

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

April 21, 2010 Conference Call

FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Christa Leonard

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 Meeting Minutes for April 7 and 14, 2010

There were no changes to either set of notes and both are considered final.

Libby Operations

Steve Barton, COE, directed TMT to several tables and graphs, posted as links to the agenda, detailing modeling data supporting various operational options at Libby dam. He began by reminding TMT members of two alternative operations for Phase 1 proposed and discussed at the 4/14 TMT meeting. He noted that the Initial Control Flow date is still projected for 5/7. As VarQ operations begin 10 days prior to the ICF date, this would have the COE begin to release VarQ flows from Libby on 4/28. The COE proposed to keep Libby Dam discharges at project minimums (4 kcfs) until the May Final Water Supply Forecast is issued, expected on May 05. Paul Wagner, NOAA, shared that this issue was discussed at FPAC and said that the Salmon Managers would add a stipulation to the proposal: that if the May water supply forecast goes down (from the April forecast), that the April forecast would still apply to the amount of water released by the end of May. The COE stated that they found the stipulation acceptable and TMT members were polled on their official positions regarding moving forward with staying at minimum discharges until the May final water supply forecast is released:

- COE: OK
- OR: OK
- WA: OK
- ID: OK
- MT: OK
- Colville Tribe: abstained from providing input on the decision
- BPA: no objection
- BOR: OK

Action/Next Steps TMT members present on the call had consensus regarding Phase 1 of operations, to hold Libby dam at minimum flows until the May final forecast is released on 5/5. (At which time – subject to Phase 2 discussion - the COE will shift to VarQ operations, pending the input from TMT members.)

The COE then moved on to describe options for Phase 2 of Libby operations. In response to requests from TMT members for more detailed information on the options, the COE produced graphing and modeling data to help better explain the various scenarios and outcomes for proposed operations at Libby Dam. Barton and Joel Fenolio, COE, walked TMT through the tables and graphs posted as links to the agenda that showed data for expected flows, elevation and shaping for the Base/VarQ and two alternative operations for TMT to consider. The seven tables detailed the mean, 25th-%, 50th-% and 75th-% flow scenarios at various projects involved in the three operations. Fenolio clarified that the average difference between the Base/VarQ operation and Alternative 1 is that VarQ would yield about 1 kcfs more flow for the May-August period than Alternative 1. The difference between Alternative 1 and Alternative 2 is that Alternative 1 would yield about .6 kcfs more flow for the May-August period.

Rick Kruger, OR, stated that at this point, Oregon is not comfortable with either of the “Alternative” operations. Jason Flory, USFWS, recalled the Settlement Agreement with the Action Agencies to operate Libby for sturgeon and said at this point any deviation operation needs to be in compliance with that agreement. Fenolio said that he felt Alternative 2 best meets the three major needs of the region: the conditions in the Settlement Agreement, the 2008 BiOp and the reservoir refill targets (and associated recreational needs.) Steve Barton, COE, said that at this point, the COE was seeking input and discussion amongst TMT members, as the graphs and tables had been posted the night before the meeting and they acknowledged that TMT members need more time to consider all the data. TMT members thanked the COE for their work in gathering and presenting the supporting data. The COE and BPA clarified that there is not yet a definitive release schedule available for the 1 MAF release from Canada. The COE said that TMT members could have another week to consider the alternatives and a decisive poll on Phase 2 of the operation could be done at the 4/28 TMT meeting.

Kruger and Steve Smith, Colville Tribes, said that they would like to continue discussion of the data with COE following the meeting, so that they could appropriately describe/consider the alternatives within their respective agencies before the TMT meeting next week. Jim Litchfield, MT, and the COE helped to clarify that a lack of consensus at TMT would result in the Base/VarQ operation. Flory said that the Action Agencies have an obligation to do the sturgeon operation described in the USFWS BiOp and that there is a legal obligation to perform the spill test for this and the next two years, but whether conditions allow for the “higher river stage” compliance point planned for the spill test remains to be seen. The COE responded that if there is consensus at TMT to do otherwise, it is legal to do so under the Adaptive Management clause; anything outside of a consensus decision will be up to legal counsel to decide. The COE added that the assumption they are working with currently is that achieving “consensus at TMT” entails notifying TMT members via the distribution lists and phone in advance of a meeting where there is to be a polling of members, polling the members present during the meeting, then following up with TMT members not present after the meeting to offer the opportunity to provide input. TMT members may exercise the right to abstain from any poll if they wish to do so.

