

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

May 7, 2008 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Robin Gumpert

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

- As edits to the 4/30 and 5/2 TMT conference call facilitator notes and official minutes were still in process, TMT will look to finalize the notes during the next TMT meeting.
- As Russell Langshaw was not available to join today's TMT meeting, a Priest Rapids update will be on the agenda for the scheduled 5/21 TMT meeting.
- TMT will look to finalize the TMT Guidelines at the 5/21 face to face meeting.

Update from 5/5/08 IT Conference Call

Paul Wagner reported on the 5/5 IT conference call, noting that the discussion centered on the Colville Tribe's concerns regarding SOR 2008-2. The primary concerns of the Tribe were those of navigation associated with the Lake Roosevelt Ferry, along with potential impacts to fisheries and cultural resources. IT members reached consensus to meet 180 kcfs average flows at McNary without adversely impacting navigation of the ferry. Wagner noted that support from increased Libby outflows and warming weather over the weekend had helped flow and elevation levels and that as of 5/7 there were no anticipated issues for the near-term. Wagner acknowledged that there is a need to develop a long term plan for balancing the multiple uses of the water supply. John Roache, BOR, added that the BOR was targeting a minimum elevation of 1228' to meet flood control targets and to support the ferry's operating range, and relayed the Tribe's note that the ferry would shut down before it became unsafe to continue operating. In addition, Brian Marotz, MT, said that, given the flow increase at Libby to 9 kcfs to support this operation, it would be biologically best to continue to operate Libby with stable or increasing flows to support sturgeon operations.

Dworshak Operations

Steve Hall, COE, reported on the latest operational scenarios for Dworshak, posted as links to the TMT agenda. He noted that the latest ESP forecast indicated a considerable drop in volume and that there was some uncertainty as to the reason for this drop. Steve added that he planned to discuss the forecast with the Weather Service following the TMT meeting, as the impact from snow pack levels on the forecast might vary. Hall said that the timing of refill is as yet uncertain and acknowledged the difficulty in anticipating conditions that the May-June time frame will bring. Rudd Turner, COE, clarified that

refill for summer was a high priority for the COE and BPA noted the need to control temperature later in the year. TMT members discussed the latest box whiskers plots for Dworshak, also linked to the TMT website. TMT members noted that the need to consider effects to the Orofino area recreation and economy, especially over the July 4th weekend. TMT members also referred to flow data from 1999 on the DART reference site and the last two weeks of passage data on the Fish Passage Center website. They considered the potential risk ahead for high flows in the Lower Snake River possibly resulting in elevated TDG levels and the need to provide good conditions for fish that may be in the peak of their passage.

Paul Wagner, on behalf of the Salmon Managers, recommended an operation in the range of 7.5 kcfs (with one big and one small unit) for one week and to discuss Dworshak operations via a TMT conference call on 5/14, when new ESP data will be available. Russ Kiefer, ID, added that as we move forward, recommendations could be tied to observed passage and acknowledged the need for multiple uses of the project. After a caucus was held, the Action Agencies proposed operating Dworshak in the range of 7.5 kcfs (one big/one small unit) until 5/12, when the project would shift to a one big unit operation and flows closer to 5 kcfs, and then plan to drop to minimums after next week – with a check in at TMT to review updated forecasts and ESP models. From the COE’s perspective, this would provide a more desirable shape of flows. No objections were raised to the Action Agencies’ proposal.

Action/Next Steps:

- The COE will operate Dworshak in the range of 7.5 kcfs (with one big and one small unit) beginning 2000 hrs on 5/7 {Supplemental Note: the actual change occurred at 2200 hrs}.
- At 2000 hrs on 5/11, the project will shift to a one big unit operation, with flows expected to drop to a 5.4 kcfs range; the COE will likely maintain this operation through 5/16 {Supplemental Note: the actual change occurred at 2200 hrs}.
- Dworshak Operations will be added to the TMT conference call agenda on 5/14.

Spring Creek Hatchery Release

Dave Wills, USFWS, reported that the 5/2 Spring Creek Hatchery release occurred as planned. He said that passage and survival were better than historic averages thus far and that operations at the low end of 1% for the first four days of the test supported the success of the release.

