

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

June 3, 2009 Conference Call

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator/Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

Review of Minutes/Agenda

The facilitator notes and official meeting minutes from the May 20, 22 and 27 meetings had been posted to the web. Kyle Dittmer noted that there were two misspelled names at the end of the May 22 facilitator notes [note: it was later discovered that the misspellings were at the end of the official minutes.] A corrected version will be posted to the web and TMT members will look to finalize the three sets of notes and the notes from today's call at the June 17th TMT meeting.

Libby Sturgeon Pulse Operations Update

Joel Fenolio, COE, reported that the June early bird forecast for the water supply at Libby was for ~ 5000 KAF. He referred TMT to three scenarios linked to the agenda that showed shaping, flow and end of July elevation levels for water supplies of 4600 KAF, 5000 KAF and 5400 KAF. Fenolio said that the sturgeon pulse day had not yet been determined, but that it was likely to be June 9th or later during that week. Greg Hoffman, on behalf of the Sturgeon Flow Planning Group, referred TMT to graphs linked to the agenda that showed current elevation and temperatures in the Koocanusa Reservoir. He noted a general warming trend was expected over the next few days and said that so far in 2009 outflows from Libby have been cooler than observed last year. Hoffman reported that there have been 13 tagged fish observed above Shorty's Island but that so far no spawning has been observed in the area above the bridge. Hoffman said that if flows remain steady over the next two weeks, Hatchery personnel will likely be able to capture some male sturgeon.

Action/Next Steps: The Sturgeon Flow Team had a call planned for 6/5; the COE said they would notify TMT via email when a date was set for the pulse.

Lower Granite Barge Maneuvering Test Update

Jim Adams, COE, reported that flows at Lower Granite had risen naturally to the 150 kcf/s range; the COE planned to proceed with the test planned for 6/4 and clarified that the test would run from 0800 hours to 1900 hours. Karl Kanbergs, COE, added that operations were expected to stay within MOP, with minimal reductions of spill only if necessary to provide consistent conditions throughout the test.

Dworshak Unit 3 Outage

Rudd Turner, COE, said that the COE recognizes the unit 3 outage causes impacts to fish and water quality; he clarified that operations at the project will only use units 1 and 2 for

the near term. He reported that coordination on this issue has been ongoing with many regional partners, including NOAA, USFWS, ID and the Nez Perce Tribe, who will all help the COE determine the best course of action(s) as more becomes known regarding the status of the repair. Paul Wagner, on behalf of the Salmon Managers, said efforts are underway on a draft request for a TDG waiver that would allow operations to go beyond the current TDG limits. Kyle Dittmer, CRITFC, offered to provide assistance with developing scenarios on temperature.

Dave Tucker, Dworshak project staff, reported a brief synopsis of the initial discovery of the leak and clarified that they suspect there may be an issue with an O-ring that was previously repaired in 1986 and/or there may be a head cover issue. Tucker clarified that next steps included physically accessing the leak site, which will require use of the emergency gate, which needs to be certified before it can be used. The COE is pursuing all avenues of securing a mobile crane that will assist with the repair assessment process.

Russ Kiefer, ID, reported that he had been alerted to temperature spiking at the Clearwater Hatchery on 6/2. There was some discussion of what may have caused the sudden increase in water temperature to occur. Steve Hall, COE, and Kiefer said they would make sure that the right people at the project and the hatchery are coordinating clearly and often.

Next Steps: The COE will keep TMT apprised via email as new information is available –they will do their best to expedite a contract for the crane work needed and said that their best guess was that a week will be needed to ascertain and make the repair once the crane is secured.

Summer Fish Operation Plan

Rudd Turner, COE, referred TMT to a draft Summer Fish Operation Plan posted as link to the agenda. He reported that the draft had been submitted to the court on 6/2 and reviewed specific spill operations described in the document. Turner noted that there may be changes to spill operations at John Day to address significant predation issues; this will be coordinated through FDDRWG, TMT and the court. Turner reviewed changes to operations at several projects to accommodate research tests and clarified that the COE plans to evaluate the 40/60% spill at McNary with spill in bays 4 and 20. The COE plans to remove the spillway weir in bay 4 at McNary in early August.

Operations Review

Reservoirs: Grand Coulee was at elevation 1276.8' and filling. Hungry Horse was at 3539.78', with inflows of 15 kcfs and outflows of 4.1 kcfs. Libby was at elevation 2419.7' with outflows of 13.4 kcfs. Albeni Falls was at elevation 2060.8' and slowly filling. Dworshak was at elevation 1584.2', with inflows of 21.4 kcfs and outflows of 6.6 kcfs. Seven day average flows were 161.8 kcfs at Lower Granite, 342.3 kcfs at McNary and 345 kcfs at Bonneville.

