHR for improved lamprey passage. D. Fryer explained the test and the results. Appears to have no difference in passage between standard operation and reduced velocity operation. **ACTION:** Fryer will send the data to FPOM. Kruger asked about the lack of difference in lamprey passage. Dykstra explained that the point of the test was to make sure salmon passage wasn't compromised before implementing this operation change more permanently.

7.1. The IHR results will be available next week.

8. **LWG RSW repairs – restore stow capabilities.** Dykstra explained the need for the repairs. A coordination form is attached to the minutes. **FPOM says to get the work done.**

9. **LGS spillbay weir – date to remove from service.** When the river drops below 25kcfs, the spillbay weir needs to be removed. The crane to remove the spillbay weir needs to be repaired. Flow predications indicate flows should drop below 25kcfs on the weekend of 28 August. The Project maintenance would start work on the crane on 27 August while spilling a flat pattern. Dykstra believes the juveniles won't be negatively impacted. The option is to repair the crane work on the 27th or the 31st.
   - **9.1.** Kruger can't give a response at this time. He needs some more clarification. He and Dykstra will talk off-line.
   - **9.2.** Hevlin asked how the 25kcfs was determined. Dykstra explained it was determined at ERDC. Lorz and Sweet commented that you block adults as well.
   - **9.3.** Kiefer stated he thought there was evidence that there will be a reduction of surface passage for juveniles. He also questioned the thought that spilling greater than 30% was bad for adults. He also asked if the Region hadn't paid for a study to determine what was causing the delay in adult passage at LGS. **ACTION:** Dykstra will send the study to Kiefer. Lorz explained that the study involved three spill patterns but they never tested above 30% spill.
   - **9.4.** Dykstra explained that the spill volume will remain the same. Kiefer explained that he isn't so concerned about volume, but rather fish passage numbers. The surface route passes fish and he prefers to leave it open until problems with adult passage are clearly seen. Hevlin chimed in that he would like to see the bulk pattern instead of a flat pattern. Dykstra said they can still spill a bulk pattern.
   - **9.5.** Dykstra says the FPP states the weir will be pulled when flows drop below 25kcfs. Kiefer asked about the FOP, which he found over-rides the FPP. Dykstra said that the FOP states 30% will be spilled until 2400 on 31 August, but doesn't specify individual bay operation.
   - **9.6. TMT will continue to discuss this issue.** They had agreed to the work starting on 31 August. The low flow issue was not discussed at TMT.

10. **LGS – Plan to address damage to NPE-3.** A cracked bulkhead became more evident at NPE-3 last spring after the start of spillbay 1 weir operations. Fish passage does not appear to be affected even though turbulence is evident in the adult fish collection channel. When the spillbay weir was temporarily taken out of service on 8 July, water flowed from the collection channel through the crack and out into the spill basin. Previously, water flowed in the opposite direction into the collection channel. Facility personnel anticipate that the condition will again appear with the cessation of spill on 31 August. This condition will likely cause parts of the adult fishway to fall out of criteria. Because replacement or repairs will require a fishway outage during peak fish passage periods, USACE bios propose postponing repairs until late October or November, after fish have passed. In the meantime, the weirs at the north end of the fishway would be adjusted as outlined in the 2009 FPP for optimal operation. For safety reasons, deteriorated bulkhead at NPE-3 and NSE-3 will need repair or replacement prior to the start of the winter maintenance period.
    - **10.1.** Dykstra explained that NPE-3 used to be open but many years ago it was bulk headed closed. With the spillbay weir operating, the concrete bulkhead has been knocked loose. The bulkhead needs to be removed and replaced. Lorz says to look at the RT data from 2007 to see if fish are attempting to enter in that area. The bulkhead does help the ladder maintain criteria though.

10.2. Dykstra would like to continue operating as is and replace during winter maintenance period.

10.3. Right now, with the spillbay weir operating, there is little water exiting the broken bulkhead. When the weir is out of service, more water will be exiting through the broken bulkhead. One possible remedy is to raise NSE-2 to 2.5'. Without raising the NSE-2, ladder criteria cannot be maintained. Benner asked how far out of criteria the ladder ended up. Bailey said he thought it was about .2'. He also referenced an old study that tested closing some of the entrances.

10.4. FPOM says NSE-2 can be closed to 2.5'.

11. Spill response plans for fishways.

11.1. BON spill response plans. Questions were asked as to why fishways would need to be closed. Why not pass the material through? C. Morris commented that when there is a spill, the states ask for BON assistance with stopping and cleaning up any spill. Fredricks stated that he would not like to see fishways shutdown except in the event of a significant spill; if it's a small amount let it pass through. Any decisions would be made in coordination with multiple agencies.

11.2. TDA/JDA spill response plans. Cordie asked if there was any quantitative clarification for when to close down a fishway.

11.3. FPOM approved the spill response plans, noting that they expect each project to use some common sense and coordinate with multiple agencies and Project Fisheries before determining it is necessary to shutdown fish passage facilities.

12. Updated outage schedules. Check for conflicts with research, construction, FPP guidelines.

13. BON fish counts. Due to the numbers of fish passing the dam, FPP guidance would indicate it is time to split flows. Due to the lack of water, splitting flows is not recommended at this time. Splitting flows would result in one unit operating at each powerhouse. **ACTION:** Klatte will draft language clarifying that split flows can only occur when flows are greater than 100kcfs.

14. BON stilling basin survey. NWP requests 1 hour closures for spillbays 1 and 18 on 3 September. One bay will be closed at a time while the stilling basin and shoreline is surveyed. If this action is not approved, there will be no survey of those bays and adjacent shore. **FPOM doesn't like the timing, since there are still a lot of fish passing the dam. FPOM does not approve the action. ACTION:** Mackey to find out why the survey can not wait until October. ***STATUS:*** *The survey team has decided they can wait until the week of 26 October, when fish numbers have (historically) dropped below 1000 fish.*

15. BON Maintenance and CRITFC Treaty Fishery (2009-C5). We have a timing conflict with the proposed Bonneville maintenance activities (low forebay (72'msl) from 1-4 September from 0630-1700 each day) and CRITFC's Autumn Treaty Fishery (August 31, 2009, 6 am, Monday, through 6 pm, September 4th, 2009, Friday. Bonneville Pool: Operate the pool within 1.0 foot from full pool (msl elevation 76.5 – 75.5)). CRITFC's SOR is attached for your reference.

15.1. Schwartz explained that the maintenance is needed if the spillway is to remain in good operating condition. The Project plans on moving forward with the maintenance.

15.2. Lorz explained that the tribes have had their seasons impacted already and are a wee bit sensitive to further impacts.

15.3. This will go to TMT for further discussion.

16. TDA ITS operation for November through March.

16.1. 20 July minutes from the TDA ITS winter operations meeting are attached to the FPOM minutes. Fredricks feels very strongly about leaving the ITS open during November. He would like to see a repeat of the 2008 test. Clugston asked if Fredricks would consider reducing gates open if data shows there isn't a problem with juvenile distribution. NOAA and CRITFC appeared to be ok with that compromise; BPA does not agree. Bettin and Fredricks discussed whether the ITS operates in November for juveniles or adults. Clugston clarified that the test in November would be with all gates open, as per FPP. December- March would be with reduced number of gates. **FPOM could not come to a resolution at this time.**

16.2. TDA dive coordination. No transducers need adjustments as of early August. Planning for a 1 day dive, with ITS closed, on 27 October. Planning an optional dive on 23 February 2010, to ensure transducers are ready for March. **FPOM says ok.**

17. Smith-Root research proposal for FPOM review. *Please note: the attached document includes sections taken from the original proposal.* Carl Burger provided a handout. USGS will be the agency conducting biological studies. Mesa clarified that BPA has asked him to put together a detailed study plan that further fleshes out how the tests will be conducted. Burger suggested one objective is to see what level would affect salmonids. Fredricks stressed he didn't want to see any effect on fish.

17.1. Wills asked how easy the structure is to remove. Parkin explained that it can be installed in sections that are connected at the top and turn-buckled until it is flush with the floor. Smith-Root believes it could be installed in a few hours but have requested up to three days.

