

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

May 28, 2008 Conference Call

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

The 5/21 Official Minutes were not yet posted, so TMT will review over the next week and finalize them at the 6/4 face to face meeting.

Initiation of Libby Sturgeon Flows/Draft USFWS SOR

Jason Flory, USFWS, referred TMT to a draft SOR posted as a link to the meeting agenda. Flory recalled an incident at Libby during the week of 5/19 that put limits on the project's ability to control temperature; he clarified details of repair work needed on the selective withdrawal gate system at Libby. Given that condition, the draft SOR is intended to set up good temperature conditions and continued testing while repair work is completed. Flory noted that warming has begun later than average this year with a current project temperature of 43°F. The recommendation in the SOR is to ramp the project up to full powerhouse (approximately 26 kcfs) on 6/1 and hold for 48 hours, then dropping flows to the range of 20 kcfs (4 units at full load) until repair work can be completed, likely on 6/10. The tail end of operations will be dependent on observed data. Flory acknowledged that there are uncertainties around fish passage, reservoir/river and weather conditions for the weeks ahead; TMT may need to be updated and make decisions outside of the scheduled meeting dates. Flory clarified that passage survey results are expected later this week and that the draft SOR was expected to be formalized and signed by 5/30.

The following parties weighed in on the proposed SOR:

- MT: No objection to SOR as it is written, with a recommendation for an update on status and further TMT discussion at the scheduled TMT meeting on 6/4 and again as we draw closer to the expected repair completion date of 6/10.
- NOAA: no objection, recommend email updates as matters progress.
- OR: no objection
- ID: no objection
- BPA: no objection
- BOR: no objection
- COE: no objection
- Nez Perce: no comment

- CRITFC: no comment

Action/ Next Steps: The COE will continue to operate Libby in the range of 14-18 kcfs until 6/1, when it will shift to full power house (approximately 26 kcfs) for 48 hours, then reduce to 4 units at full load (approximately 20 kcfs.) The COE planned to continue to conference with USFWS offline for further discussion and TMT will discuss this item at the face-to-face meeting on 6/4.

Bonneville Update

Dan Feil, COE, reported that at the TMT meeting on 5/21, debris and high flows led to the decision to remove STS guidance screens from the Bonneville second powerhouse (BII) turbine intakes. Since then, the project has experienced a continued high volume of debris and vertical barrier screens (VBSs) in gatewells at BII continue to accumulate debris, even without the STS guidance screens installed. Feil added that this year there are higher flows than experienced in recent years and that this is the first year that the "full compliment" of new VBSs have been in place at BII. Also, with the TIE crane out of service due to a cracked boom, removing and cleaning the VBSs repeatedly with the available gantry crane, as has been the case during this high debris event, has compounded the problem, since the VBSs were designed to be handled with the TIE crane; repairs to the TIE crane will be complete in advance of the 2009 juvenile fish passage season.

Tom Lorz, on behalf of the Salmon Managers, referenced TMT to SOR 2008-04 linked to the TMT agenda. Lorz said the SOR lines out a proposal to reinstall the screens one at a time, coupled with aggressive cleaning. After evaluating performance, screens could be added to bays one at a time. Lorz suggested that the operation be discussed further at FPOM and noted a particular concern for steelhead passage through turbine units. Feil noted that the COE had estimated the impact to overall dam survival of steelhead using COMPASS model inputs for steelhead and assuming that a 5% reduction in survival of steelhead passing through the screened bypass system would result due to debris and increased incidence of descaling, determined that the difference in steelhead dam survival for screens in versus screens out was less than 1/10th of a percent. The COE also estimated survival differences for yearling Chinook salmon and concluded similarly that removing the guidance screens from BII turbine intakes would have a negligible effect on yearling Chinook dam survival. Still, Tom Lorz suggested that the salmon managers would like to see the screens put back in to provide any level of benefit to the migrating fish.