Fish: Paul Wagner, NOAA, reported that about 2200 adults were passing Bonneville per day. The two-week index indicated smolts were wrapping up at Lower Granite, nearing the end of yearling passage. Steelhead were surprisingly still in the 20,000 per day range at Lower Granite and Little Goose, and sub-yearlings were in the 50,000 range at Lower Granite and Little Goose. Wagner asked the COE about a volume difference of about 15

cfs between Little Goose and Lower granite; the COE said a calibration check was underway.

Power System: *nothing to report.*

Water Quality: Jim Adams, COE, reported that there were high levels of TDG due to involuntary spill everywhere but John Day and The Dalles. Russ Kiefer, ID, asked whether the COE planned to reduce spill at Lower Granite; the COE acknowledged that the Lower Granite tailrace was at 23.8 said they did not see justification to adjust levels at this time and would continue to monitor levels closely.

Other: Jim Adams, COE, announced that he has accepted a new position at the COE's Portland District and said that his departure date would likely be July 3. He said that Dan Feil will serve as the TMT Chair for the near term.

TMT Schedule ahead: June 17 Face to Face, June 24 Face to Face

June 17th meeting agenda items include:

- Finalize May 20, 22, 27 and June 3 Facilitator Notes and Official Minutes
- Dworshak Unit 3 Outage / Operations Update
- July 4 Operations
- Operations Review

**Columbia River Regional Forum
Technical Management Team Conference Call
June 3, 2009**

1. Introduction

Today's TMT call was chaired by Jim Adams (COE) and facilitated by Erin Halton (DS Consulting), with representatives of NOAA, COE, BPA, BOR, USFWS, Oregon, Montana, CRITFC, Idaho and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

2. Review Meeting Minutes for May 20, 22 and 27, 2009

Review of the recently posted notes for the past three TMT meetings was postponed so people would have more time to review them.

3. Libby Sturgeon Pulse Operations Update

Joel Fenolio (COE) presented three graphs, linked to today's agenda, that depict different inflow volumes to Libby and how that would affect the sturgeon operation.

The COE June water supply forecast will be available June 5. It looks like 5,000 kaf will be the April-August prediction for Libby inflows. That volume would change VARQ flows from 13.4 kcfs to 12.7 kcfs. The second graph attached to today's agenda depicts this scenario, which assumes a June 9 start date for the sturgeon pulse and flat flows, as discussed earlier this week. The scenario shows the sturgeon volume lasting into July. The end of July refill elevation for Libby reservoir is 2,455 feet under this scenario.

The low inflow scenario of 4,600 kaf for April-August is the first graph attached to this item on today's agenda. This outcome would trigger bull trout minimum flows from Libby as soon as the sturgeon pulse ends. Bull trout flows would be 7 kcfs until Aug. 31 and drop to 6 kcfs starting Sept. 1. The end of July refill elevation under this scenario is 2,448.5 feet.

The final graph depicts a high inflow scenario of 5,400 kaf, with a maximum flood control elevation of 2,457.7 feet on Aug. 31. This scenario has the same shape as the others, but doesn't include flat flows as the 5,000 kaf scenario does.

The sturgeon operation will no doubt include reductions in VARQ flows, Greg Hoffman (COE Libby Dam) said. It looks like the reductions will be minor so the team decided not to initiate the sturgeon pulse until next week.

Hoffman reminded everyone that the goal of this year's sturgeon operation is to mimic last year's thermal characteristics as closely as possible. He showed TMT graphs depicting various aspects of the sturgeon operation. The first graph shows current conditions. The selective control gates are at elevation 2,326 feet and releasing water of 43.4 degrees F. Steelhead will have enough warm water by sometime next week to safely provide a full powerhouse operation with cooler water. The reservoir is beginning to stratify, and water temperatures are expected to gradually increase. Overall, flows are expected to decrease slightly, which means VARQ flows will also subside. Temperatures of water coming out of Libby are substantially cooler than in the past, and the operation is on track in terms of replicating last year's thermal characteristics.

The sturgeon operation is dependent on the location of fish on the river, Hoffman said. There are now 10 females in the sturgeon hatchery, but personnel are having difficulty capturing enough males for spawning activity to take place. At present, the sturgeon operation is on hold to allow hatchery personnel time to capture more males. At this point, it looks like the sturgeon operation will begin the middle of next week. The COE will notify TMT members via email when it begins.

4. Lower Granite Barge Maneuvering Test Update

Previous TMT discussion of possible deviation from the MOP-MOP+1 operation at Lower Granite Dam to provide 130 kcfs flows for this test has turned out to be unnecessary, Adams said. Flows are so high that more than enough water will be available to simulate the navigation problems being studied. Flows of 130 kcfs were deemed ideal for the test, and actual flows may turn out to be as high as 150 kcfs. So at this point, it appears the barge test will have no impact on the MOP operation in the forebay.