17.2. There was discussion about the increased flows caused by the structure and how those impact lamprey.

17.3. Fredricks suggested Mesa take a look at the UMT window to determine what could be seen in that channel. Rerecich explained that the UMT is not scheduled for dewatering this winter. He explained that the UMT would need to be dewatered to move fish and to make sure there is no debris under the structure. Schwartz also commented that the Project hasn't budgeted for a UMT dewatering. There was more discussion about whether or not the UMT needs to be dewatered and how that affects Cascades Island.

17.4. There was extensive discussion about study design. **ACTION:** Mesa to develop a detailed study plan ready for FPOM review in October.

18. BON Unit 11 return to service date. As the meeting ended, Fredricks requested Schwartz go on record as to when Unit 11 will return to service. Without Unit 11, there will be no survival study in 2010. Schwartz is confident Unit 11 will return to service before the start of fish passage season. The contract will be the second week of October and the completion date is in January.

19. Adjourned at 1630.

20. TDA-N AWS outage. The PUD is proposing to shutdown their turbine for up to 6 hours on, either, 3 or 4 September. The purpose of this outage is to calibrate the new pressure transducers after they are installed on 21 August. ***Due to lack of time, this issue was not discussed.***

21. Fishway improvements or impacts due to stimulus dollar projects. ***Due to lack of time, this issue was not discussed.***

- **21.1.** BON Washington Shore FVB roof replacement.
- **21.2.** BON WS entrance mods for lamprey- design.
- **21.3.** BON Lamprey PIT tag testing at WS and CI entrances.
- **21.4.** BON PH1 ITS wall removal.
- **21.5.** BON major refurbishment of fishway diffuser valve system- design.
- **21.6.** BON replace wooden fishway bulkheads with concrete structures- design
- **21.7.** BON Alternate energy development at BI visitor center- P&S.
- **21.8.** BON BISB boat ramp and dock.
- **21.9.** BON construct Strawberry Island campgrounds- P&S
- **21.10.** BON two new spillway hoists- contract documents.
- **21.11.** BON spillway gate repair pit shoring and clean-up.
- **21.12.** BON Dredge BI fish exit forebay.
- **21.13.** TDA spillway gate drums replacement and install
- **21.14.** TDA spillway gate wire rope replacement and install.
- **21.15.** JDA extended deflector.
- **21.16.** JDA-N entrance pumps, housing, power controls- design.
- **21.17.** JDA spillway trunnion bearing lube system.
- **21.18.** JDA south turbine pumps- purchase

22. 2010 FPP changes.

- **22.1.** 10IHR001 Unit Priority- **FPOM approves the change form.**

23. Potential 2010 FPP changes (change forms not yet drafted)

- **23.1.** Appendices J and K
- **23.2.** MCN ESBS installation.
- **23.3.** MCN temperature triggers.
- **23.4.** BON split flows- minimum flow requirements.

24. Next FPOM Meeting- September 10 2009 from 0900-1300 at NOAA Fisheries in Portland.

McNary Daily Collection, River condition,Descaling and Mortality Data July 1 - August 19, 2009

Collection		River Conditions			Descaling Rates		Mortality	
Date	Daily Total	River Flow	Spill	Water Temp.	Date	Total	Daily Total	Percent
1-Jul	0	251.0	125.9	63.4	1-Jul	---	0	
2-Jul	40,080	180.6	90.4	63.7	2-Jul	0.8	38	0.1
3-Jul	0	149.7	74.9	64.1	3-Jul	---	0	
4-Jul	57,052	157.3	79.4	65.1	4-Jul	0.5	14	0.0
5-Jul	0	154.6	77.3	65.2	5-Jul	---	0	
6-Jul	57,426	167.2	83.8	65.7	6-Jul	0.5	278	0.5
7-Jul	0	164.5	82.3	65.4	7-Jul	---	0	
8-Jul	110,200	204.3	102.6	65.9	8-Jul	1.5	604	0.5
9-Jul	0	203.5	101.8	65.7	9-Jul	---	0	
10-Jul	87,020	197.8	98.9	66.3	10-Jul	0.7	533	0.6
11-Jul	0	220.5	110.2	65.1	11-Jul	---	0	
12-Jul	105,707	191.9	96.0	67.3	12-Jul	0.9	384	0.4
13-Jul	0	169.9	85.0	66.5	13-Jul	---	0	
14-Jul	56,132	169.1	85.0	66.6	14-Jul	1.3	209	0.4
15-Jul	0	185.4	93.0	67.2	15-Jul	---	0	
16-Jul	68,245	168.3	84.5	67.4	16-Jul	1.1	5,291	**7.8**
17-Jul	81,150	176.3	86.5	67.8	17-Jul	1.4	7,302	**9.0**
18-Jul	65,100	169.8	83.6	68.1	18-Jul	0.8	11,207	**17.2**
19-Jul	31,150	143.4	70.9	68.3	19-Jul	1.0	1,015	3.3
20-Jul	22,200	147.3	72.6	69.2	20-Jul	0.7	3,587	**16.2**
21-Jul	34,700	148.7	73.6	69.2	21-Jul	0.7	958	2.8
22-Jul	28,600	148.9	73.5	70.4	22-Jul	0.4	1,517	5.3
23-Jul	6,771	151.3	92.2	70.1	23-Jul	0.8	80	1.2
24-Jul	3,380	119.8	64.3	69.4	24-Jul	1.2	59	1.7
25-Jul	10,515	147.6	74.3	71.0	25-Jul	0.3	54	0.5
26-Jul	7,235	135.2	65.2	70.8	26-Jul	0.8	34	0.5
27-Jul	7,270	133.9	65.5	71.9	27-Jul	0.8	65	0.9
28-Jul	7,110	160.1	78.7	71.8	28-Jul	0.7	88	1.2
29-Jul	8,860	165.9	79.9	72.2	29-Jul	0.6	113	1.3
30-Jul	14,090	177.7	87.4	71.8	30-Jul	0.9	153	1.1
31-Jul	10,330	155.8	76.9	72.2	31-Jul	0.9	171	1.7
1-Aug	11,230	159.3	78.9	72.5	1-Aug	0.4	79	0.7
2-Aug	6,170	153.5	75.2	72.7	2-Aug	0.8	69	1.1
3-Aug	5,040	132.4	65.3	72.7	3-Aug	0.8	43	0.9
4-Aug	1,910	110.7	53.9	72.8	4-Aug	0.0	23	1.2
5-Aug	2,410	131.6	63.4	73.1	5-Aug	0.0	14	0.6
6-Aug	7,200	135.7	65.7	72.2	6-Aug	0.6	115	1.6
7-Aug	4,890	139.8	68.5	71.7	7-Aug	0.6	36	0.7
8-Aug	4,080	122.6	60.0	71.3	8-Aug	0.5	11	0.3
9-Aug	1,620	118.8	58.7	70.6	9-Aug	1.3	26	1.6
10-Aug	530	110.0	54.4	69.2	10-Aug	1.9	9	1.7
11-Aug	1,300	108.0	51.9	69.1	11-Aug	0.4	11	0.8
12-Aug	1,610	110.4	53.8	69.7	12-Aug	0.6	18	1.1
13-Aug	3,570	126.7	61.8	70.0	13-Aug	1.3	32	0.9
14-Aug	3,740	112.7	54.8	70.1	14-Aug	1.4	14	0.4
15-Aug	1,030	93.0	37.0	70.0	15-Aug	0.5	10	1.0
16-Aug	1,160	92.5	37.4	69.6	16-Aug	1.3	11	0.9
17-Aug	1,325	90.4	34.9	69.9	17-Aug	0.8	11	0.8
18-Aug	1,405	89.0	33.2	69.9	18-Aug	2.7	30	2.1
19-Aug	3,040	113.3	57.1	70.2	19-Aug	0.3	24	0.8

Bold Date indicates start and end of reported heat incident.
July 22-23: SOR spill operation.
July 24: first daily barge departure at McNary.

OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

☺ ☺

COORDINATION DATE- 8/04/2009
PROJECT- McNary
RESPONSE DATE - Advisory Notification – No response necessary.

Description of the problem - Fish Pump 3 is being returned to service following an extended outage to repair oil leaks. This pump is needed to maintain adult fishway operating criteria. Before fish pump 3 can be placed into service, intake and discharge bulkheads removal is necessary. All 3 fish pumps need to be taken out of service before the bulkheads can be moved. McNary personnel plan to do this work as soon as possible – within the next several days**.**

Type of outage required - All three fish pumps to be taken out of service for 5 hours from 1200 hours to 1700 hours for one day only. The 1,000 CFS gravity conduit and fish ladder will remain in service during work period.