The following parties weighed in on the proposed SOR:

- ID: support the SOR, although not listed as signatory
- USFWS: support the SOR, although not listed as signatory
- COE: based on the current debris load, support placement of one set of screens this afternoon. The COE suggested re-installing screens in unit 11 and requested input on the best unit to start with and noted performance results would be monitored closely.
- Tom Lorz, on behalf of FPAC: suggest unit 11 or 12.
- NOAA: support SOR and choice of unit 11.

- USFWS: support SOR and choice of unit 11.
- OR: support SOR and choice of unit 11.
- ID: support SOR and choice of unit 11. Additionally, if the COE observes that the project could provide greater benefit to fish passage by adding more than one set of screens, recommend doing so.
- CRITFC: support SOR and choice of unit 11. Recommend placement of additional screens proceed from north to south.

Action/ Next Steps: The COE planned to install one set of screens in unit 11 on 5/28 and will keep TMT apprised of any additional installations prior to the 6/4 meeting. TMT will revisit this item with an update at the TMT meeting on 6/4.

Lower Monumental Transportation Operations

Dan Feil, COE, reported that on 5/19 transportation operations at Lower Monumental were suspended due to high flows; transport resumed on 5/24. Feil noted that variances in spill occur only when requested by tugboat captains during loading and for safety concerns.

Operations Review

Reservoirs: Grand Coulee was operating at 1256.3' and slowly filling. Hungry Horse was at 3529.9' with outflows of 5 kcfs and inflows in the range of 15-17 kcfs. Dworshak was at 1542.19' and had filled 27' over the last 7 days. Libby was operating at 2419', 40' from full with inflows of 40 kcfs. Albeni Falls was at 2042.2', with outflows in the range of 80-90 kcfs. Bonneville flows were in the 360-420 kcfs range. Snake River flows were in the range of 140 kcfs.

Fish: Paul Wagner, NOAA, reported that adult passage numbers were passing Bonneville at a rate of 1,500 per day. Jack counts continue to be strong, with a Juvenile Chinook peak of 200,000 on 5/19 at Lower Granite, 800,000 on 5/21 at Lower Monumental and 60,000 at John Day. Steelhead are expected to arrive at Bonneville shortly.

Power System: Nothing to report.

Water Quality: Tina Lundell, COE, reported that high flows at Lower Granite, Ice Harbor, McNary, and Bonneville led to involuntary spill and TDG exceedances. At Ice Harbor the COE are doing repairs on a malfunctioning monitoring antenna; Salmon Managers recommended more proactive and flexible management of TDG between Lower Monumental and Ice Harbor to maintain desired targets, noting the 1.5-2 day travel time between projects. Dworshak had several TDG exceedances, as high as 114%. Beginning last weekend, the project has been intermittently switching from all generation (62 MW) to all spill (1 kcfs). The reason for this is to put more generation and less spill on the lower river due to high TDG levels. Paul Wagner, NOAA, complimented the Action Agencies on their management of the high flows and power generation.

Next TMT Meeting: 6/4 face-to-face

Agenda Items include:

- Finalize notes/minutes
- Priest Rapids Operations Update
- Libby Sturgeon Flows
- TMT Guidelines Update
- Bonneville Screen Update
- Libby/Hungry Horse Summer Operations – NOTE: monitoring data would be helpful.
- Operations Review

**Columbia River Regional Forum
Technical Management Team Conference Call
May 28, 2008**

1. Introduction

Today's TMT call was chaired by Cathy Hlebechuk (COE) and facilitated by Robin Gumpert (DS Consulting) with representatives of CRITFC, USFWS, COE, BOR, BPA, NOAA, the Nez Perce Tribe, Oregon, Montana, Idaho, and others on the line. 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 previous meeting minutes was postponed until TMT's next meeting in person June 4.

3. Initiation of Libby Sturgeon Flows

On behalf of the salmon managers, Jason Flory (USFWS) presented a draft SOR (not yet numbered) that had just been posted to the TMT website this morning. He gave background on the SOR and explained why it had to be posted unsigned at the last minute.

