U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
FISH FACILITIES WEEKLY REPORT
#24-2013

Project: McNary
Biologists: Carl Dugger and Bobby Johnson
Dates: August 9 - 15, 2013

Turbine Operation

McNary had 9 to 11 units available for power generation this week. On April 1, the hard constraint one percent criteria began and no units ran outside the criterion this week. Unit outages are recorded in Table 1.

Table 1. Unit Outages at McNary Dam.

Units	Outage Dates	Outage Length	Reason
4	Jun 24 – Jun 30, 2014	About one year.	Rewind contract.
11	Jun 28 – Jun 30, 2014	About one year.	Rewind contract.
3	Jun 4 – Sep 27	About 4 months.	Turbine bearing issue.
1	Aug 12 - 15	Four days.	Annual maintenance.
2	Aug 13	Seven hours.	Thrust bearing oil level & brake solenoid.
12	Aug 13	Nine hours.	Transformer 6 testing and maintenance.
6	Aug 14	4.5 hours.	Hub tapped.
13 & 14	Aug 15 to 16	Two days.	Transformer 7 testing and maintenance.

Adult Fish Passage Facilities

On August 9, 11 and 13, the McNary fisheries biologists performed measured inspections of the adult fishways. When the juvenile facility is in primary bypass, the fisheries staff helped to monitor the picketed leads. Visual fish and video lamprey counting continues along with temperature monitoring. The nightly lowering of Oregon ladder entrance weirs, SFEW1, SFEW2, NFEW2 and NFEW3, for adult lamprey passage continues. Monitoring of the weirs has revealed no problems.

Fish Ladder Exits: During the inspections, both ladder exits met all Fish Passage Plan criteria. Project personnel continued to clean the picketed leads at both exits regularly. Eurasian milfoil continues to be a problem.

At the Washington exit, the regulating weir triggered an alarm twice this week. In both cases the operator reset the alarm and adjusted the exit set points without incident. At the Oregon exit, our

differential monitoring of the traveling screens revealed no problems although one traveling screen alarm was reset without incident. Due to encoder (electronic controls) issues, weir 340 remains in manual mode with the automatic controls being bypassed.

Fishway Entrances and Collection Channel: At the Washington ladder entrance, all inspection points were in criteria. Spill turbulence continues to cause calibration drifts which are very difficult to correct. The technical staff is still working with the digital encoder at weir W2.

On August 11, the biologist noted weir W3 continuously moving within a one foot range. The weir was in criteria and the biologist asked it to be put in manual mode until it could be examined the next day. The electrical staff found no problems and returned the weir to automatic operation. Low tailwater elevations may be affecting weir operations. The motor for weir W1 was sent off site to be rebuilt. The project will rotate out all the weir motors over time, having all of them eventually rehabilitated.

At the Oregon ladder entrances, all points were in criteria except on August 11 when the north powerhouse pool differential measured 0.8 feet. Low tailwater elevations might be affecting the readings. At the south entrance, we continue to note calibration drifts at weir SFEW2. The project will continue to examine all weir problems.

Oregon ladder surface collection channel velocities averaged 1.2 feet per second.

Auxiliary Water Supply System: For the report week, the Wasco County PUD turbine unit in the Washington ladder had 1 interruption in service. The outage lasted from August 15 – 16 due to transformer and transmission line maintenance and a grounding issue. The bypass system operated well while the turbine unit was down.

Oregon ladder, fish pumps 1 and 3 operated all week with blade angles of 30 degrees with 2 interruptions in service. On August 12, the fish pumps 1 and 3 were down 30 minutes and 1.1 hours, respectively, in preparation for transformer 2 maintenance. On August, both pumps were taken out of service for 5 minutes so the project could test the potable water back flow preventer. Fish pump 2 remains out of service for major overhaul which will require a contract.

The juvenile facility continues to supply the usual 450 cfs to the north powerhouse pool.

Juvenile Fish Passage Facility

The season continues with alternating days of primary and secondary bypass with the switch occurring every morning at 0700 hours, with no deviations from this schedule to report. We bypassed 19,672 smolts and 160 juvenile lamprey this week.

Forebay Debris/Gatewell Debris/Oil: For the week, forebay debris along the powerhouse and spillway was very light consisting mostly of Eurasian milfoil which continues to arrive on project in light patches. Winds and project operations affected debris dispersal.