Impact on facility operation - Fishway entrances will be out of criteria during the work period, but still open for fish passage. Flows will be reduced within the collection channel. The Oregon ladder will continue to operate.

Length of time for repairs – Outage is expected to last approximately 4 – 5 hours.

Expected impacts on fish passage - Minimal impact to migrating fish expected as the Washington shore adult fishway will remain in operation and the Oregon ladder flow (210 cfs) and 1,000 cfs attraction flow will continue uninterrupted. Fish in the collection channel may hold. Proposed outage time is in the afternoon when daytime adult passage is at a minimum.

Comments from agencies

Final results

Please email or call with questions or concerns.
Thank you,

John Bailey
NWW Operations Division
509-527-7123
john.c.bailey@usace.army.mil

COORDINATION DATE- 8/4/2009
PROJECT- McNary
RESPONSE DATE - Advisory notification – No response necessary.

Description of the problem – Recent windstorms and the increased presence of milfoil have increased the amount of debris present at the Oregon ladder exit. The increased debris loads have created trash rack differentials nearing 3.0 feet at the South traveling screen. The south screen is the sole source of water for the 1000 cfs Attraction Water Supply (AWS) conduit, West Extension Irrigation District (WEID) irrigation canal, and McNary Wildlife Park. The north traveling screen is currently out of service for repairs. Increased differentials indicate reduced flows through the south screen. If debris accumulation is allowed to continue, increases in differentials may cause the screen to collapse and fail.

Type of outage required - Closure of 1,000 cfs AWS conduit tainter valve is planned for 4 hours. This will allow the raking of accumulated debris and milfoil on the (AWS) trash rack.

Impact on facility operation – Will result in reduction in Oregon ladder attraction water. WEID irrigation canal and wildlife park flow will remain in service

Length of time for repairs – The outage is expected to last less than 4 hours, from 1200 hours to1600 hours. Additional outages at a later date may be necessary should the initial cleaning prove to be unsatisfactory. These additional outages would require divers to assist with debris removal. The exact outage date is uncertain as the project must fabricate a raking devise. The project plans the work as soon as practically possible. Additional rakings and outages may be required periodically for the remainder of the fish passage season.

Expected impacts on fish passage - Impact to migrating fish is expected to be minimal. The Washington shore ladder will remain in service and 2 or 3 fish pumps will continue to provide attraction water to the Oregon shore fishway. Proposed outage time is in the afternoon when daytime adult passage is at a minimum.

Comments from agencies
Final results- McNary Oregon Ladder Trash Rack Raking: On Tuesday, August 4, McNary personnel were able to clean the top portion of the AWS (Attraction Water Supply) trash racks at the Oregon ladder exit. Although screen differentials were successfully lowered to 1.0', maintenance staff noticed an increase in differentials the next day. McNary personal believe differentials will reach 2-3 feet within a few days and again place excessive strain on the traveling screen. A more thorough cleaning of the trash rack will require divers. The divers can also help return the North traveling screen to service. This work requires a 1 - 2 day outage of attraction water conduit and the WEID (West Extension Irrigation District) canal. This outage is planned to begin Thursday, August 13 and may extend into August 14. Fish pump 3 is expected to be returned to service early next week and be able to provide additional attraction flow during the outage. The ladder and fish will continue to operate during the outage. If you have any comments, please respond by the close of business Monday, August 10.
John Bailey

COORDINATION DATE- August 20, 2009
PROJECT- Lower Granite Dam
RESPONSE DATE- By conclusion of FPOM meeting on August 20, 2009

Description of the problem: Recent attempts to submerge the Removable Spillway Weir (RSW) in spillway bay 1 at Lower Granite Lock and Dam into the stowed position on the forebay floor have been unsuccessful. The inability to stow the RSW is making repairs to the structure necessary. Work would occur both in the water and out of the water of the Snake River. The in-water work generally consists of removing a portion of the existing RSW position indicator mechanism and replacing with a new cable pulley assembly, and installation of a metal cage to minimize the potential for floating and submerged debris to damage the position indicator mechanism. Workers will need to cut out two sections of 1 1/2" diameter steel pipe, drill approximately 46 holes for 1/2" diameter concrete anchors with 6" minimum embedment, and cut four existing mounting anchors and grind them flush with the concrete.

Type of outage required: Units 5 & 6 outage while divers are operating in the forebay.

Impact on facility operation: The spillway should already be shut down for the season, so no special operation required there. Powerhouse unit priority begins with units 1-3, so the units 5&6 outage should have little impact.
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Length of time for repairs: Duration for the in-water work should be less than two weeks.

Expected impacts on fish passage: This work is expected to have minimal impact on the water quality in the forebay in a very localized area at the upstream face of the dam near spillbay 1. The Corps would like to complete the work prior to the normal in-water work window (15 Dec – 1 Mar) in order to allow testing of the repaired system in November or early December. Request that the work be approved to take place sometime during the period 15 Oct – 14 Dec.

Comments from agencies-
FPOM says ok.

Final results:

Please email or call with questions or concerns.

Thank you,

FPOM Attendees Contact Information

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
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Dykstra	Tim	USACE-NWW	509-527-7125	Timothy.A.Dykstra@usace.army.mil
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Fryer	Derek	USACE-NWW	509-527-7280	Derek.s.fryer@usace.army.mil
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Spurgeon	Bill	USACE-LMN	509-282-7211	William.F.Spurgeon@usace.army.mil
Stansell	Robert	USACE-FFU	541-374-8801	Robert.j.stansell@usace.army.mil
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Sweet	Jason	BPA	503-230-3349	jcsweet@bpa.gov
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Tackley	Sean	USACE-FFU	541-374-8801	Sean.c.tackley@usace.army.mil
Volkman	Eric	BPA	503-230-3182	etvolkman@bpa.gov
Wills	David	USFWS	360-604-2500	David_wills@fws.gov
Zyndol	Miro	USACE-JDA	541-506-7860	Miroslaw.a.zyndol@usace.army.mil

Bonneville Dam Fishway Spill Response Plan
August 20, 2009

This document outlines the necessary actions to protect the adult and juvenile fishways at Bonneville Dam in a spill emergency. The Project Manager, Environmental Compliance Coordinator (ECC) and a Project Biologist should be notified as soon as possible. An assessment of the spill should be conducted by Bonneville's ECC or alternate to determine if the spill is recoverable. If spill material is determined to be recoverable the following actions should be taken to minimize impacts to fish passage systems.

Adult Fishways

1) Washington Shore
   a) Preventative measures – Install exclusion boom inside existing log boom upstream of fishway exit. Installation is planned for early 2010.
   b) Exit – If a recoverable quantity is reported or observed, deploy temporary exclusion boom between ladder exit and log boom. In addition, close exit gate until it is submerged 1-2' below water surface. Further actions would be determined by ECC or designee based on information and observations, in coordination with Project or District Biologists. Until permanent boom is in place, closing of gate would have to be based on what is known and observed.
   c) FV6-9 – If spill material is observed in the ladder exit upstream of WA shore picket leads, or in the valve slot, deploy absorbent boom if material is deemed recoverable.
   d) Fish ladder – In the event that spill material gets into the fish ladder, deploy absorbent boom at the junction of the UMT and WA Shore ladder, if sheen is deemed recoverable by ECC or alternate. (A boom will be staged at this site).
   e) Adult Fish Facility – If ECC or alternate deems necessary based on information and observations, and the AFF is in operation, set lab to bypass, close exit gate until it is submerged 1'.

2) Cascades Island
   a) Preventative measures – Install exclusion boom outside existing log boom upstream of fishway exit. Installation is planned for 2010.
   b) Exit – If a recoverable quantity is reported or observed, deploy temporary exclusion boom between ladder exit and log boom. In addition, close exit gate until it is submerged 1-2' below water surface. Further actions would be determined by ECC or designee based on information and observations, in coordination with Project or District Biologists. Until permanent boom is in place, closing of gate would have to be based on what is known and observed.
   c) FV5-9 – If spill material is observed upstream of CI picket leads, or in the valve slot, deploy absorbent boom if material is deemed recoverable.