Earlier in the year, the sturgeon managers put together a draft SOR similar to the one submitted last year. The approach was the same, primarily temperature-driven based on the capacity to augment sturgeon flows without raising the temperatures above 50 degrees Celsius.

However, last week a boom crane broke at Libby Dam, making it impossible to maneuver the system of gates that draws water selectively from the layers of the reservoir. The gates are stacked in rows in front of the wetwells in order to release flows of the desired temperature. Until the crane is repaired, the gates remain stuck in their current position, limiting the capacity to manage temperatures during the sturgeon pulse. Libby outflows are currently being drawn from elevation 2,320 feet, which is not the coldest layers of the reservoir as the salmon managers had hoped.

The contractor is 95% sure the crane will be repaired by June 10. Meanwhile, the salmon managers thought that sturgeon operations would begin later this year than usual, sometime around June 10.

Under these circumstances, the revised SOR requests full powerhouse flows (approximately 26 kcfs using all five units) according to ramp rates in the Bi Op, beginning Sunday, June 1 and continuing for two days. After two days, outflows would drop to 20 kcfs using units 1-4 until the boom crane is repaired. The effects of operating at full powerhouse until the repair are uncertain, mainly because there are no gates in place to manage outflow temperatures at unit 5. The SOR hinges on getting the crane system in service by June 10. Once the crane is working, it will probably take a day or two to position the gates.

The SOR doesn't specify the tail end of the sturgeon operation because that will depend on spawning behavior and weather conditions. It is also unclear how long the sturgeon volume would last under conditions outlined in the SOR. If the crane is fixed on time, flows can taper off smoothly, avoiding a drastic summer drop in flows on the Snake. Normally the Libby reservoir begins to stratify around mid-May as surface layers warm up. This year, the reservoir has just begun to stratify at the end of May.

Hlebechuk asked whether any male sturgeon have been seen yet. High flows have prevented fish biologists from getting out on the river until now, Flory said. An answer will be available later this week. There was discussion of the schedule for getting the SOR signed in time to implement the operation. Flory was confident the SOR would be signed by Friday because it's already been internally vetted.

There was discussion of how decisions about the sturgeon operation should be made and communicated to TMT, given the difficulty of making firm plans at this point. The first question was how to manage outflows and temperatures between now and June 10. Several TMT members identified two options: flows of 20 kcfs running four units full powerhouse, or 25 kcfs running all five units full powerhouse. Operations after June 10 will depend on how quickly the gates can be stacked in place and on fish spawning behavior. Flory emphasized that efforts will be made to avoid a double-peak operation. Scott Bettin suggested that TMT members decide whether they would be comfortable with either 20 or 25 kcfs outflows until June 10, depending on what happens in the reservoir. If either option is acceptable, perhaps a simple email notification to TMT when the crane is fixed would suffice. Litchfield objected to that and requested an opportunity to discuss conditions in detail when more is known.

TMT members then stated their positions on the draft SOR and developed a decision making process based on current circumstances.

Montana – The SOR is acceptable as is, provided there are no major changes between the draft and signed versions.

NOAA and the **COE** – Supported the SOR and Montana's proposal for more in-depth conversation around June 10.

BPA, BOR, Oregon and Idaho – Did not object to the draft SOR.

CRITFC and the Nez Perce Tribe – Had no comments at this time.

Washington – No representative was present on today's call.

The Libby operation will consist of 14.8 kcfs outflows until June 1, when the ramp-up to full powerhouse using five units (approximately 26.4 kcfs outflows) will begin. Full powerhouse will continue for 48 hours, when the ramp-down to using four units (approximately 20 kcfs outflows) will begin. BPA preferred that the ramp-up begin in the middle of the day on June 1. There was discussion of whether that would be commensurate with Bi Op ramp rates. USFWS, BPA and COE agreed to resolve this outside of TMT, and there were no objections.