The fisheries staff found no problems when measuring trash rack differentials and none were cleaned.

We noted no problems this week except for the ESBS rope in slot 5B slot which was removed from the orifice inflow. No injured fish were observed. We also removed part of a milk carton from slot 8C.

ESBSs/VBSs: ESBSs are deployed in all units except for unit 11. On August 13, project personnel raised these screens so they could be used as spares as unit 11 is out of service until June 2014. The screens in slots 2A, 3A, 7B and 8C remain in timer mode. On August 9, the operator switched the ESBS in slot 10C to timer mode following a screen alarm. On August 13, camera inspections conducted in units 1 and 2 revealed no problems.

VBS differential monitoring revealed four screens out of criteria. On August 12 and 13, the project cleaned these screens and five others. When cleaning the VBS's, we observed no juvenile lamprey or smolt mortalities.

We will use the slots at units 4 and 11 to cycle in rehabilitated VBSs over time.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: For the week, we had 42 orifices open with no problems observed. As mentioned above, the ESBS rope in slot 5B was removed from the orifice inflow. For VBS rehabilitations, we will close orifices at units 4 and 11 as needed with spares being opened nearby.

On August 11, before 0900 hours, a plug in an old fisheries orifice at station service unit 2 failed. PSMFC personnel found the jet of water coming from the unit's gatewell slot into the collection channel about a foot above the walkway grating. Much of the flow went through the grating and some flow directly entered the channel. We found one lost 6 inch bass. The assistant biologist, roving operator and the PSMFC biologist diverted the flow from the side screen cleaning device's upstream limit switch. The system had been in secondary bypass over night with the first channel check occurring in the morning.

With the flow controlled and no other issues with fish being noted, the assistant biologist asked the chief operator to keep this station service unit out of service so no fish could be drawn into the gatewell slot and out the orifice. The maintenance chief was notified. The fisheries staff monitored the orifice overnight with no problems noted.

On August 12, by 0950 hours, general maintenance had installed the headgate and emergency bulkhead into the unit's gatewell slot and we began pumping down the water level. At 1255 hours, the mechanics had completed installation of a new plug into the orifice. By 1644 hours, project personnel completed emergency bulkhead removal.

The other station service unit also has one unused and plugged fish orifice. Each main unit has one of these orifices per gatewell slot. These orifices are about 6 inches in diameter. The old orifices are located about 1 foot from the current north orifice operator for each slot. The result is the project has 43 more orifices to install new plugs in which we are planning to do. A plug failure at an operational main unit would force a unit outage.

The fisheries staff continued to monitor the channel during VBS cleanings, VBS replacements and during primary bypass operations.

Transportation Facility: Both primary and secondary bypass modes return all fish are to the river. PIT tag detection occurs in the full flow pipe during primary bypass operations and throughout the facility during secondary bypass operations. Smolt monitoring occurs only during secondary bypass days. Sample gates are turned on and off as need daily to insure that sample gates function only during secondary bypass operations. The gates continued to function well.

The primary PIT tag system remains off as the bypass lines provide a better route for the fish than the PIT lines. Also, PSMFC preformed the weekly test of the PIT system. The secondary PIT/bypass gates remain off and open for bypass season. Fish facility mechanics continued to add welds to the porosity control unit's perforated plate.

Transport Summary: Fish transport will not occur at McNary this year.

River Conditions

River conditions during the week are outlined in Table 2 as provide the smolt monitoring staff, PSMFC. The data day runs from 0700 to 0700 hours. The summer spill season which requires 50 percent of flow being spilled continues.

Table 2. River conditions at McNary Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature (^{o}F)		Water Clarity* (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
175.9	129.5	88.1	64.8	71.3	70.1	6.0	6.0

*****Control room data.

As flows decrease, at times, the chief operator has been adjusting the spill pattern for barge traffic entering and exiting the navigation lock.

PSMFC staff continued their daily temperature monitoring and reports.

Other

Inline Cooling Water Strainers: The next cooling water strainer examination will occur in early September.

Invasive Species: The next zebra mussel station examination will occur in late August.

Avian Activity: We continue bird counts with each zone being observed once a day usually in the morning. In the forebay area, we observed high counts of 20 grebes, 13 juvenile gulls and 4

osprey with an occasional pelican observed. Also, we noted a few gulls on the rocks by the Washington boat dock.

We observed no grebes elsewhere on project.