3) Bradford Island

a) Preventative measures – Install exclusion boom inside existing log boom upstream of fishway exit. Installation is planned for 2010.
b) Exit – If a recoverable quantity is reported or observed, deploy temporary exclusion boom between ladder exit and log boom. In addition, close exit gate until it is submerged 1-2' below water surface. Further actions would be determined by ECC or designee based on information and observations, in coordination with Project or District Biologists. Until permanent boom is in place, closing of gate would have to be based on what is known and observed.
c) FV3-9 – If sheen is observed upstream of BI picket leads, deploy absorbent boom if material is deemed recoverable.

Juvenile Fishways

1) PH2 DSM – No action taken unless determined appropriate and necessary by ECC or alternate in coordination with Project or District Operations Biologists.

2) B2CC – No action taken unless determined appropriate and necessary by ECC or alternate in coordination with Project or District Biologists.

3) PH1 ITS – If recoverable quantity is observed in PH1 forebay, close automated chain gates.

4) Smolt Monitoring Facility – If recoverable quantity is observed in DSM2 or at the SMF, switch upper switchgate to bypass.

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

EMP ID #: _____ **Work Order:** _____

Problem: Fishway spill protection plan that is easily accessible in project standing orders.

Activity/Service/Product: Boom/cleanups/boom material plan

Environmental Aspect: All fish primarily ESA listed 3/1 – 11/30

Environmental Impact: Fish passage delay.

Objective: Protect the adult fish ladders and auxiliary water systems (AWS) intake from spills.

Target(s), Roles & Responsibilities, Procedures, Schedule, etc. (Attach more info if needed):

The Dalles Dam:
(1) East fishway exit; deploy boom if oil sheen observed (must be easy to deploy and doesn't require a crane). Provide boom location, inventory stock, and a call list.

(2) East fishway auxiliary water system. Monitor east, west, and south entrances discharge for oil sheen, if observed, turn off FU's 1 & 2. (Provide call list).

(3) North fishway exit, deploy boom if oil sheen observed (must be easy to deploy and doesn't require a crane. (Provide boom location, inventory stock, and a call list.

(4) North fishway PUD auxiliary water system; deploy boom for auxiliary water intake trash racks. Boom must be easy to deploy and doesn't require a crane. Provide boom location, inventory stock, and a call list. Monitor tainter gate for discharge, turn off AWS if oil sheen observed.

(5) Ice/trash sluiceway; 4/1 – 7/30 cannot close.

John Day Dam:
(1) South fishway exit; deploy boom (must be easy to deploy and doesn't require a crane). Provide boom location, inventory stock, and a call list.

(2) South fishway AWS. Monitor south fish ladder entrance discharge for oil sheen, turn off south fish turbines if oil observed. Provide call list.

(3) North fishway exit; deploy boom (must be easy to deploy and doesn't require a crane). Provide boom location, inventory stock, and a call list.

(4) North fishway AWS; monitor AWS intake down stream of navigation lock, if oil observed turn off north fish pumps? Provide a call list.

(5) Smolt Monitoring Facility; switch gate to bypass. Provide a call list.

Metrics: _____

Project	Revision Date/Time: 8/11/09 Power House	UNIT	MW CAPACITY	BONNEVILLE LOCK AND DAM OUTAGE SCHEDULE, CY 2009 START	END	OUTAGE PURPOSE
BON	PH1	TWO	120	8/3/2009 0:00	8/7/2009 17:00	U5 Annual Maint, Bank 5/6 Bi/Ann Maint, **- Requires TBL switching to OPEN A6 via SCADA to Open Disconnect ZM256**
BON	PH1	8	120	8/3/2009 0:00	8/3/2009 17:00	U8 and 7/8 Transformer Bank Outage- CT Removal out of Transformer Bank
BON	PH1	3	54	8/4/2009 0:00	8/4/2009 17:00	Unit 3 outage needed to repair Upper Guide Bearing gauge line leak.
BON	PH2	TWO	26	8/4/2009 0:00	8/4/2009 18:00	Collection Channel ROV Inspection, Slip Rings, F1 and F2
BON	PH2	14	76	8/4/2009 12:00	8/4/2009 17:00	Remove fish release piping and modified trash racks.
BON	PH1	FOUR	240	8/7/2009 17:00	8/7/2009 17:30	BANK 5/6 SWITCHING
BON	PH1	1	54	8/10/2009 0:00	8/14/2009 17:00	U1 Annual Maint, Bank 1/2 Bi/Ann Maint, U2 out transfer bus
BON	PH2	12	76	8/10/2009 0:00	8/11/2009 17:00	Annual Maint.
BON	PH2	13	76	8/12/2009 0:00	8/13/2009 17:00	Annual Maint.
BON	PH2	14	76	8/17/2009 0:00	8/18/2009 17:00	Annual Maint.
BON	PH1	ONE	60	8/17/2009 0:00	8/20/2009 17:00	Bank 9/10 Repair of Calisto Oil Valves, U10 out of service during this time, U9 already out for rehab
BON	PH2	15	76	8/19/2009 0:00	8/20/2009 17:00	Annual Maint.
BON	PH1	3	60	8/20/2009 0:00	8/22/2009 17:00	Rehab to install new "Crows nest Assembly" on main unit 3
BON	PH2	11	76	8/24/2009 0:00	8/25/2009 17:00	Annual Maint.
BON	PH2	ONE	76	8/24/2009 7:00	8/27/2009 17:00	STS Inspection 11-18
BON	PH1	2	60	8/24/2009 0:00	8/27/2009 17:00	Unit 2 OOS to replace cooling water pump.
BON	PH2	18	76	8/26/2009 0:00	8/27/2009 17:00	Annual Maint.
BON	PH1	ONE	55	9/15/2009 7:00	9/15/2009 17:00	Install STS U1 and U3 for Adult Fall Back
BON	PH2	ONE	76	9/21/2009 7:00	9/24/2009 17:00	STS Inspection 11-18
BON	PH1	TWO	120	10/5/2009 7:00	1/15/2010 17:00	Gen 7 100 Day Inspection
BON	PH1	4	60	9/21/2009 7:00	11/5/2009 17:00	5 year Overhaul
BON	PH2	17	76	10/5/2009 7:00	12/3/2009 17:00	4 year Overhaul
BON	PH2	Five	380	10/14/2009 5:00	10/15/2009 17:00	Units OOS for BGS Dive Inspection; Max 2 Main / 2 Fish Units on-line during dive operations. Units available at night
BON	PH1	TWO	120	10/15/2009 7:00	10/30/2009 17:00	Special Tests Units 1 & 2
BON	PH1/2	ONE	76	10/19/2009 7:00	10/22/2009 17:00	STS Inspection 11-18
BON	PH1	0	5	10/20/2009 0:00	10/20/2009 18:00	Semi Annual
BON	PH1	9	60	11/9/2009 7:00	11/23/2009 17:00	Gatewell Orfice Removal Sluice wall removal contract
BON	PH1/2	ONE	76	11/23/2009 7:00	11/25/2009 17:00	STS Inspection 11-18
BON	PH1	10	60	11/23/2009 7:00	12/7/2009 17:00	Gatewell Orifice Removal /Sluice wall removal contract
BON	PH2	ONE	13.5	12/1/2009 0:00	2/22/2010 17:00	F1, F1 Annual - one unit at a time
BON	PH1	8	60	12/7/2009 7:00	12/21/2009 17:00	Gatewell Orifice Removal /Sluice wall removal contract
BON	PH1/2	ONE	76	12/15/2009 7:00	12/17/2009 17:00	Remove STS, Season End, Units 11-18
BON	PH1	7	60	12/21/2009 7:00	1/4/2010 17:00	Gatewell Orifice Removal /Sluice wall removal contract

Color Code

Active	Fish Passage Planned
Complete	Power Related Planned
Major Issue	Construction Planned