Unless there are changes in the draft SOR that require TMT's attention, Libby outflows will continue at approximately 26.4 kcfs from June 1 until TMT reviews the sturgeon operation at its June 4 meeting. A follow-up conference call on June 6 or June 9 might be necessary before the ramp-up begins.

4. Bonneville Fish Screen Update

Dan Feil described actions taken since TMT's May 21 decision to pull the fish screens from the Bonneville juvenile bypass system. Fish were being descaled by passing through the system with increased debris load that has caused plugging of the vertical barrier screens and project staff were unable to keep up with the pace at which the debris was accumulating. Therefore, the guidance screens were removed from unit 18 on May 21; units 11, 16 and 17 on May 22; and units 12-14 on May 23.

Flows have subsided, but are still 350 kcfs or more, Feil said. Smolt monitoring found that descaling rates dropped to 2-5% since the screens were removed. Project staff continue to remove debris from the trash racks in fish units and auxiliary water system. Accumulation of debris in gatewells and on the vertical barrier screens continues, even in the absence of guidance screens and after the vertical barrier screens were thoroughly cleaned. Debris accumulating on adult facility trash racks is similar to what's being observed on the vertical barrier screens due to the narrower bar spacing on adult facility trash racks compared to turbine unit trash racks.

Tom Lorz (CRITFC) presented SOR 2008-4 on behalf of the salmon managers. Large numbers of steelhead in the upper Snake are expected to arrive at Bonneville soon. These fish would benefit from having the bypass system fully installed. Feil noted that the COE had estimated the impact to overall dam survival of steelhead using COMPASS model inputs for steelhead and

assuming that a 5% reduction in survival of steelhead passing through the screened bypass system would result due to debris and increased incidence of descaling, determined that the difference in steelhead dam survival for screens in versus screens out was less than 1/10th of a percent. The COE also estimated survival differences for yearling Chinook salmon and concluded similarly that removing the guidance screens from BII turbine intakes would have a negligible effect on yearling Chinook dam survival. The salmon managers are concerned about the process of determining when the screens should be replaced. The SOR outlines criteria for reinstalling and maintaining the screens. TMT members presented their views.

Idaho and USFWS – Support the SOR.

COE – Based on debris loads seen at the project, it has not been prudent to replace the screens until now. Project and district staff will install one set of screens later this afternoon. The question is, in which unit? Units 11 and 18 on either side of the powerhouse tend to receive the most debris and unit 11 is likely to pass a lot of fish given it's proximity to the corner collector. Either of these would be a good choice to test whether the debris load is manageable. FPOM discussed this yesterday and decided that unit 11 or 12 would be the best place to start, Lorz said. He requested that the screen be installed as soon as possible, with a decision by Friday or earlier so that additional screens might be replaced before the weekend.

NOAA – Supports the SOR. Proposed starting with unit 11 to test the debris load.

USFWS and Oregon – Support the SOR, as well as an accelerated schedule for screen replacement.

Idaho – Wants the screens replaced as soon as possible. Agrees that unit 11 screens should be replaced first. Suggested replacing and testing combinations of guidance and VBS screens.

Washington – No representative was present today.

The COE will begin screen replacement with unit 11 and proceed south to north across the spillway. CRITFC, USFWS and NOAA agreed to this approach; Oregon and the Nez Perce had no objections.

5. Lower Monumental Transportation Operations

On Monday, May 19, transport operations were suspended at Lower Monumental due to high flows on the Snake, Feil reported. Flows have since subsided, and barges were able to resume transport operations on Saturday, May 24. Russ Kiefer noticed that spill has been reduced at 6 pm for 2-3 hours

over the past several days; Feil confirmed the spill reductions were for barge loading. Wave action at certain flow levels is unique to Lower Monumental due to the proximity of the barge loading facility, meaning spill must be reduced to allow the barge to dock safely. Project staff have been instructed not to reduce spill during the barge loading operation unless the tug operator requests it for safety.

6. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,256.3 feet and filling.