In the tailwater area, we had high counts of 8 gulls, 28 cormorants and 9 terns with an occasional pelican. Most all of the birds were in the spill basin.

We observed a high count of 3 cormorants with an occasion tern or gull by the bypass outfall.

The fisheries staff continues to work with the propane and water hazing cannons to keep them functioning well.

Research: The Oregon exit traveling screen and adult lamprey passage studies continued as did GBT examinations.

Project: Ice Harbor
Biologist: Mark Plummer
Dates: August 9 - 15, 2013

Turbine Operation

Turbine units 1, 2, and 6 were in service the entire reporting period. Turbine unit 3 returned to service August 10 at 1657 hours. Turbine unit 4 remained out of service for annual maintenance. Turbine unit 5 remained out of service due to blade cracking repairs.

Adult Fish Passage Facilities

Fish facility personnel inspected the adult fish ways August 12, 13, 14, and 15.

Fish Ladders: The north and south shore adult fish ladder inspection areas (picketed leads, head differentials, fish way exits, and depth over weirs) were within criteria. The south fish ladder picketed leads require frequent cleaning due to aquatic vegetation fowling.

Fishway Entrances and Collection Channel: The center fish way weir 2 remains out of service. The south adult fish pumps will need to be shut down to remove the bulkhead in front of the weir. Currently, center fish way weir 1 is being operated. Fish way entrance criterion is 8 feet depth, greater than 8 feet depth, or on sill. All fish way entrances were within criteria on sill with less than 8 feet of depth, except on the August 13 inspection. On this inspection, the north powerhouse entrance was off sill with 7.5 feet depth to maintain the channel/tailwater differential criteria. All channel/tail water differentials were in criteria. Channel/tail water differential criteria are 1 – 2 feet.

Auxiliary Water Supply System: Two of the 3 north shore fish pumps were operated without problems. Six of 8 south fish pumps were operated without problems. All are available for operation.

Juvenile Fish Passage Facility

Forebay Debris/Gate well Debris/Oil: No problems to report. Fish ladder exits are clear of debris and the bubblers are operating satisfactory.

STSs/VBSs: STSs are in cycle run mode operation. No problems were found during the July inspections. The next STS/VBS inspections are scheduled for August 20 and 22. Turbine strainer inspections will be conducted at the same time.

Orifices, Collection Channel, Dewatering Structure, and Bypass Pipe: The juvenile bypass is watered up with 20 open orifices. No problems with the incline screen cleaner brush.

Juvenile Bypass Facility: No problems to report.

Fish Sampling: The first sample took place April 8 and the last sample of the season was performed July 15.

Removable Spillway Weir: The RSW is in operation. Routine spill in support of fish passage began April 3, 2013.

Fish Sampling: Juvenile fish sampling concluded July 15.

River Conditions

River conditions during the week are outlined in Table 1.

Table 1. River conditions at Ice Harbor Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (^{o}F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
28.1	21.7	17.1	11.1	70	70	7.0	6.0

*Unit 1 scrollcase temperature.

Other

Inline Cooling Water Strainers: Results of the main turbine cooling water inspections for July:

Table 2. Cooling Water Inspection Results for July 2013, Ice Harbor Dam.

Date	Unit	Results
23-July	6	None
23-July	5	Not inspected – unwatered for blade repair.
23-July	3	None
23-July	2	None.
25-July	4	1 juvenile lamprey mortality
25-July	1	1 juvenile lamprey mortality

Invasive Species: No new invasive species were detected this week.

Avian Activity: APHIS hazing activities ended June 30. Fish facility personnel are conducting bird observations when possible.

Research: No on-site researchers are present at this time.

Project: Lower Monumental
Biologists: Bill Spurgeon and Elizabeth Holdren
Dates: August 9 - 15, 2013

Turbine Operation

The units are being operated in hard constraint of the 1% operation criteria. Unit 6 was removed from service at 0703 hours on July 29 for annual maintenance. The maintenance outage for unit 6 was extended until September 6 due to an exciter relay problem. Unit 3 was removed from service at 0800 hours on August 12 for annual maintenance.

Adult Fish Passage Facility

The adult fishway was inspected by Corps and PSMFC/State biologists on August 10, 11, and 14.

Fish Ladders: Fishway exit head differentials and depths over the weirs were within criteria (≤ 0.5' and 1.0'-1.3', respectively) on all inspections. Picketed lead head differentials were in criteria (≤ 0.4' and ≤ 0.3' for north and south shore fishways, respectively) on all inspections.

