

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 30, 2014

Facilitator's Summary

Facilitator & Notes: Emily Plummer, DS Consulting

The following Facilitator's Summary is intended to capture basic discussion, decisions and actions, as well as 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 Meeting Minutes

Not all members of the group had an opportunity to review the April 16th or 23rd official meeting minutes or Facilitator's Summary, however, they will do so for the May 7th meeting.

Water Supply Forecast

Doug Baus, USACE, shared the current NW River Forecast Center (NWRFC) water supply forecasts, noting that the official forecast will be released on May 7th, the 6th working day of the month. Forecasts are posted on today's agenda (<http://www.nwd-wc.usace.army.mil/tmt/>). Current NWRFC and official April forecasts are as follows:

- The Dalles April – August 93.7 MAF (107% of average); it was noted that the current forecast for The Dalles is up slightly from the official April forecast.
- Libby April – August 6.6 KAF (113% of average)
- (Official April) Libby April – August 6.9 KAF (117% of average)

Vernita Bar Update

Russell Langshaw, Grant County PUD, provided an update on the Vernita Bar operation. He reported that the operation is progressing well: there have not been any exceedences thus far and all constraints have been met. The temperatures are below average which is resulting in a slightly longer operation this year; emergence is expected to end by the end of the 3rd week of May, and the end of rearing is expected in the 3rd week of June. A Vernita Bar update will be provided at the next TMT meeting.

Wanapum Dam Update

Russell Langshaw, Grant County PUD, provided an update on the Wanapum Dam fracture. He noted that the Wanapum fish ladder is operating and, thus far, 50 spring chinook and 300 steelhead have passed. Passage slowed after the initial pulse of fish that had been holding below the dam. However, passage is picking up at Priest Rapids where fish are being tagged with PIT and some acoustic tags, and Grant PUD is expecting to see more of those tagged fish at Wanapum in the near future.

In regards to the fracture, the preliminary 'root cause investigation' was completed in mid-April. A report will be released soon and the PUD is currently working on repair plans. There was inquiry as to whether they have started tagging juveniles, to which Russell responded that they started tagging juveniles today and have tagged 20 which will be released tomorrow. Additionally, Priest Rapids and Wanapum adult PIT and acoustic counts will be released weekly at the PRCC coordination meetings. A Wanapum update will be provided at the next TMT meeting.

Libby Operations

Conversations around Libby operations and SOR: #MT-2014-1 were postponed until the May 7th TMT meeting due to TMT member absence. However, Jim Litchfield, MT, shared with the group that he has talked with Paul Wagner, NOAA, following the April 16th TMT meeting. During the April 16th meeting, Paul expressed concerns around the specifications of the SOR; Paul thought that there may be confusion between the last sentence of the Specifications section of the SOR and the last couple of sentences of the Justification. Jim clarified that the intent of the SOR is to manage flows to achieve a steady or slowly declining outflow. This would prioritize river flows over reservoir elevations, as is explained in the last two sentences of the SOR.

Spring Creek Hatchery Release Update

Dave Wills, USFWS, reported that the April Spring Creek release is complete and was implemented as planned and that the second and last release will be on May 6th. USFWS has been working with USACE to draft a teletype for the next release. Doug Baus, USACE, shared the planned operation with the group, noting that it is the same as the April release. It was noted that the operation will be adjusted, as necessary, depending on real-time conditions. Doug confirmed that the current water supply and forecasts should allow for the planned operation to be implemented.

- **Action/Planned Operation:** The operation will be a hard constraint from May 7th-11th, and soft constraint from May 11th-16th, and will be implemented sequentially as follows:

1. PH2 units up to the 1% mid-range
2. PH1 units up the 1% upper limit
3. PH1 Units up to the Best Operating Point (BOP)
4. If necessary to pass additional flow, increase flow through PH2 units in a manner that maintains a flow-neutral operation with PH1 at BOP.

It was noted that based on data from previous years, the majority (approximately 90%) of the fish will move pass the dam within 4 days; however, this is flow dependent. Doug also clarified that, consistent with this operation the AA's will continue to make best efforts to maintain the PH2 mid-point operation by operating PH1 at BOP after the Spring Creek operation ends.

Tom Lorz pointed out that the change form and unresolved issues still need to be addressed. Doug shared that the FPOM working group that is tasked with addressing those issues is scheduled to meet May 7th.

Operations Review

Dworshak Flow Operation: The FPAC group reviewed the STP for Dworshak and requested a change to the planned Dworshak Operation. Steve Hall, USACE Walla Walla District, explained that in order to reach the refill target by the end of June, the project was planning to reduce outflows to 2.4kcfs starting on May 1st. Steve noted that modelling suggests the end of April elevation will be around 1,491ft, which is about 14.5ft below the flood control refill curve. On April 18th, Dworshak transitioned from flood control to refill by intersecting the flood control refill curve. The operation since April 18th has been to maintain full powerhouse discharge to provide additional flows for fish per the plan described at the April 2nd and 9th TMT meetings. Elevations are below the flood control refill curve in part due to low observed precipitation, a significant amount of water that was released to augment juvenile fish, and the flood control deviation request to minimize TDG, which was approved to allow a reduction from the flood control outflow of 25 kcfs down to an outflow of 20kcfs in April, until intersecting the refill curve.