THE DALLES 2009 SCHEDULE

11-Mar-09

Start_Date	Finish_Date	Length	MW	Unit	Reason
6/29/2009 4:00	10/29/2009 17:00	122.5	176.0	T4	REMOVE/REPLACE T4, OPTO INSTALL, C & I (Units 7&8)
6/29/2009 4:00	10/29/2009 17:00	122.5	88.0	G7	5 YR OVERHAUL, BLADE CAVITAION, BLADE SEALS
6/29/2009 4:00	10/29/2009 17:00	122.5	88.0	G8	5 YR OVERHAUL, BLADE CAVITAION, BLADE SEALS
7/27/2009 4:00	8/6/2009 17:00	10.5	352.0	L3	LINE OUTAGE, ZMT-3 POST INSTALLATION PM (initial RTS 7/30)
7/27/2009 4:00	8/6/2009 17:00	10.5	88.0	G5	ANNUAL, OPTO INSTALL, C & I, SYNCH (original 3/23 - 3/26)
7/27/2009 4:00	8/6/2009 17:00	10.5	176.0	T3	RESEAL B PHASE CAP, DOBLE (original 3/23 - 4/9)
7/27/2009 4:00	8/6/2009 17:00	10.5	352.0	L3	LINE OUTAGE, ZMT-4 POST INSTALLATION PM (original OOS 8/3)
8/10/2009 4:00	8/13/2009 17:00	3.5	88.0	G1	ANNUAL
8/17/2009 4:00	8/20/2009 17:00	3.5	88.0	G2	ANNUAL
11/2/2009 4:00	12/30/2009 17:00	58.5	99.0	G19	5 YR OVERHAUL, BLADE CAVITAION, BLADE SEALS
12/1/2009 4:00	1/7/2010 17:00	37.5			EAST FISHWAY OOS
12/1/2009 4:00	1/7/2010 17:00	37.5	13.5	F1	ANNUAL
12/1/2009 4:00	1/28/2010 17:00	58.5	13.5	F2	OVERHAUL

Project	start	End	MW	Unit	Reason
John Day Dam	7/27/2009 6:00	8/6/2009 16:00	155	1-16 oat	Visual "STS" inspections units 1-16 one-at-a-time
John Day Dam	7/27/2009 6:00	9/3/2009 16:00	310	9 & 10	Overhaul
John Day Dam	8/3/2009 6:00	8/6/2009 14:00	155	1	Unit annual maintenance
John Day Dam	8/10/2009 6:00	8/13/2009 14:00	155	2	Unit annual maintenance
John Day Dam	8/15/2009 6:00	8/18/2009 14:00	155	3	Unit annual maintenance
John Day Dam	8/22/2009 6:00	8/25/2009 14:00	155	6	Unit annual maintenance
John Day Dam	9/2/2009 7:00	9/4/2009 16:00	55	1-16	Unit "STS",VBS & Orifice camera inspections, daily until finished
John Day Dam	9/7/2009 6:00	9/10/2009 16:00	620	12,9-12	13 Annual maintenance & Doble T3
John Day Dam	9/14/2009 6:00	10/22/2009 14:00	310	11 & 12	Overhaul
John Day Dam	9/21/2009 6:00	9/24/2009 14:00	155	8	Unit annual maintenance
John Day Dam	9/21/2009 7:00	9/24/2009 16:00	55	1-16	Unit "STS",VBS & Orifice camera inspections, daily until finished
John Day Dam	10/13/2009 6:00	10/15/2009 14:00	155	9	Unit annual maintenance
John Day Dam	10/19/2009 6:00	10/22/2009 14:00	620	4, 1-4	4 Annual maintenance & Doble T2
John Day Dam	10/26/2009 6:00	10/29/2009 14:00	155	10	Annual maintenance
John Day Dam	10/26/2009 7:00	10/29/2009 16:00	55	1-16	Unit "STS",VBS & Orifice camera inspections, daily until finished
John Day Dam	11/10/2009 6:00	11/12/2009 14:00	155	11	Unit annual maintenance
John Day Dam	11/16/2009 6:00	11/18/2009 14:00	155	12	Unit annual maintenance
John Day Dam	11/23/2009 6:00	11/25/2009 14:00	155	14	Unit annual maintenance
John Day Dam	11/30/2009 6:00	12/3/2009 14:00	155	15	Unit annual maintenance
John Day Dam	12/7/2009 6:00	12/10/2009 14:00	155	16	Unit annual maintenance
John Day Dam	12/14/2009 6:00	12/17/2009 16:00	155	155	Unit "STS" removal (units out of service, one-at-a-time)

COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION
729 NE Oregon, Suite 200, Portland, Oregon 97232
Telephone 503 238 0667
Fax 503 235 4228

SYSTEM OPERATIONAL REQUEST: 2009 C-5

TO: Brig. General William E. Rapp	COE-NWD
James D. Barton	COE-NWD-NP-Water Management
Dan Feil, Steve Barton	COE-NWD-NP-WM-RCC
Rock D. Peters	COE-NWD-CM-F (Fish Management Ofc)
Col. Steven R. Miles	COE-Portland District
J. William McDonald	USBR—Pacific Northwest Regional Director
Steven J. Wright	BPA Administrator
Steve Oliver, Greg Delwiche	BPA-PG-5
Robyn MacKay, Scott Bettin	BPA-Operations Planning-PGPO
Stan Speaks, Keith Hatch	BIA, Northwest Regional Office

FROM: Paul Lumley, *Executive Director*

DATE: August 18, 2009

SUBJECT: **Operation of the Lower Columbia Pools for the Autumn 2009 Treaty Fishery**

The Columbia River Inter-Tribal Fish Commission, on behalf of its members, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Reservation, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation, requests the following reservoir operations in "Zone 6" (Bonneville to McNary dams) during the 2009 autumn ceremonial, subsistence, and commercial Treaty fishery times as established by the tribes and the Columbia River Compact.

SPECIFICATIONS: Implement the following operations as a hard system constraint, as follows:

August 24th, 2009, 6 am, Monday, through 6 pm, August 27th, 2009, Thursday.

Bonneville Pool: Operate the pool within a 1.0 foot band.
The Dalles (Celilo) Pool: Operate the pool within a 1.0 foot band.
John Day Pool: Operate the pool within a 1.0 foot band.

August 31, 2009, 6 am, Monday, through 6 pm, September 4th, 2009, Friday.
September 8th, 2009, 6 am, Tuesday, through 6 pm, September 12th, 2009, Saturday.

Bonneville Pool: Operate the pool within 1.0 foot from full pool (msl elevation 76.5 – 75.5).
The Dalles (Celilo) Pool: Operate the pool within 1.0 foot (msl elevation 159.5 - 158.5).
John Day Pool: Operate the pool within 1.0 foot (msl elevation 264.5 - 263.5).

At this time we anticipate additional treaty fisheries in September. CRITFC will notify the Corps with specific times for the tribal fishery after each Compact hearing, via a new SOR.

Bonneville pool elevations, relative to The Dalles Spillwall Construction:

The Tribes request that any needed changes to the BON pool be made between Saturday, Sept. 5, and Monday, Sept. 7. Any changes need to be completed by the start of the Sept. 8 treaty fishery. This action will help to minimize the risk of the loss of tribal fishing gear, as a result of COE operations.

JUSTIFICATION:

The 2009 autumn Treaty fishing season is of critical importance to CRITFC's member tribes. The forecast escapement of **322,500** (Columbia at Bonneville Dam) adult fall Chinook (normal rank) and **335,800** steelhead (normal rank), will create harvest opportunities for tribal fishers, who will exercise their treaty rights by participating in this harvest, using platform and in-river methods. This harvest will provide for the cultural, religious, and economic needs of the treaty tribes.

CRITFC will sponsor net flights each week, starting the week of August 24, to count the number of nets in each Zone 6 pool. The survey data will be promptly shared with COE-RCC staff.

Achieving good river conditions through managed river operations during the treaty fishery have been the basis of past litigation that have been supported by federal courts and are consistent with the trust and fiduciary responsibilities that the federal operators have with respect to CRITFC's member tribes. Good river conditions during the treaty fishery are also consistent with the spirit of the 10-year Memorandum of Agreements signed by tribal and Corps, BPA, and BOR officials.

In past meetings with Corps officials, tribal fishers have explained that a pool fluctuation of 1.0 foot or more disrupts tribal fishery operations. Specific problems include: (1) increased local currents that sweep debris into fishing nets, (2) rapid 1-2 hour drops in water level will lead to entanglement of nets, (3) boat access problems, and (4) nets torn from their anchors. Nets and gear are costly to replace. Any delays or disruptions to tribal fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources and cultural practices.