Fishway Entrances and Collection Channel: NSE1 and NSE 2 weir gates were in depth criteria (criteria: ≥ 8' or on sill) on all inspections. North shore channel/tailwater head was in criteria (1'-2') on all inspections.

SPE 1 and SPE 2 weir gates were in sill criteria (criteria: ≥ 8' or on sill) on all inspections. While on sill the gate depth readings were 5.2', 5.2' and 5.1 feet. South powerhouse channel/tailwater head was in criteria (1'-2') on all inspections.

SSE1 weir gate was in sill criteria (criteria: ≥ 8' or on sill) on all inspections. While on sill the gate depth readings were 5.9', 6.0', and 6.0 feet. SSE 2 was in criteria (6' above sill) on all inspections. South shore channel/tailwater head was in criteria (1'-2') on all inspections.

Auxiliary Water Supply System: AWS pumps 1 and 3 were operated throughout this period. Two pump operations will continue until bearing repair and shaft alignment work is completed on pump 2, approximately August 30.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: There was an average of 0.0 square yards of forebay debris observed during this period. Gatewell debris ranged from 0-10% surface coverage. No oil was observed in gatewells.

STSs/VBSs: STSs are operating in cycle run mode.

Orifices, Collection Channel, Dewatering Structure, Flume: The collection channel is operating with 20-21 orifices open.

Collection Facility: Facility operation was changed to primary bypass at 1500 hours on August 14 due to increased mortality rates. Facility mortality exceeded 6% on August 9, 10 and 12. Percent mortality for these dates were 13.5, 16.7, and 25.0, respectively. The average facility mortality rate this week was 6.6% (15 mortalities out of 226 sub-yearling Chinook collected). The percentages of sampled sub-yearling Chinook with suspected columnaris were 18.2% (4 infected out of 24 sampled) on August 9, 16.7% (5 infected out of 30 sampled) on August 9, and 0.0% (0 infected out of 2 sampled) on August 12. Collection for condition sampling is scheduled to begin August 17 with subsequent samples occurring every third day.

Transport Summary: Alternate day barging ended on August 14. Facility operation was changed to primary bypass at 1500 hours on August 14 in response to the high rates of suspected columnaris occurring a few days earlier. Condition monitoring will occur every third day and transport will be suspended until the go ahead is received from the district office.

River Conditions

River conditions during the week are outlined in Table 1.

Table 1. River conditions at Lower Monumental Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature (^{o}F)*		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
26.7	22.4	14.2	9.9	69.0	68.5	5.0+	5.0+

*Scrollcase temperatures.

Other

Summer spill began on June 21.

Inline Cooling Water Strainers: Cooling water strainers were inspected on August 6. No live lamprey were recovered. Mortalities included 1 juvenile lamprey and 2 juvenile catfish.

Invasive Species: No zebra mussels were observed at the monitoring stations on August 2.

Avian Activity: Bird hazing has ceased for the season.

Research: No researchers are present on-site at this time.

Project: Little Goose
Biologist: George Melanson
Dates: August 9 - 15, 2013

Turbine Operation

Turbine units 1 and 3 through 6 were available for service this report period. Unit 2 was removed from service on July 8 at 0700 for a six year overhaul and is scheduled for return on August 16. All available turbine units were operated within the 1% criteria.

Adult Fish Passage Facility

USACE and ODFW fisheries biologists performed measured inspections of the adult fishway on August 3 and 6.

Fish Ladder: The ladder exit head differentials remained steady at 0.1 feet (criteria $\leq$ 0.5 ft.). Water depths over the weirs remained steady at 1.1 feet (criteria 1.0-1.3 ft.) and picketed lead head differentials held steady at 0 feet (criteria $\leq$ 0.3 ft.). No debris was observed at the picketed leads or the ladder exit. The air bubbler used to prevent debris from collecting near the ladder exit operated satisfactorily.