Hungry Horse is at elevation 3,529.9 feet, discharging 5 kcfs and about 30 feet from full. Inflows are 15-17 kcfs and leveling off.

Dworshak is at elevation 1,542.1 feet, having spilled 27 feet in the past 7 days. It's 58 feet from full. Inflows are down to 27 kcfs after peaking at 40 kcfs.

Libby is at elevation 2,419 feet, having spilled 14 feet last week. It's 40 feet from full. Inflows are at 40 kcfs after peaking at 65 kcfs.

Albeni Falls is at elevation 2,060.2 feet, around 2 feet from full. It's on free-flow, releasing as much volume as possible, currently around 90 kcfs. Flows of over 100 kcfs are expected.

Bonneville flows were 360-420 kcfs last week.

Snake River flows were 140-200 kcfs last week.

b. Fish. Adult passage numbers at Bonneville picked up again after dropping to 500 on May 22, Wagner reported. Counts have been around 1,500 for the past few days. Presumably high flows delayed these fish. Jack counts continue to be strong, a good sign for next year.

Juvenile passage numbers for yearling Chinook peaked at around 200,000 at Lower Granite on May 19. Peak passage at Bonneville was on May 19 and at Little Goose on May 21. On May 21, 800,000 fish passed Lower Monumental, which could be a record for yearling Chinook. Passage at McNary dropped from 158,000 fish on May 19 to 46,000 on May 27. Steelhead have followed the same pattern, with peak passage on the Snake occurring around May 20-22. The steelhead run will arrive at Bonneville shortly.

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

d. Water Quality. Flows in the lower Snake are around 135 kcfs and around 400 kcfs in the lower Columbia, Tina Lundell (COE) reported. These high flows have been causing exceedances at Lower Granite tailwater and all the downstream forebays except Bonneville. On May 26, an Ice Harbor gage

malfunctioned; it should be repaired today or tomorrow. There was discussion of how best to manage the spill cap at Lower Monumental. Lundell doubted that TDG readings at Ice Harbor are within criteria now and expressed reluctance to raise the Lower Monumental spill cap without knowing whether that would cause exceedances at Ice Harbor. If the spill cap is raised, exceedances would be likely to occur at Ice Harbor within 1½ -2 days' travel time.

Passing fish through the Lower Monumental powerhouse tends to result in lower return rates, Russ Kiefer said. Tailwater readings there have been around 115-116% TDG. Raising the gas cap at Lower Monumental now, while wind can strip the gas out of the river, could create better passage conditions for fish while still meeting the gas cap at Ice Harbor.

Kiefer wondered why spill at Lower Monumental was increased last night. That was probably due to overgeneration spill, as BPA has been having trouble finding load, Robyn MacKay said. With Lower Monumental in the #2 position on the spill priority list, it will kick in quickly whenever there is overgeneration, Feil noted. Wagner was impressed by how little overgeneration spill there has been, despite extremely high flows.

8. Next Meeting

The next TMT meeting will be June 4, with Libby sturgeon flows, Libby and Hungry Horse summer operations, Bonneville fish screens, a Priest Rapids update, and the standard operations review on the agenda. This summary prepared by consultant and writer Pat Vivian.

Name	Affiliation
Rick Kruger	Oregon
Kyle Dittmer	CRITFC
Jim Litchfield	Montana
Jason Flory	USFWS Spokane
Cathy Hlebechuk	COE
Tina Lundell	COE
John Roache	BOR
Robyn MacKay	BPA
Scott Bettin	BPA
Dan Feil	COE
Dan Spear	BPA
Dave Wills	USFWS
Paul Wagner	NOAA
Tim Heizenrader	Centaurus
Bruce McKay	Consultant
Russ George	WMC
Bill Crampton	CBB
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Richelle Beck
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John El
Russ Kiefer
Tom Le
Margaret Filardo
Greg Haller
Tom Lorz
Bill Rudolph

DRA
PGE
Constellation
Idaho
Puget Sound Energy
FPC
Nez Perce
CRITFC
NW Fish Letter