The fishers have also expressed to Corps officials that the loss of fishing opportunity during the extremely limited treaty fishery cannot be replaced. Much of the tribal fishers' annual income and food is generated during the brief treaty fishing season, thus, any delays or disruptions to their fishing operations caused by the excessive pool fluctuations in Zone 6 negatively impacts tribal incomes, food resources, and cultural practices.

If this SOR cannot be accommodated, CRITFC requests a verbal response with an explanation from the federal operators by COB Friday, August 21, 2009. Thank you for considering this request. Please contact Kyle Dittmer or Bob Heinith should you have any questions: 503-238-0667.

cc: TMT Members
Tribal staffs

CENWP-PM-E 20 July 2009

MEMORANDUM FOR THE RECORD

Subject: FY 10 TDA wintertime sluiceway operations and research planning.

The meeting was held at NWP District Office in the Summit Room., Portland OR. In attendance:

Last	First	Agency	Office/Mobile	Email
Benner	David	FPC	503-230-7564	dbenner@fpc.org
Bettin	Scott	BPA	503-230-4573	swbettin@bpa.gov
Caudill	Chris	U of I	208-885-7614	caudill@uidaho.edu
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Volkman	Eric	BPA	503-230-3182	etvolkman@bpa.gov
Sweet	Jason	BPA	503-230-3349	jcsweet@bpa.gov
Mackey	Tammy	USACE	503-961-5733	Tammy.m.mackey@usace.army.mil
Klatte	Bern	USACE	503-808-4318	Bernard.a.klatte@usace.army.mil
Wills	David	USFWS	360-604-2500	David_wills@fws.gov
Khan	Fenton	PNNL	509-371-7230	Fenton.Khan@pnl.gov
Richards	Natalie	USACE	503-808-4755	Natalie.A.Richards@usace.army.mil
Baus	Doug	USACE	503-808-3995	Douglas.m.baus@usace.army.mil
Clugston	David	USACE	503-808-4751	David.a.clugston@usace.army.mil
Keefer	Matt	U of I	406-556-0639	

Benner, Caudill, and Keefer were on the phone.

After discussions of past and ongoing research and about potential additional research needs those in attendance came to agreement on the following;

1. An additional year of hydro-acoustic evaluations were needed before deciding on a long term operational scenario.
2. The metric used for future decision making would be the number of adult SH sized fish passing downstream through the sluiceway. Escapement effects could be estimated using these numbers and past studies.
3. We will not conduct a block test design study but a single condition evaluation.
4. The study period for evaluating sluiceway passage should be the same as last year with the addition of an evaluation of passage downstream through the powerhouse turbines during the winter months when the sluiceway is closed (Dec 16-end of Feb).
5. The single condition for the period of Dec 1-15 and Mar 1- start of spill would be with the sluiceway operating with the following gates open; 1-2, 1-3, 18-1, and 18-2. This will reduce the flow via the sluiceway by about 1 kcfs.

There was disagreement between BPA and NMFS on the single condition that should occur during the month of November. NMFS stated it should be what is already planned in the Fish Passage Plan and was supported by COE in discussions with BPA in 2006, with the same gate openings as the rest of the fish passage season. BPA wanted the same reduced gate openings planned for the December 1-15 and Mar 1- start of spill period listed above. BPA suggested that this disagreement would mean the issue may need to be elevated.

As the COE needs to deal with related dives and funding issue we will proceed to move forward with planning as if a single condition test will occur this coming winter. Fenton Khan will rewrite the proposal and present at the upcoming proposal review with two options. PNNL will evaluate the transducers along the powerhouse ASAP for any needed maintenance problems that will need a dive to be undertaken in October so we can put together a dive contract funded with FY09 dollars.

Title: Development and Testing of a Non-Lethal Sea Lion Deterrence System

Study codes: BPA Project No. 200752400

Project Leader: Carl V. Burger
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Submitted to: U.S. Army Corps of Engineers
Portland District

Performance Period: January 2010 – December 2010

Date of submission: July, 20, 2009

PROJECT SUMMARY

1. RESEARCH GOAL

The overall goal of this project is to develop a non-lethal technology to deter marine mammal predation on ESA-listed fish resources and other fish species in the vicinity of Bonneville Dam (BON) on the Columbia River. The primary objective of this proposal is to assess the effects of a prototype sea lion deterrence array on the behavior of naturally migrating adult anadromous salmonids (*Oncorhynchus spp.*). Pacific lamprey (*Lampetra tridentata*) and white sturgeon (*Acipenser transmontanus*) will also be evaluated as they encounter the test array.

This research proposal is being submitted to the Corps of Engineers, Anadromous Fish Evaluation Program in support of regional coordination for research access at BON. This project is currently being funded by the Bonneville Power Administration (BPA) through the Northwest Power and Conservation Council's Fish and Wildlife Program (BPA Project No. 200752400).

Marine mammals have been demonstrated to be extremely sensitive to electric fields at levels significantly lower than those used in typical electrofishing applications. We propose to test the effects of these reduced power levels on actively migrating salmon and steelhead passing BON. The development of this technology will provide natural resource managers with a non-lethal option for reducing sea lion predation to supplement and complement other management tools and actions.

The project is intended to evaluate the behavior of fish at BON in-situ (during realistic water flow regimes) when they encounter the mild electrical field that was successfully used to deter marine mammals. The test array is to be installed in the BON 2 UMT fishway channel. This location was selected because 1) no sea lions will be able to access this location and 2) a portion of the population of spring migrating adult fish is expected to pass this location.

Several laboratory-scale experiments have been completed to date in support of the research goals funded by the BPA for marine mammal deterrence technology. The results of these studies are summarized in Section 4a. The first step in the development of this technology was to identify the effective electrical deterrence level for California sea lions (*Zalophus californianus*). Next, the power levels equal to or greater than what is needed to deter sea lions were tested on several fish species native to the Columbia River Basin, to assess effects on fish behavior. In support of the deterrence technology development program, a series of tests at varying energy levels was performed on captive steelhead (*O. mykiss*), white sturgeon and Pacific lamprey.

The next step in this research program is to evaluate the sea lion deterrence array on actively migrating fish, to assess possible effects of the array on fish migrations during real-time flow conditions at BON. To accomplish this objective, we propose to install a test array in the Upstream Migrant Tunnel (UMT) near Powerhouse 2 at Bonneville

Dam. Fish would be allowed to volitionally migrate through the test array. The test array would be energized in a randomized, block-pair evaluation schedule and also during constant operation for comparative purposes. Fish migratory behavior would be statistically compared between array “on” and “off” blocks of time to determine whether any significant effects occurred on fish passage. DIDSON imaging cameras would be used to assess fish behavior at the test array. Visual observations would also be made at the fish counting window that exists in the UMT’s preferred deployment site.

2. STUDY OBJECTIVES AND APPROACH

To develop and install a prototype, sea lion electrical-deterrence array in the BON UMT. The behavior of actively migrating salmon and steelhead will be observed as they approach and pass through the array. The test array will be installed in the vicinity of the viewing window on the Washington side of the UMT (Figure 2). DIDSON imaging cameras would be used to observe fish behavior as they encounter the test array. This study location and viewing window would also allow visual evaluation of fish behavior at the test array, water clarity permitting. There is currently no public access to this location allowing a secure study location.

The test array would be installed on an insulated framework (Figure 3) to contain the electric field being tested. The structure is being designed to minimize any hydraulic effects of the array in the UMT. The preliminary design plans (Figures 4 and 5) illustrate the concept. The total length of the test array structure would be about 40 feet. The existing UMT channel is 68 inches wide. The water flows at a depth of about 6.4 feet in this area. The test array structure would reduce the overall width of the UMT in this area to 60.5 inches and it would slightly raise the floor of the UMT. A smooth transition plane is being engineered with aluminum “nosing” plates used to eliminate any sharp edges or abrupt contours. Minor adjustments may be needed, particularly to accommodate stock lengths of fiber-reinforced plastic material (FRP).

Framed ribs would be spaced between 4 and 5 feet apart, and the high-molecular-weight polyethylene (HMWD) and plexiglass acrylic panels would be fastened to the inside of the ribs. The rib frame would be fabricated ¾” narrower than the channel width for easy insertion. There are no cross members or other obstructions extending into the water column. The surface of the test array structure is smooth. The plastic panels are installed flush with each other.