Action/Next Steps TMT members will digest the additional data and discuss alternatives for Phase 2 internally within their agencies and with each other

externally over the next week. The COE is looking to take an official poll at the next TMT meeting on 4/28 regarding Phase 2 operations. However, any feedback/questions that can be discussed between now and then will be helpful to the COE and can be directed toward Steve Barton via phone or in person.

Transportation Update

Steve Barton, COE, reported that per the RIOG, the COE is moving forward with a “spread the risk” strategy for transportation. Collection will begin at Lower Granite on April 23rd. Eight days later collection will begin at Little Goose and three days after that, collection will begin at Lower Monumental. Paul Wagner, on behalf of the Salmon Managers noted that the operation was consistent with FPAC’s recommendation. He added that there was some flexibility with the plan in that if any issues are detected during transportation, they will be discussed with TMT. Barton clarified that the COE will spill per the 2010 FOP. Barton asked if there were any objections to the plan for transportation operations as described by the COE. TMT members responded as follows:

- NOAA: no objection
- MT: no objection
- OR: no objection
- ID: no objection
- Colville Tribe: abstaining
- NOAA: no objection
- BPA: no objection
- BOR: no objection

Other

Grand Coulee Flow Augmentation

John Roche, BOR, reported that Grand Coulee was at elevation 1270.80 and meeting flow objectives at Priest Rapids of 90 kcfs as of yesterday. Volume will be analyzed week by week. Paul Wagner reported that it was decided at FPAC to ramp up to 100 kcfs next week, hopefully averaging above 100 kcfs starting 4/26. He noted that Steelhead, Spring Chinook and Sockeye have all been spotted at Rock Island, though not many at McNary. He reminded TMT that emergence timing was three weeks ahead of normal this year and that travel through the Columbia will be slow given the low flows. The goal is to be at 135 kcfs by mid May, likely stepping down in June, depending on flows. Roache added that based on this week’s STP model run, peak flows at Priest Rapids will likely be 116-117 in late May, with Grand Coulee starting refill in June.

Bonneville Operations

Steve Barton, COE, updated TMT on two recent issues:

- Barton followed up on an email sent last Friday 4/16 which reported recent TDG exceedances of the 115% criteria recorded at the Camas/ Washougal gauge. Bonneville is currently spilling at 75 kcfs which appears to be bringing gas levels down, however they are still above 115%, so the COE is currently investigating the cause of the gauge readings. OR and CRITFC commented that the Camas/Washougal gauge is no longer used by state agencies to manage water quality.

- B2 Corner Collector Update: Barton reported that the repair work has been conducted, per the FPOM decision. The B2 Corner Collector closed on 4/20 at 0800 and as of 0900 on 4/21 was still closed due to high winds. Crews are standing by to open the collector as soon as it is safe to do so.

Action/Next Steps Barton will notify TMT members via email when the collector is successfully re-opened.

The next TMT meeting will be: face to face on 4/28 at 9:00am at the COE.

Agenda items will include:

- Notes Review
- Libby Operations
- Updated Weather and Flood Control Forecasts
- Hanford Reach Update
- Water Management Plan - Comments Update
- Priest Rapids Flow Objectives
- Operations Review

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES
April 21, 2010

Notetaker: Pat Vivian

1. Introduction

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of NOAA, Oregon, COE, BPA, BOR, Montana, USFWS, Washington, Idaho, the Colville Tribe, CRITFC and others attended. This summary is an official record of the views expressed and decisions made, not a verbatim transcript. 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 April 7 and 14

There were no comments on the minutes for April 7 or 14 today.