To the extent possible, the COE will provide flat flows for a consistent operation throughout the barge maneuvering test. There is a possibility that spill might have to drop below 20 kcfs briefly for unanticipated safety reasons, but any disruption to fish operations should be minimal. The test will occur from 8 am to 7 pm tomorrow, June 4.

5. Dworshak Unit 3 Outage Update

There are a number of issues the COE needs to consider in order to determine a course of action to deal with the Dworshak unit 3 outage, Jeremy Giovando (COE) said. Recognizing that the outage will probably impact fish, water quality and power generation, the COE plans to coordinate with TMT throughout the repair process, and will also coordinate with the state of Idaho and the Nez Perce Tribe regarding ESA and CWA reporting requirements. The current focus is on providing as smooth a refill operation as possible in an effort to keep TDG levels below 110% and minimize fish impacts.

Speaking on behalf of FPAC, Wagner advocated applying for a TDG waiver now for what could turn out to be an extended outage. The waiver would be an important tool in terms of the ability to manage flows. FPAC is in the process of drafting a letter to the COE asking them to submit a TDG waiver application as a contingency planning measure. The possibility of getting a waiver will be included in our discussions with Idaho, Rudd Turner replied.

Using a CEQUAL-2 model, the COE will look at scenarios of different operations that could result from the unit outage and their potential effects on TDG levels in the lower Snake River, as well as on reservoir elevations throughout the hydrosystem. The COE is also testing TDG effects at Dworshak. Kyle Dittmer (CRITFC) has been coordinating with Ben Cope (EPA) who is doing similar modeling using the RBM 10 model and plans to give a short presentation on it at the June 24 TMT meeting.

The COE is working now to identify the source of the leak, Dave Tucker (COE Dworshak) reported. Underwater video indicates that it's in the vicinity of the head cover, seams or wicket gates. Maintenance records for unit 3 show that the O-ring for the unit was repaired in 1982 and again in 1985-86. Further investigation of the leak will require sealing off the area to make it safe for human inspection. Lack of a big enough crane could hold up that work. The COE is pursuing parallel paths to getting the emergency gate pulled, either of which might work. The first was using the 50 Ton intake gantry crane and the second was getting a mobile crane on site. The COE might look to the private sector for a usable crane. If the leak is caused by a deteriorated O-ring or related to the previous repairs, the repair efforts could take about a week, Tucker said. Other causes could take up to a year to address. The COE will send TMT substantial relevant information on the unit 3 outage as it becomes available. The COE is currently working on identifying the specific source of the problem and anticipates having a better understanding of the magnitude of the problem by the end of next week.

Yesterday, workers at the Clearwater hatchery reported that the water temperature in the fish marking trailer rose from 51 to 66 degrees F, Russ Kiefer reported. Somehow warm water was released directly into the hatchery intake. The problem highlights that coordination is needed to prevent recurrences, Hall and Kiefer agreed. The COE and Idaho will work together on preventing a recurrence.

6. Summer FOP Update

The Department of Justice submitted the Fish Operations Plan to the court late yesterday, Rudd Turner reported. A table on page 7 of the plan shows that spill levels are in keeping with the approach this year of providing the same spill levels at the projects as last year.

As specified in the summer FOP, Lower Granite outflows will drop from 20 kcfs to 18 kcfs on June 21, and Little Goose will spill 30% of inflows 24 hours a day.

There has been a lot of discussion regarding the McNary summer spill operation. The region coordinated on 50% spill; however, the COE decided to revert back to last year's 60/40% spill at Little Goose for 24 hours a day during the McNary spill test. Wagner asked whether there's a contingency plan for the spillway weirs at McNary. The COE decided to test 40% and 60% spill levels in bays 4 and 20, Turner replied. The plan is to remove the spillway weir from bay 4 once the spill test is completed.

On June 1, Lower Monumental will switch from 24 hours of spilling to the gas cap to 17 kcfs spill. Ice Harbor will continue to spill 30% around the clock on test days, and 45% during daytime and to the gas cap at night on non-test days. That operation will end in mid-July.

John Day will spill 30% or 40% on test days and revert to 30% spill when testing is done. There are significant issues with gull predation in the tailrace at John Day, which FFDRWG plans to discuss with TMT soon. To address predation, the COE might revert to the 2008 summer spill pattern at John Day, which would mean shutting off the spillway weirs and using a bulk spill pattern through bays #1-14.

The Dalles will continue to spill 40% of inflows day and night under the FOP. Bonneville will operate the same as last year, with spill of 75-85 kcfs during the day and to the gas cap at night. This year, the plan is to spill 85 kcfs in the daytime through July 20, then spill to 75 kcfs a day thereafter.