Fishway Entrances and Collection Channel: Channel to tailwater head differentials ranged between 1.7 and 2.1 feet (criteria 1.3 to 2.0 ft.). SSE weir depths ranged between 7.9 (sill) and 8.0 feet (criteria $\geq$8.0 ft). As a result of 2 pump operations and decreased channel to head differentials, NPE2 remained closed. NPE1 weir rested on sill and depths ranged between 5.0 and 5.1 feet (criteria $\geq$7.0 ft or on sill). NSE weirs are at fixed elevations of 532.0 feet and depths ranged between 4.8 and 5.0 feet (criteria $\geq$ 6.0 ft.). Collection channel surface water velocity measured near NPE ranged between 1.8 and 2.0 fps (criteria $\geq$1.5 fps). Collection channel subsurface water velocity was measured on August 5 using the Rickly Hydrologic Current Meter. Three measurements were conducted from near surface, mid depth and near bottom. The subsurface velocity averaged 3.1 fps with 2 pumps operating.

Auxiliary Water Supply System: Fish pumps 1 and 2 operated within criteria ranging between 74 and 77 rpm. Fish pump 3 remains out of service and is undergoing repairs.

Juvenile Fish Passage Facility

Forebay Debris/Gatewell Debris/Oil: Woody debris was minimal. Gatewells remained clear of debris.

Spillway Weir: The spillway weir was removed from service on August 1 at 0915 hours.

ESBS/VBS: All ESBS operated within criteria this report period. All brushes operated as designed.

Orifices, Collection Channel, Dewatering Structure, and Flume: The juvenile collection system was operated throughout this period with 23 open orifices.

Transportation Facility: The facility continued collection for barge transport. Daily fish collection for the week ranged between 279 and 790 and totaled 3,674. The descaling and mortality rate was 0.4% and less than 0.6% respectively.

Transport Summary: Every-other-day barging operations continued and all loading operations were trouble free.

River Conditions

River conditions during the week are outlined in Table 1.

Table 1. River conditions at Little Goose Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (^{o}F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
25.3	22.5	7.5	7.4	70.8	67.4	6.0+	6.0+

*Ladder temperature.

Other

Inline Cooling Water Strainers: Cooling water strainers were checked on August 14. No fish were found.

Invasive Species: The zebra mussel substrate monitor was last inspected on July 8. No mussels were observed. The next inspection is scheduled for August 19.

Avian Activity: Maximum bird count from single survey included 7 cormorants, 3 gulls. USDA-APHIS bird hazing ended on June 14.

Research: UC Davis is performing underwater video monitoring of the new lamprey orifices in the adult fish ladder. University of Idaho is performing Adult Salmon Passage Studies using radio telemetry. Battelle PNNL BiOp Performance Standard Tests concluded August 15. WDFW Gas Bubble Trauma concluded August 5.

Project: Lower Granite
Biologists: Mike Halter and Ches Brooks
Dates: August 9 - 15, 2013

Turbine Operation

Lower Granite had turbine units #1, 2, 4 and 5 available for power generation at the beginning of the report period. Turbine unit #6 was removed from service on June 24 for cavitation repair, followed by annual maintenance. The expected return to service date is December 7. Turbine unit #3 was taken out of service on July 29 for annual maintenance. The expected return to service date is August 23.
Turbine unit operations and unit priority varied during the week. See the Adult Fish Trap and Operations to mitigate the temperature differential between adult ladder and tailrace section below.

Adult Fish Passage Facility

On August 9 – 11, COE fish biologists conducted inspections of the adult fishway system.

Fish Ladder: All criteria were met.

Fishway Entrances and Collection Channel: Head differential readings remained within criteria at all fishway entrances during the period inspections.

Weir depths at the south shore fishway entrances also met criteria during all weekly inspections with depths ranging from 8.0 to 8.1 feet. The north powerhouse fishway entrances were on sill during all inspections this week with depths ranging from 5.2 to 5.4 feet due to tailwater elevations below 636.0 feet (these gates bottom out at elevations below 636.0 feet). Weir depths at the north shore entrances ranged from 3.0 to 4.9 feet (criterion $\geq$ 7.0 feet). Only north shore entrance 1 can adjust its' depth relative to the tailwater elevation. North shore entrance 2 is manually set at a compromise depth of 630.0 feet. Normally weir depth readings at the north shore entrances are sacrificed in order to maintain the requisite 1.0 foot of head differential.

Velocity readings in the adult fishway collection channel transition pool area ranged from 0.93 to 1.12 feet per second and averaged 1.04 feet per second.

Auxiliary Water Supply System: Fish pumps 1 and 3 were run during the week without any problems. Fish pump 2 is now in standby mode.