3. Libby Spring Operations

Barton led a discussion of the proposal for Libby operations the COE presented to TMT last week. The proposal has two phases, with Phase 1 covering operations in May and Phase 2 covering three potential operations in June including a base case scenario. The COE provided three links to this agenda item today – STP stream flow projections, operational scenarios, and modeling results TMT members requested for Phase 2. Link 3c shows the potential impacts of the three Phase 2 alternatives.

Phase 1 of the COE proposal seeks approval to delay refill of Libby reservoir until the May final forecast is released, probably on May 5. If approved by TMT, Phase 1 would keep the project at minimum discharge instead of VARQ flows until the May forecast is issued. If TMT doesn't reach consensus in support of this proposal, the COE will follow the base case operation, which means restarting Libby refill operations on April 28, 10 days before the projected ICF date of May 7.

Paul Wagner (NOAA) reported that FPAC supports Phase 1 with one stipulation: VARQ flows should start April 28 based on the April water supply forecast. If the May forecast goes down, the April forecast would still apply, i.e. the volume under the current forecast would continue to be released regardless of the May forecast. FPAC is concerned about decreases in the forecast, not increases.

TMT representatives gave their views of Phase 1:

- **NOAA** – Supports the proposed operation.

- **Oregon** – Supports the proposal with the stipulation that it will be flow-neutral by May 31. Oregon would object to any operation that reduces spring flows in the lower Columbia River.
- **Washington** – Supports the proposal.
- **Idaho** – Supports the proposal.
- **Colville Tribe** – Abstained from voting today.
- **BPA** – No objection.
- **BOR** – No objection.

With TMT's unanimous approval of Phase 1, the COE will maintain minimum discharges at Libby Dam until the Seattle district releases the final forecast for May. Subject to the outcome of Phase 2, the project will ramp up to VARQ flows when the final May forecast is known.

Phase 2 would keep the project at minimum outflows after release of the May final forecast until the sturgeon pulse begins, assuming it's a Tier 2 forecast, Barton said. If that's implemented via TMT consensus, there are two alternatives for releasing the stored volume. Alternative 1 would release it by the end of June, Alternative 2 by end August. A third option under Phase 2 is the base case scenario, VARQ operations only.

Joel Fenolio (COE) led a discussion of Item 3c linked to today's agenda, which consists of seven tables showing modeling the COE did in response to TMT requests for more information on Phase 2. All modeling runs are based on the April 6 ESP stream flow forecast for Libby and compare how the three alternatives might affect Libby operations. The spring operation runs from May 5-June 30 and the summer operation from July 1-August 31.

Kootenai Lake discharges water into the Kootenai River in Canada, then into the Columbia River above Grand Coulee Dam. Table 1 summarizes spring releases at Kootenai Lake under the VARQ base case and two alternatives:

- VARQ – 41.9 kaf
- Alternative 1 – 40.8 kaf
- Alternative 2 – 40.2 kaf

Page 3 of the Kootenai Lake data shows a 3% decrease in flows released from Kootenai Lake under Alternative 1 and a 4% decrease under Alternative 2. Rick Kruger (Oregon) asked why the VARQ scenario apparently produces a difference in head. The VARQ scenario produces a higher lake elevation, thus more volume out of Kootenai Lake in May-June compared to the two alternatives, Fenolio replied. This is due to a channel restriction that limits releases from

Kootenai Lake. The difference in actual May-June releases between Alternative 1 and 2 is approximately 600 cfs; between VARQ and Alternative 1, approximately 1 kcfs. In Fenolio's view, Alternative 2 represents the best possible Libby operation in terms of meeting all requirements, including the settlement agreement, the NOAA BiOp, refill operations, and power generation. He led TMT through a discussion of each table.