While the 2008 BiOp calls for a potential curtailment of spill at lower Snake River projects if subyearling Chinook counts are low enough, the COE doesn't plan to implement that provision this year. The FOP calls for spill through the end of August at all four lower Snake projects.

Summer transportation operations will begin at McNary between July 15-31, at which point TMT will get involved in the planning. Transportation is already underway on the lower Snake River. Implementation dates for summer spill are June 21 on the lower Snake and July 1 on the lower Columbia. Both dates are somewhat flexible.

7. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,276.8 feet and filling. The June 15 flood control elevation is 1,285 feet.

Hungry Horse is at elevation 3,539.78 feet. It has been discharging 5.1 kcfs and will drop to 4.1 kcfs tonight. The reservoir has been filling at the rate of about 1-1.5 feet per day.

Libby is at elevation 2,419.7 feet. Inflows peaked at 36.9 kcfs on May 31. Outflows have been holding steady at 13.4 kcfs.

Albeni Falls is at elevation 2,060.8 feet and slowly filling.

Dworshak is at elevation 1,584.2 feet. Inflows were 21.4 kcfs yesterday and are dropping, with a peak of 24.3 kcfs on May 31. Outflows are 6.6 kcfs.

Seven-day average inflows are 161.8 kcfs at Lower Granite, 342.3 kcfs at McNary, and 345.0 kcfs at Bonneville.

b. Fish. Juveniles: Smolt passage is all but finished on Snake River projects, with index counts below 1,000 fish per day at Lower Granite. Passage counts are still in the 20,000 range in the lower Columbia but are reaching the end of the yearling passage season. Subyearlings are where the action is, with counts at Lower Granite in the range of 50,000 fish per day.

Adults: Counts at Bonneville are around 2,200 fish per day. The passage index count for spring Chinook is 118,000 fish, with a prediction of 129,000 fish passing the project by June 15. Daily passage numbers for steelhead are in the 20,000 range for Lower Granite and Little Goose.

Wagner asked about volume discrepancies on the Snake River at this level of flow. It appears there is 10-15 kcfs less spill at Lower Granite than Little Goose, a discrepancy that can't be attributed to tributaries or sinkholes. Is this a calibration issue? Adams said he will investigate and follow up.

c. Power System. There was nothing to report today.

d. Water Quality. High 12-hour TDG levels are being recorded throughout the system, with involuntary spill at all projects except John Day and The Dalles, Adams reported. The COE has decided not to change the gas caps at John Day and The Dalles, which are 90 kcfs and 100 kcfs respectively. The daily average spill at John Day is 26.7% of inflows, less than 30%. On May 2, TDG saturation levels were 117.4% in the John Day forebay, 116% in The Dalles forebay, and 116.7 in the Bonneville forebay. The spill volume at Bonneville is around 150 kcfs, meaning TDG levels are approximately 124% in the tailrace every day. Yesterday on the Snake River, TDG levels at Lower Granite were 124.8 kcfs, the highest reading on the Snake. Forebay levels on the Snake are around 118-119% TDG, with a high reading of 121.7% in the Ice Harbor tailwater.

At Little Goose, spill levels have dropped to 18% of river flow, with TDG readings below 117% in the tailrace, Kiefer said. He expressed concern that spill caps are being set lower than necessary at Little Goose in response to uncontrolled spill a few days ago. The COE plans to leave spill caps where they are until forebay TDG levels come down, Adams said. There was discussion of the degassing effect that has been observed at spill levels around 120 kcfs.

8. Next Meeting

The next regular TMT meetings will be June 17 and June 24 at the COE's Portland office. A Dworshak outage update, summer operations, 4th of July weekend operations, and other topics will be on the June 17 agenda. The June 24 meeting will include a farewell to Jim Adams, who has accepted a new position. Dan Feil will serve as TMT chair after Adams' departure. This summary prepared by consultant and writer Pat Vivian.

<i>Name</i>	<i>Affiliation</i>
Russ George	WMC
Jim Adams	COE
Paul Wagner	NOAA
Doug Baus	COE
Laura Hamilton	COE
Steve Hall	COE Walla Walla
Tony Norris	BPA
Eric Volkman	BPA
John Roache	BOR
Glen Trager	Shell Energy
Rick Kruger	Oregon
Tom Le	Puget Sound Energy
Brian Marotz	Montana
Kyle Dittmer	CRITFC
Joel Fenolio	COE Seattle
Mark Drobish	Dworshak Hatchery
Barry Espenson	CBB
Scott Bettin	BPA
Jason Flory	USFWS
Dave Wills	USFWS
Greg Hoffman	COE Libby Dam
Karl Kanbergs	COE
Margaret Filardo	FPC
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Rudd Turner	COE
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