Juvenile Fish Passage Facility

The sample rate remained at 50% during the report week.

Forebay Debris/Gatewell Debris/Oil: The amount of forebay debris varied during the week due to wind strength and direction; none was removed.

ESBSs/VBSs: VBS/ESBS video inspections last took place on June 14 - 15. The next inspections are planned for August 23 - 24.

Orifices, Collection Channel, Dewatering Structure, Bypass Pipe: Orifices are being backflushed every 3 hours around the clock in an attempt to keep them free of materials that might impact fish passage. Debris levels were very light during the report week.

Transportation Facility: The JFF operated smoothly during the week. There were no operational problems of any kind with fish collection, fish sampling, or fish transportation equipment. Fish collection numbers at Lower Granite decreased during the week with an average daily collection of smolts of 226 (versus a daily average of 895 last week). Lamprey friendly tail screens (with larger mesh openings) were deployed in all operating raceways the week of May 13 and remained in place during the report week.

Transport Summary: Every other day fish barging operations took place on the even numbered days of the report week. Fish are being barged from Lower Granite, Little Goose and Lower Monumental dams. Barge transport operations are scheduled to continue until August 16 at all 3 dams. The fish transport barges have been operating well without problems of any kind.

Removable Spillway Weir: Mandatory summer spill operations began at 0001 hours on June 21. The RSW was operated in support of general spill operations.

Deviations from the normal summer spill rate of 18 KCFS using Spill Pattern Table LWG – 12 were coordinated between the COE, TMT, FPAC, FPOM, BPA and RCC during the report week. See Adult Fish Trap and Operations to mitigate temperature differential between adult ladder and tailrace section below.

River Conditions

River conditions during the week are outlined in Table 1.

Table 1: River conditions at Lower Granite Dam.

Daily Average River Flow (kcfs)		Daily Average Spill (kcfs)		Water Temperature* (^{o}F)		Water Clarity (Secchi disk - feet)	
High	Low	High	Low	High	Low	High	Low
24.1	21.3	16.1	12.6	64.5	63.3	5.0+	5.0+

*Scrollcase temperature.

Other

Video counts in the adult fish ladder counting room began on March 1 and concluded on March 31. Visual counting between the hours of 0400 and 2000 hours began on April 1.

Inline Cooling Water Strainers: Cooling water strainers were last inspected for lamprey entrainment on July 30. A total of 2 lamprey were found in the strainers over a combined run time of 1,056.9 unit hours. The next cooling water strainer inspections are scheduled for late August.

Invasive Species: The zebra mussel substrate near the adult fishway exit was last examined for zebra mussels on August 2. No evidence of zebra mussels was found. The next inspection will take place in early September.

Avian Activity: Formal bird counts and hazing started on April 1. Avian hazing activities concluded for the season on June 30.

Adult Fish Trap and Operations to Mitigate the Temperature Differential Between Adult Ladder and Tailrace: The NOAA adult ladder fish trap did not operate during the week due to low water supply during auxiliary pump operations.

System Operational Request #2013-4 was drafted by the TMT on July 23 to increase adult passage and reduce the water temperature in the LGR fish ladder. The SOR requests the COE to take immediate actions that may increase adult passage and decrease the water temperature in the adult ladder.

There are 3 auxiliary pumps that draw water from elevation 705 feet (about 30 feet below the water surface); these pumps were designed to supply water to the fish ladder during the reservoir drawdown test in 1992. Auxiliary pumps #1 and #2 were run for the duration of the report week.

At the beginning of the report week either turbine unit #4 or #5 was operated from 1700-0500 hours at speed-no load (5 kcfs) and the rest of inflow was spilled and from 0500-1700 hours turbine unit #1 was operated as priority and the remainder of inflow was spilled, until August 10 at 0918 hours when this operation was suspended to allow the start of powerhouse roof repairs. The intent of this operation was to provide good attraction flow to the adult fish ladder during daylight hours and provide increased spill for juvenile fish passage at night. On August 11 and August 12 turbine unit #2 was operated during the night hours and at 0700 hours on August 12 and for the remainder of the week only one unit was operated for station power (5 kcfs) and the remainder was spilled due to roof repair/doble testing/T1 and T2 maintenance. The roof repair requires a powerhouse outage from approximately 0900 to 2300 hours daily, for approximately the next six weeks. Doble testing/T1 and T2 maintenance is scheduled to be completed the evening of August 16.