Table 2 on page 1 of link 3c shows how inflows at Grand Coulee would be reshaped in May under the Phase 2 alternatives. The minimum (worst case) scenario is 1,226 feet elevation Coulee in all cases, which is unlikely. The maximum scenario shows the end of May elevation at 1,259 feet for both Alternative 1 and 2. Grand Coulee elevation is a foot or two lower under the alternatives compared to the VARQ operation.

In terms of providing sufficient flows for the sturgeon spill test at Libby, elevation 2,415 feet is needed in the Libby reservoir to release 5 kcfs and elevation 2,420 feet to release 10 kcfs of gated flow.

Table 3 shows projected Grand Coulee elevations under VARQ flows and the two alternatives. There's no difference in Grand Coulee elevation at the end of May under either alternative, but the base case scenario has a higher end-of-May elevation at Coulee than either alternative, due to the Kootenai Lake issue. The elevation range is 1-2 feet.

Table 4 shows the potential differences in spring operations between Alternatives 1 and 2 and the base case. Barton noted that all scenarios are consistent with Grand Coulee spring flow objectives:

- VARQ – 105 kcfs
- Alternative 1 – 104.5 kcfs
- Alternative 2 – 103.9 kcfs

Grand Coulee is now drafting to produce 90 kcfs flows at Priest Rapids Dam and will probably increase to a 100 kcfs flow objective at Priest Rapids starting next week.

Table 5 shows potential summer releases from Grand Coulee:

- VARQ – 85.6 kcfs
- Alternative 1 – 86.6 kcfs
- Alternative 2 – 86.0 kcfs

Alternative 1 allows Grand Coulee to discharge slightly higher flows than the VARQ operation because it reestablishes head at Kootenai Lake sooner (see discussion of Table 1).

Table 6 shows potential McNary spring operations (May-June):

- VARQ flows – 187.3 kcfs
- Alternative 1 – 186.3 kcfs
- Alternative 2 – 185.9 kcfs

Table 7 shows potential McNary summer operations (July-August):

- VARQ flows – 125.9 kcfs
- Alternative 1 – 26.9 kcfs
- Alternative 2 – 26.3 kcfs

Barton polled TMT on Phase 2, emphasizing that today's poll is preliminary. On April 28, the COE will poll TMT for official recommendations regarding Phase 2 operations at Libby. TMT members gave the COE their initial feedback :

- **Oregon** – Not comfortable with either alternative, due to an apparent reduction of 1 kcfs in spring flows under Alternative 1 and a reduction of 600 cfs under Alternative 2. If Phase 1 is flow-neutral, why would the Phase 2 alternatives reduce spring flows? Will confer with COE representatives immediately after today's meeting to gain a clearer understanding of how the alternatives would affect lower river operations. Abstained from taking a position until the issues are clear.
- **Montana** – Libby Dam is the only project that has been configured to aid passage of white sturgeon, an endangered species. That fact should be a primary consideration in planning Libby operations this year. Ultimately, this could become a legal issue if TMT doesn't reach consensus on one of the alternatives.
- **USFWS** – A settlement agreement and jeopardy ruling says the Action Agencies will operate Libby Dam to provide a spill test for sturgeon in 2010. A deviation from compliance with VARQ via implementation of either Alternative 1 or 2 is needed to be in compliance with the RPA in the USFWS 2008 BiOp.
- **BOR** – The Grand Coulee elevations under either alternative would not be a known cause of irrigation problems.
- **Colville Tribe** – Deferred voting until Grand Coulee operations are discussed (see agenda item 5 below).

In preparation for the final TMT poll on April 28, COE staff will make themselves available over the next week to answer questions regarding Phase 2 of the Libby proposal.

4. Transportation Update

The COE is moving forward with a split strategy of spill and transportation this year, which is consistent with the ISAB recommendation. RIOG and FPAC have already approved this strategy, Wagner said. It means beginning transportation at Lower Granite Dam on May 24 this year, then 8 days later at Little Goose and 3 days after that at Lower Monumental dams.