Action/ Next Steps: As of 5/7, the project went to operating at the lower 1% as a soft constraint. Wills will update TMT with new and relevant information at an upcoming meeting, as passage results are made available.

Little Goose Fish Injury

Dan Feil, COE, provided TMT with a follow up from an April TMT meeting and referred to a COE memo sent to the Fish Passage Center, posted as a link to the TMT agenda. Feil said that investigation of an “injury” vs. “de-scaling” de-classification led to a commitment to standardize sampling characterizations and mechanisms across projects.

Water Management Plan Spring/Summer Update

Scott Boyd, COE, reported that NOAA, USFWS and MT comments on the Water Management Plan spring/summer update were posted to the TMT website.

Action/Next Steps: A Final Draft was expected to be posted on the TMT website by 5/14. TMT members will be given at least one week for review before they look to finalize the document at the scheduled 5/21 TMT face-to-face meeting.

Operations Review

Reservoirs: Grand Coulee was at elevation 1228.9' and passing inflows to maintain the reservoir within a 2 foot operating range around the flood control elevation target of 1228.8'. Hungry Horse was at 3500.9' with outflows in the range of 4.7-4.9 kcfs and inflows in the 10 kcfs range; the May-July volume forecast is 117% of normal, at 1998 KAF. Libby was at 2396.6' with outflows of 9 kcfs and inflows increasing from 7.2 kcfs to 12 kcfs over the last few days. Albeni Falls was operating within the range of 2055-2056' and passing inflows to help maintain McNary flows and maintain the Lake Roosevelt forebay elevation target. Russ Kiefer, ID, said that there were no anticipated issues associated with Lake Pend Oreille refill for this year; flows were in the 42 kcfs range. Dworshak was at elevation 1476.2' with inflows increasing from 10.7 kcfs to 15.2 kcfs over the last few days. The 7-day average flows were 69.5 kcfs at Lower Granite, 186.2 kcfs at McNary and 198.5 kcfs at Bonneville.

Fish: Paul Wagner, NOAA, reported that adult passage numbers were still lower than anticipated, with 10,000 passing Bonneville on 5/4. He added that passage was expected to increase upon the arrival of the spring freshet.

Power System: Nothing to report.

Water Quality: Jim Adams, COE, referred TMT to the TDG chart linked to the TMT website. He noted a few TDG exceedances at Lower Monumental and Ice Harbor forebays and said that several exceedances over the weekend at Camas-Washougal were likely attributed to the warmer weather. Adams clarified that as of the evening of 5/7, Lower Monumental and Little Goose would return to two-day blocks of alternate spill patterns and that caps would be determined by the pattern.

Other/Updates: Dan Feil, COE, reported on two upcoming Bonneville outages:

- A multi-bay outage to replace a back-up gallery pump; likely a one day outage, date to be determined but likely the end of the week of 5/12. An alternate spill pattern will be used to maintain the 95% gas cap. Feil will vet the outage through FPOM and share specific operations for the outage with TMT as soon as they are available.
- A corner collector outage, to ensure safe conditions for work on the GPS hydrophone; outage likely for 6 hours and likely the end of the week of 5/12. Feil will vet the outage through FPOM and will share specific operations for the outage with TMT as soon as they are available. FPOM discussion of the corner

collector outage and any resulting recommendations will be discussed during the 5/14 TMT conference call.

Next TMT Meeting: 5/14 Conference Call, 9 a.m.

Agenda Items include:

- Dworshak Operations
- Spill Priority List
- Outages Update

5/21 TMT meeting

Agenda Items include:

- Finalize notes/minutes
- Priest Rapids Operations
- Dworshak Operations
- TMT Guidelines – final draft
- Water Management Plan Spring/Summer Update - final draft
- Operations Review

**Columbia River Regional Forum
Technical Management Team Conference Call
May 7, 2008**

1. Introduction

Today's TMT meeting was chaired by Jim Adams (COE) and facilitated by Robin Gumpert (DS Consulting) with representatives of BPA, COE, NOAA, USFWS, BOR, FPC, Idaho, Montana, Oregon, Washington and others attending in person or by phone. 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

Discussion of meeting minutes was postponed until the next TMT meeting.