When the array is inserted, the new water flow section would be reduced by 7.5 inches in width, and the floor would be raised about 4 inches. The end units will each have a shaped nosing to create a smooth flow into the lined portion.

Nylon bolts would be used to attach all liner panels and structural components. The only conductive materials in the water would be the aluminum nosings and possibly some connecting plates. We propose to fasten the prefabricated array sections by embedding eyebolts into the channel walls above the waterline and to use turnbuckles

to pull the array against the channel bottom. This design allows for removal of the array even while the UMT is watered-up. The turnbuckles would be released and the array units would be lifted out in a reversal of the installation process once the flows have been reduced. A small crane is envisioned for installation and removal of the array.

Water velocity in the test structure would increase slightly over that observed in the unmodified sections of the UMT. Corps staff have provided information from a hydraulic report on the fishways (HELCRABS) showing that calculated flow into the UMT varies from 75 to 85 cfs. At 85 cfs, water velocity in the UMT is calculated at 2.5 feet per second (fps).

At a flow of 85 cfs, water velocities through the test array are estimated to increase to just under 3 fps. However, this velocity is within the NOAA-F fish passage criteria (4 fps). This change in water velocity has been evaluated and approved by NOAA-F Engineering staff (*Larry Swenson, pers. comm., NOAA-F Engineer (503) 230-5448*). The structural design will also be submitted to the Corps for additional hydraulic review and approval.

Electrode plates would be embedded within the FRP frame prior to frame installation. The electrode design would be similar to the arrays already designed and tested on fish at the Abernathy Technology Center (sturgeon) and the Cowlitz Trout Hatchery (steelhead). One or more pulse generators would be wired to the electrodes to produce adjustable test voltage gradients. The electric field would be mapped in detail at multiple points in and near the electric array at every test setting used.

The potential for interference with PIT tag interrogation sites would be assessed prior to initiation of the study in coordination with NOAA and PSMFC personnel (Sandra Downing and Don Warf). Prior to operation, tests would be conducted to ensure no interference with PIT-tag detection electronics located elsewhere within the UMT. If any interference is detected, Smith-Root engineers would shield the electric array sufficient to eliminate the source of interference.

The electrode array and FRP frame can be easily removed at any time without entering the UMT channel. The array will be removed when feasible once the studies are complete and/or at the direction of COE personnel. A photo and some conceptual drawings of the proposed UMT array are provided in Figures 2, 3 and 4.

Objective 1 ("Soft-Start" Evaluation): Assess the effects of "soft starting" the prototype sea lion deterrence array (gradual ramp-up of power at test setting chosen) on actively migrating salmon and steelhead located within the array. Incidental species (e.g. white sturgeon and lamprey) would be evaluated if present during the test.

This objective would evaluate behavior of fish within the sea lion deterrence array when it is first activated. The "soft start" technology engineered and developed in previous research allows the deterrence array to slowly increase in voltage, providing an opportunity for fish to move from the electric field and to assess their behavioral

response. This objective would be further developed with input from the region's natural resource managers. Key considerations include:

- Observations of fish behavior and passage would be made with DIDSON imaging cameras. (Visual observations would be made when water clarity permits.)
- Operation of the "soft start" technology would be monitored in real time to remedy any adverse affects to fish.
- The sea lion deterrence array's "soft start" electronics would be activated when fish are observed in the vicinity of the deterrence array.
- The deterrence array would be operated at power levels equivalent to those used to deter sea lions.
- The number of test events would be developed after consultation with natural resource managers.
- Additional power levels could be tested as directed by the natural resource managers.
- Water conductivity would be monitored to assure consistent test conditions throughout the study.
- The electric field generated by the sea lion deterrence array would be verified during each test event.
- Research staff would be onsite during all periods of operation and evaluation.
- The electric field generated by the deterrence array would be verified during each test event.

Objective 2 (Intermittent Operation Evaluation): Assess the effects of periodic (intermittent) operation of the prototype sea lion deterrence array on actively migrating salmon and steelhead. Incidental species (e.g., white sturgeon and lamprey) will be evaluated if present during the test.

This objective will test the behavior of fish by alternating "random on" and off periods of operation in a block-pair study design, this objective mirrors the intended use of the deterrence technology in the Columbia River. This objective will be further developed with input from the region's natural resource managers. Key considerations include:

- Observations of fish behavior and passage would be made with DIDSON imaging cameras. Visual observations will be made when water clarity permits.
- The array would be activated in a randomized, block-pair test with alternating "on" and "off" time blocks, using randomly introduced pulses during the "on" test interval.
- The test schedule and duration for this objective would be developed with input from the natural resource managers.
- Water conductivity would be monitored to assure consistent test conditions throughout the study.
- The electric field generated by the deterrence array would be verified during each test event.

Objective 3 (Constant Operation): Identify the power level required to affect the passage behavior of actively migrating salmon and steelhead. Incidental species (e.g., white sturgeon and lamprey) will be evaluated if present during the test.

This objective would identify the power levels that alter the behaviors of fish passing the sea lion deterrence array. There may be a need in the future to modify the power level of the array to address changes in sea lion predation behavior. These tests would help identify the available "cushion" (or use window) and the operational parameters available for future consideration. This objective would be further developed with input from the region's natural resource managers. Key considerations include:

- Observations of fish behavior and passage would be made with DIDSON imaging cameras. Visual observations would be made when water clarity permits.
- The sea lion deterrence array would operate constantly voltage gradients as directed by natural resource management agencies.
- The test schedule and duration used for this objective would be developed with input from the natural resource managers.
- The range of power levels would be developed with input from the natural resource managers.
- Water conductivity would be monitored to assure consistent test conditions throughout the study.
- The electric field generated by the sea lion deterrence array would be verified during each test event.

These objectives would be implemented in consultation with and following the thorough reviews and receipt of concurrence from the region's natural resource managers. The data generated by these studies would be analyzed using commonly accepted statistics that would provide statistical levels of significance for each outcome along with biologically meaningful interpretations of all results.

5. METHODOLOGY

A detailed study plan for testing the effects of the array on fish behavior in the UMT will be developed later this summer by the USGS under a contract from the BPA. Thus, additional details of this study, including such things as experimental design, sampling technology, and data analysis, are undergoing further development. The following points, however, comprise our current thoughts on the conduct of this future research:

- Several electrical treatments will be tested, including nominal values that deterred sea lions in previous laboratory tests (e.g., 0.6 V/cm voltage gradient, 0.4 ms pulse width, and 2 Hz pulse frequency) and incrementally more severe conditions
- We will try to identify the suite of electrical conditions that effectively stops the migration of fish to document an upper threshold for range testing

- The tests will likely be some sort of block design, with monitoring of fish migrating through the UMT for a certain time with the array off and then on.
- We will record any behavioral alterations (e.g., fish encountering the array and turning around) and compare the rate of passage of different species of fish with the array on and with it off
- Tests will be conducted and replicated several times during the migration season
- DIDSON or standard underwater video cameras will be used to monitor fish behavior downstream, within, and upstream of the array
- Tests will include evaluations of the soft start technology

The focal species will include spring Chinook salmon, steelhead, and Pacific lamprey. We will also collect information on other incidental species, such as white sturgeon.

6. SCHEDULE

- December 2009:
  - Install prototype sea lion deterrence array in the BON UMT.
  - Test and map electrical field at levels that will be tested
  - Install and test DIDSON acoustic camera in vicinity of the test array.
  - Test for interference with the PIT tag detection system.

- March through August 2010:
  - Evaluate behavior of anadromous salmonids, lampreys and other incidental species at prototype sea lion deterrence array in the BON UMT.

FPP Change Forms

☻ ☻

Change Request Number: 10IHR001
Date: August 5, 2009
Proposed by: Scott Bettin (BPA), Greg Moody, Mark Plummer and Scott Thoren (USACE)
Proposed Change: Revise section 4.1 after the Sacajawea substation transformer and 500kV tie are back on-line.
TO: 4.1. 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. The original and desired unit prioritization is 1, 3, 6, 4, 2, 5. 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.

With the new Sacajawea 500/115kV transformer in service which is connected to the Ice Harbor-Franklin No. 2 115kV line, 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. .

Table IHR-4. Unit operating priority for Ice Harbor Dam.