Barton polled TMT members on the COE's split spill and transportation strategy for spring 2010. **NOAA, Montana, Oregon, Washington, Idaho, BPA** and **BOR** had no objections. The **Colville Tribe** abstained from voting.

5. Grand Coulee Flow Augmentation

The current elevation at Grand Coulee reservoir is 1,270.8 feet, operating to meet a weekly flow objective of 90 kcfs at Priest Rapids Dam, Roache said.

Yesterday the Vernita Bar flow objective was raised from 60 to 90 kcfs, and FPAC has already decided to raise it again to 100 kcfs, Wagner said. The purpose of the increases is to aid steelhead, spring Chinook and sockeye migration from the mid and upper Columbia River, which is already late this year. Continuing to provide low flows would further delay their migration. NOAA's primary focus for spring operations is on maintaining the flow objectives at Priest Rapids, Lower Granite and McNary dams. Priest Rapids is the focal point at the moment, with a goal of 135 kcfs flows sometime in May. An increase to 100 kcfs starting next week will be the next step toward that goal.

Based on STP inflow projections, Priest Rapids flows will peak at 116-117 kcfs in mid or late May, with a low Grand Coulee elevation of 1,259 feet, Roache said. That elevation could drop lower if inflows decline. An elevation in the 1,260-foot range or below indicates vulnerability to 3rd powerhouse entrainment, Tony Norris (BPA) noted.

Steve Smith (Colville Tribe) expressed interest in further conversation with Action Agency representatives regarding Grand Coulee spring flows. He also expressed interest in the FPAC process and in knowing at some point how the Action Agencies plan to release 1 maf of storage in Canada this year.

7. Bonneville Operations Update

Readings at the Camas Washougal gage recently showed TDG levels above 115% per the spring operation as specified in the Fish Operations Plan, Barton said. The Bonneville spill cap was adjusted to 65 kcfs, with that operation to continue as long as Cascade Island or Camas Washougal TDG readings remained below 120%. That operation was approved by TMT members and state water quality agencies and went into effect April 16. Rick Kruger (Oregon) and Tom Lorz (CRITFC) noted that the Camas Washougal gage readings no longer apply to state water quality rules.

Yesterday at 8 am, the B2CC was closed to facilitate work on the transducers and BGS that had been scheduled earlier this month and postponed due to high winds, Barton reported. The closure yesterday was coordinated through FPOM. The B2CC was scheduled to reopen this morning, but high winds are creating unsafe conditions for workers. Barton assured TMT that crews are standing by, ready to reopen the B2CC as soon as possible. The COE will notify TMT via email when the B2CC reopens.

8. Next Meeting

The next TMT meeting will be April 28 at the COE NW division office. Topics covered will include Libby operations in May and June, Hanford Reach protection flows, and Priest Rapids flow objectives.

Name	Affiliation
Rick Kruger	Oregon
Paul Wagner	NOAA
Steve Barton	COE
Joel Fenolio	COE
Tony Norris	BPA
Doug Baus	COE
John Roache	BOR
Greg Hoffman	COE
Barry Espenson	CBB
Jim Litchfield	Montana
Margaret Filardo	FPC
Jason Flory	USFWS Spokane
Karl Kanbergs	COE
Rob Allerman	DeutschBank
Richelle Beck	DRA
Dave Benner	FPC
Russ George	WMC
Eric Trautman	BP Energy
John Hart	EWEB
Holli Krebs	JP Morgan
Sherry XX	Puget Power
XX	Seattle City Light
Tom Le	Puget Sound Energy
Rob Dies	Iberdrola Renewables
David Wills	USFWS
Cindy LeFleur	Washington
Greg Lawson	Point Carver
Brian Marotz	Montana
Russ Kiefer	Idaho
Steve Smith	Colville Tribe
Steve Hall	COE Walla Walla
Shane Scott	PPC
Glen Trager	Shell Energy

Scott English
Laura Hamilton
Greg Hoffman
Steve Hall
Tom Lorz

COE
COE
COE
COE Walla Walla
CRITFC