3. Priest Rapids Update

This discussion was postponed until the May 21 TMT meeting.

4. IT Meeting: Update on SORs 2008-2 and 2008-MT-1

Concern about low flows has been resolved by a number of factors, mainly the Corps agreement to 5 kcfs of flow augmentation from Libby reservoir beginning Friday, May 4, and warm weekend temperatures that instigated natural runoff, Paul Wagner (NOAA) said. The IT discussion of this issue revolved around the Colville Tribe's concerns about the effect of reservoir elevations on ferry navigation. The tribe also had concerns about natural resources, fisheries and other issues. The critical minimum elevation at Grand Coulee for ferry navigation appeared to be around 1,228 feet, but more information was needed on the exact elevation at which the ferry can no longer operate.

Now that flows are up at Libby, it's better biologically if they remain stable or rising, said Brian Marotz (Montana). A flow reduction causes problems because the inundated zone becomes productive and then dries out, needing about a month and a half to reestablish even while flows are rising for VARQ releases and white sturgeon. One problem with fluctuating flows is that male sturgeon can move upstream and reverse direction, migrating downstream when their presence is needed for hatchery reproduction. Montana and BOR representatives recalled a discussion during the May 2 TMT call regarding potential sturgeon migration problems that could be triggered by declining flows.

5. Dworshak Operations

The operational scenarios attached to today's agenda should be evaluated in consideration of new information: This week's ESP runs have dropped in volume considerably and inexplicably, Steve Hall (COE) said. The COE will consult with the Weather Service for clarification. In terms of maximum volumes, last week's were 3.0 maf, now down to 2.8 maf. The official May forecast is 3 maf. So these operational scenarios are very conservative, and the COE doesn't know how accurate the volume assessments are.

Scenario 1. Shows full load through May 7, then drops to minimum flows, resulting in about 2 kcfs average, with the lowest years not refilling.

Scenario 2. Shows full load through May 7 with outflows of 4.8 kcfs, using two small units for an additional week, then transitioning to whatever operation is needed to refill Dworshak. The minimum years don't refill. Average flow is less than 2 kcfs.

Scenario 3. Shows full load through May 7, then drops to 7.5 kcfs, using one big and one small unit. This scenario results in the minimum years not refilling. The average flow is around 1.5 kcfs.

Scenario 4. Shows full load through May 14. Neither average nor minimum flows result in refilling Dworshak reservoir.

If Dworshak operations go off full powerhouse today and continue with 7.5 kcfs outflows for a week, the reservoir wouldn't refill in the minimum 3 years out of 44, according to this data, Hall said. The COE is very concerned about the increasing risk of not being able to refill if outflows of 7.5 kcfs continue beyond another week. The longer high flows are held and refilling Dworshak is delayed, the greater the risk of not refilling. There is also concern about the effect of continued high outflows on the economy at Orofino.

Wagner referred to Lower Granite data for 1999, a similar weather year, which shows a high probability of high flows. It's difficult to balance refill risks against TDG risks, he said. Rick Kruger (Oregon) asked, why are we taking action to reduce flows when we've worked to maintain them via SOR 2008-2? Temperatures are low this year, so refilling Dworshak a bit later than normal could result in a temperature benefit later, Scott Bettin (BPA) said. Dave Statler (Nez Perce) expressed concern that the risk of not refilling Dworshak increases the risk of not being able to moderate water temperatures this summer.

Over the past few days, inflows at several of the projects have been increasing. Perhaps the concern about dropping Dworshak flows and affecting flows at McNary is mute, Wagner said. The flow objective of 180 kcfs at McNary was a very conservative figure; the BiOp target is 260.

After discussion based on available information at the time, FPAC decided to recommend a discharge of 7.5 kcfs through this week. The COE is getting increasingly concerned about the risk of not refilling. However, ESP forecasts show that flows have been rising significantly within the past few days.