Season	Time of Day	Unit Priority*
All year-single unit operation w/o switching Switching must occur to return to normal operating priority outlined below	24 hours/day	1,2,5,6
March 1-November 30	24 hours/day	1,3,4,2,5 and 6
December 1 – February 28	24 hours	Any Order for multiple unit operation

Reason for Change: Current unit priority is 3, 1, 4, 5, 2, 6.
Comments from others: Martin Ahmann, USACE, "The 1, 3, 4, 5, 2, 6 pattern looks good, given the constraints of units 2 and 6. The 2, 5, 6 pattern is less than desirable but given the circumstances would appear to be as good as we can get; I think for juveniles, it should provide good conditions for spill passed fish and acceptable conditions for by-passed fish but would be concerned with adult passage. Should probably pay close attention to adult passage monitoring should the 2, 5 ,6 pattern ever be employed."
Record of Final Action: FPOM approved at 20 August 2009 FPOM meeting.

July 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 TMT	2	3	4 Independence Day
5	6	7 FPAC	8 Happy Birthday	9 FPOM Meeting-NOAA	10	11
12	13	14 FPAC	15 TMT	16 SCT	17	18
19	20 TDA ITS mtg Performance standards mtg	21 FPAC	22 FFDRWG- NWW Happy Birthday	23 FFDRWG-NWW Hevlin to look at LGS weir	24	25
26	27	28 FPAC	29 TMT	30	31	

August 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 ERDC- MCN	4 FPAC TDA ROV ERDC- MCN	5 JDA ROV BON ROV ERDC- MCN BON trashrack mtg	6 ERDC- MCN	7 ERDC- MCN	8
9	10 Corps golf tournament	11 FPAC	12 TMT SRWG- preliminary review	13 SRWG- preliminary review	14 SRWG- preliminary review	15
16	17 AFF mtg @ BON	18 FPAC	19	20 SCT FPOM- NOAA	21	22
23	24 ERDC- JDA	25 FPAC ERDC- JDA	26 TMT ERDC- JDA	27 ERDC- JDA	28 ERDC- JDA	29
30	31					

September 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 FPAC	2	3 BON PH1 STSs installed by today NWP – FFDRWG	4	5
6	7	8 FPAC TDA spill wall work scheduled to begin	9 TMT Happy Birthday	10 FPOM Meeting	11	12
13 Happy Birthday	14	15 FPAC	16	17 Happy Birthday	18	19
20	21	22 FPAC	23 TMT	24 TDA spillwall call	25	26
27 Happy Birthday	28	29 FPAC	30			

Construction

McNary: Unit 1 taken out of service August 10 for annual maintenance. Unit 2 taken out of service July 10 for 9-year overhaul. Unit 3 out of service July 27 – 30 for annual maintenance. Units 7 & 8 remain out of service for transformer T4 replacement,

Ice Harbor: Unit 2 was taken out of service for annual maintenance from June 23 to July 30. Unit 4 taken out of service for annual maintenance on August 11. Units 5 & 6 taken out of service for annual maintenance from August 3 to August 14.

Lower Monumental: Unit 6 began annual maintenance July 13. Doble tests conducted July 20 – 24.

Little Goose: Unit 3 taken out of service July 28 for annual maintenance. Unit 4 underwent annual maintenance from July 6 to July 23.

Lower Granite: Unit 4 was out of service from July 7 to August 3 for annual maintenance. Unit 6 taken out of service August 3 for annual maintenance. Transmission line Doble tests took place from August 10 – 13. Units 1 through 4 were taken out of service during daytime hours in support of these tests.

Operations and Maintenance - Juvenile Fish Facilities- Collection for fish transport continues at Lower Granite, Little Goose and Lower Monumental dams. Every-other-day barge departures began June 1 and ended in these locations on August 14. Collection for every-other day barge transport operations began at McNary Dam on July 15 and continued until July 22 when collection was suspended and primary bypass operations began. Collection for transport resumed July 23 when daily barge departures became possible at McNary Dam. The last barge of the season departed McNary Dam on August 15. All locations began fish truck operations on August 16. The Bonneville truck pad modifications were successfully tested with a 3,500 gallon tanker practice run on August 6.

McNary: Elevated river temperatures resulted in increased fish mortalities on July 16, 17, 18 and 20. Mortality rates have dropped considerably as river and facility temperature gradients moderated. North powerhouse loading initiated July 17 for temperature abatement in juvenile fishway. 830 cy of debris removed from trash racks in Units 9 – 14 on July 21 and 22.

Ice Harbor: The 2009 sampling season ended July 17 due to declining fish numbers and facility water temperatures approaching 70 degrees F. STSs switched from continuous to cycle mode on August 3 as average fork length of juvenile sockeye and Chinook are now greater than 120 mm at Lower Monumental. Screen cleaner power supply failed August 4. Repair parts have been ordered. Powerhouse operators and fish facility personnel are the monitoring collection channel and inclined screen.

Lower Monumental: STSs switched from continuous to cycle mode on July 30 as average fork length of juvenile sockeye and Chinook are now greater than 120 mm. STS in slot 1C: mesh cross bars were discovered loose or missing and repaired or replaced on August 3. None of the loose or missing bars presented a hazard to fish.

Little Goose: The primary dewater weir motor failed July 20 and is currently undergoing repairs. Water levels are being maintained by the opening and closure of orifices. Separator cleaned August 6. 3cy of debris and mud removed. Approximately 1,000 juvenile lamprey were released.

Operations and Maintenance - Adult Fish Facilities

McNary: Oregon Ladder: North AWS taken out of service May 28 following failure. South AWS continues to provide sufficient water. South AWS idler sprocket replaced July 13. Trash rack raked August 4 and 18. Fish Pumps: Pumps #1 & #2 are in service. Fish Pump #3 returned to service August 13. NFE3: Weir elevation electronic display (LED) replaced July 31.

Ice Harbor: North Shore Fish Pumps: Fish pumps #1 & #2 in service. Fish Pump #3 is being repaired under warrantee. NFE-2 out of service July 26 – 27 when weir brakes failed. NFE-1 operated in place of NFE-2 during the outage. North Shore Channel: Sonar based channel elevation measuring equipment failed July 28. Older meta-tape measuring system placed into to service. Repair parts have been ordered.

Lower Monumental: Fish Pumps 1 & 2 in service. Fish Pump #3 remains out of service for diffuser assembly repairs and bearing housing replacement.

Little Goose: NPE3: Above water video inspection took place July 7. The bulkhead sealing off this entrance appears to have deteriorated. Fishway performance does not appear to be adversely affected at this time and criteria continues to be met. NSE1: Weir motor failed June 30. Manual operation was necessary until repairs were completed July 20. Adult collection channel: A two foot section of the fallout fence has separated from the support frame. Adult fish appear to be passing though this area safely.

Lower Granite: Fish pumps 1 and 3 in operation. Fish pump 2 repairs completed July 10 and placed in standby status until planned tests can be completed.

Other

McNary: Both TSWs are in service. USGS juvenile fish PIT tagging activities ended July 27. Juvenile lamprey study resumed with the start of fish transport operations. The number of exotic shrimp present in raceways appears to be higher than in previous years. Bird hazing activities ended June 29.

Ice Harbor: RSW in operation. Cooling water strainers in Units 5 and 6 were inspected August 3. Three juvenile lamprey mortalities were recovered, two from Unit 5 and one from Unit 6.

Lower Monumental: RSWs in operation. Cooling water strainers inspected July 13, 15 juvenile lamprey mortalities recorded. Adult fish counts interrupted July 27 from 1315 – 1340 hours due to contractor illness. Fish salvage operations took place in Unit 6 scroll case on July 28. One channel catfish was recovered and released in good conditions. No other fish were observed.

Little Goose: TSW placed into high crest configuration July 8. Smolt Passage and Survival Study – study began April 16. Cooling water strainers in Unit 4 were inspected July 8. No fish or fish remains observed. Cooling water strainers were inspected in Units 1,2,4,5, and 6 on August 10. No fish were found.

Lower Granite: Adult trap operation suspended July 19 due to high water temperatures and problems with the slide gate air valve control to the anesthetic tank. RSW is in operation. Cooling water strainers inspected in Unit 4 on July 14. One live and 3 dead juvenile lamprey were recovered. USGS subyearling Chinook research in progress.