Wagner gave an update on smolt data. Cumulative passage of yearling Chinook to date has been 1.2 million fish, with 350,000 at Little Goose and 150,000 at Lower Monumental. The cumulative passage index to date for steelhead is 3 million fish, with 600,000 at Lower Granite and 155,000 at Little Goose. These estimates are based on an assumption of 1:1 passage efficiency between the powerhouse and bypass system, which is known to be incorrect. According to a population index report that tries to account for the discrepancy between passage index numbers and real-time populations, the index count for yearling Chinook at Goose was 160,000 and the actual population index was 432,000. The difference is accounted for by RSW and spill efficiency at the project. For steelhead, the 1.6 million estimate is actually 4.1 million.

Even though it's a good snow year, flows and temperatures have been low, meaning there's snowmelt to come, Russ Kiefer (Idaho) said. The goal behind FPAC's recommendation is to get fish out of the river system as soon as possible while conditions are still good. With two turbines out at Lower Granite, problems with gas can be expected later in the season when spill levels are high. If the Action Agencies propose a different plan than flat 7.5 kcfs out, the Fish Managers might find it acceptable, Kiefer said. For example: outflows could be cut back now that inflows are up, and then increased again when inflows drop. In its recommendation, the Salmon Managers assumed that one big and one small unit would be used to release flows of 7.2-7.7 kcfs.

Given the discrepancy in ESP volume forecasts, and the high level of concern about refill, the COE expressed a reluctant willingness to accept 7.5 kcfs out for another week. Idaho suggested and Montana supported a proposal to feather flows down now, using two small units or one big unit to conserve water, and then bring flows back up later as needed. The Nez Perce Tribe voiced serious concerns about operating at the high end of the ESP scenarios and favored using the increase in flows now to offset water needs later.

After an internal caucus, the COE made a counter proposal: Ramp down from full powerhouse tonight to 7.5 kcfs outflows, using the big unit and one small units through the weekend. Then drop to 5.5 kcfs outflows on Sunday night, May 11th, using the big unit through next week. Check in on May 14. Continue the 5.5 kcfs operation through Friday, May 16, and then drop to minimum flows over the weekend. This proposal effectively moves 2 kcfs from the May 12-14 to May 15-16. NOAA, Nez Perce Tribe, Oregon, Idaho, and Montana representatives did not object.

Therefore, Dworshak operations will be as follows: At around 8 pm this evening, the COE will ramp down to the big and small unit, with outflows ranging from 7.2-7.5 kcfs, and will maintain that operation through 8 pm Sunday night, May 11th. At that time, operations will ramp down to a single large unit with about 5.4 kcfs outflows through the week. After checking in on the May 14th TMT conference call, this operation will continue through 8 pm, May 16.

6. Spring Creek Operations

The last release of 2008 is surviving at a better than historical average, Dave Wills (USFWS) reported. Apparently the low end of 1% operation is a big help. The low end of 1% operation will continue for another four days as a soft constraint. Wills will pass on any new information to TMT.

7. Little Goose Fish Injury Update

As follow-up to the April 25 conference call, the Walla Walla district has investigated reports of elevated injuries observed at Little Goose. It turns out the problem is due to misclassification of descaling and injury. The COE is working toward developing more uniform methods of reporting fish injuries.

8. Spill Priority List

The current priority list for spilling above 120% TDG when overgeneration or other issues take precedence is as follows: Lower Granite, Little Goose, Lower Monumental, Ice Harbor.

It should be reversed to read: Ice Harbor, Lower Monumental, Little Goose, Lower Granite, Wagner said. A decision on the order of lower river projects can wait, but the Snake project priority list needs changing now.

BPA requested a written description of the change; the current list will remain in effect until the updated list is available to BPA schedulers. If the COE changes spill caps today, they will rearrange the list and send out a teletype to BPA and project staff.

Spill at Chief Joseph is limited because of construction activities. There was discussion of the elevation needed to spill through the drum gates – 1,263 feet. Scott Bettin asked how long it will take to remove the catwalk from the project. Staff has been taking advantage of the opportunity to get work done, but the catwalk can be probably removed quickly; Roache will check with project staff. The spill priority list will be added to future TMT agendas as needed.

9. Water Management Plan – Spring/Summer Update

The COE has received comments from NOAA, USFWS and BOR, which have been posted on the TMT website, Scott Boyd said. There was no indication today that other TMT members would submit comments. Therefore the COE planned to issue an updated draft by the May 21 TMT meeting, with a goal of finalizing the WMP at that meeting.

10. TMT Guidelines

The facilitators sent the latest draft to TMT members for comments on May 5. What was posted on the TMT web page as of this meeting was not the latest version, and will be replaced in time for TMT members to review it before the May 21 TMT meeting in person. Detailed discussion of this topic was postponed until May 21.

11. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,228.9 feet until flood control restrictions are lifted.

Hungry Horse is at elevation 3,500.9 feet, steadily discharging 4.7-4.9 kcfs. The May-July volume forecast is 1,998 kaf, 117% of normal. VARQ outflow discharges are around 4.9 kcfs. Columbia Falls flows are around 18 kcfs. Inflows at Horse have definitely picked up.

Libby is at elevation 2,396 feet, with outflows continuing at 9 kcfs since the evening of May 2 in response to SOR 2008-2. Inflows at Libby are also up.

Albeni Falls is continuing to pass inflows and maintain a 1-foot elevation range. Spill at 6 kcfs began yesterday morning. Flows are increasing, with the project operating at powerhouse capacity and occasionally spilling.

Dworshak is at elevation 1,476.2 feet, with full powerhouse outflows; it will ramp down tonight to two units and approximately 7.5 kcfs outflows, as discussed earlier today. Inflows are running around 35 kcfs; yesterday's average was 34.3 kcfs. Like other projects, flows are picking up.

The 7-day average for inflows at Lower Granite is 69.5 kcfs, up from 63 kcfs a few days ago. The 7-day average for inflows at McNary is 186.2 kcfs. The 7-day average for inflows at Bonneville is 198.5 kcfs.

b. Fish. Adults are not passing Bonneville at the rate anticipated, Paul Wagner said. The forecast was in the 200,000 range; spring Chinook are at 68,000. The peak passage was 10,000 on May 4. An optimistic interpretation is that the fish are waiting for the freshet.

c. Power System. Nothing to report.

d. Water Quality. There have been exceedances at Lower Monumental and Ice Harbor forebays, Adams said. Two studies are underway involving bulk spill patterns at Little Goose and Lower Monumental. The COE is seeing increases of 4-5% in TDG production with bulk spill patterns. In a recent TMT call, the COE agreed to modify nighttime operations at Little Goose to avoid bulk spill for this reason. Bulk spill ends at Goose today. In future the COE will probably set spill caps based on blocks of bulk spill, rather than setting the caps based on 30% spill. The same phenomenon holds true at Lower Monumental.

There were TDG problems at Camas Washougal during this past sunny weekend. The peak TDG reading was 119.4%. TDG levels are declining now as a result of cooler weather.

Other Updates: There are two new operations at Bonneville, Dan Feil reported. One will be a multiple spill bay outage of bays 1-3 to replace a backup gallery pump. The spill patterns have been altered to maintain 96 kcfs outflows.

The second operation is a day-long corner collector outage which won't occur before May 15. First, the altered spill pattern for it will go through FPOM and be distributed to TMT. Installation of hydrophones in the Bonneville 2nd powerhouse forebay wasn't completed due to capsizing of the installers' boat. The purpose of installing the hydrophones is to gather detailed information on fish behavior around the BGS as well as passage data. The corner collector closure will require TMT approval because it deviates from the Fish Operations Plan.

12. Next Meeting

The next TMT conference call will be on May 14, with the spill priority list update, Bonneville corner collector closure, and Dworshak operations on the agenda. The next regular face-to-face TMT meeting is May 21, with a Priest Rapids update, finalization of the WMP, the TMT guidelines, Dworshak operations, and the usual operations review on the agenda. This summary prepared by consultant and writer Pat Vivian.

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