Current outflows at Dworshak are 10.7kcfs. ID, CRITFC, WDFW and USFWS expressed preference in a more gradual decrease in flow, maintaining higher flows until the end of the week and then ramping down over the weekend in order to better support the pulse of juvenile fish currently in the system. Steve Hall noted that holding higher flows now will potentially impact the projects ability to refill. He also pointed out that although water supply forecasts appear to be steady, the water supply forecasts assume normal precipitation during the runoff period and there has been concern over potential El Niño impacts to May and June precipitation.

- **Proposed Operation:** The following operation was proposed, with the recognition that it may cause the forebay to be 2ft below the refill curve in June.

- 1) Maintain full powerhouse discharge (approximately 10.7kcfs) outflows through May 2nd
- 2) At 0:00 hours on May 3rd decrease outflow to approximately a 5.0kcfs day average (2 small units)
- 3) At 0:00 hours on May 4th begin to decrease outflow to approximately 2.4kcfs

The Salmon Managers present at the meeting (ID, WDFW, USFWS, CRITFC and Colville Tribe) supported or did not object to this operation; nor did other TMT entities present. However, there were a number of Salmon Managers absent due to conflicting meetings.

- **Action:** Doug Baus, USACE, will send an email with the proposed operation to all TMT members, requesting that any objections are provided before 4:00 today. [Note: The facilitator also called members to alert them to this possible action]. If no objections are issued, the project will implement the proposed action noted above.

[Facilitator's note: the following are abbreviated concerns raised by the Nez Perce Tribe and the State of Oregon, who were not present at the TMT meeting and who shared more in depth comments via email with the Corps and the facilitator. TMT members will have an opportunity to discuss these at the next TMT meeting.]

After receiving the 4/30 proposed Dworshak operation email sent by Doug Baus, Dave Statler, Nez Perce Tribe, did not formally object, however, expressed the following concerns:

- *According to the Water Control Manual, spring refill period for Dworshak is April 1 - July 1 (Dworshak may fill earlier). Discharges in March and April were commonly at or above full powerhouse, with multiple days in the 14-20kcfs range. Dropping down to around 2kcfs on May 1st seems extreme considering the refill period and recent discharges.*
- *The Nez Perce Tribe prefers a more moderate divergence (less than full powerhouse to 5kcfs) when transitioning from flood control to refill.*
- *The Nez Perce Tribe recommends operations that mimic the natural hydrograph as much as possible, including early refill and operations during refill that maintain minimum discharges of about 4-5 kcfs.*
- *The Nez Perce Tribe suggests revisiting Dworshak's official operational criteria to allow for more capability and flexibility to meet the multi-faceted goals. Dave pointed out that Dworshak is the primary source of cold water available to help manage temperatures in the Lower Snake River, however, is not the only option to capture flood control waters for system flood control.*

After receiving the 4/30 proposed Dworshak operation email sent by Doug Baus, Erick Van Dyke, OR, did not formally object, however, Erick expressed the following concerns:

- In comparison to the initial proposal outlined in the STP, Oregon prefers the proposed refill operation outlined by fish managers on the 30th, which called for a less drastic change in discharge over a series of days.*
- Oregon feels that a less abrupt change might retain a better biological benefit longer than the abrupt operational change initially proposed.*
- Oregon would like to see more integration of biological requirements of wild populations at the onset in the action agencies management framework in order to avoid single operational factors determining abrupt changes in operations, specifically as a result of unexpected natural conditions.*
- Oregon would like to see some movement back toward a clear biological basis being part of the rationale for operational changes.]*

Reservoirs: Lisa Wright, USACE, reported on Corps projects.

- Libby was at elevation 2,388.4 feet, with 9.7kcfs inflow and 24.5kcfs outflow.
- Albeni Falls was at elevation 2054.8 feet, with 50.2kcfs inflow and 45.2kcfs outflow.
- Dworshak was at elevation 1,490.3 feet with 11.3kcfs inflow and 10.7kcfs outflow.
- Lower Granite average outflow was 71.2kcfs.
- McNary average outflow was 270.5kcfs.
- Bonneville average outflow was 308.0kcfs.

Lisa reported that the Little Goose spillway weir crest change from high to low was completed on April 24th and the bulkhead storage operation is also complete. The bulkhead storage operation required the project to fill above MOP and hold between 637-638ft for the bulkhead stow on Monday, April 28. The project returned to MOP at 2200 hours on Tuesday, April 29th. USACE expressed appreciation for TMT coordination on the operation.

Mary Mellema, BOR, reported on Reclamation projects: Hungry Horse elevation is slightly below the April 30th flood control elevation at 3,495.36ft. They are releasing 12.9kcfs, 4kcfs of that is spill. Starting on May 1st, they will ramp down to 8kcfs outflow. Grand Coulee elevation is also below the April 30th flood control elevation, at 1,233.6ft. It will remain below flood control until the Initial Control Flow is declared and refill starts.

Fish: No one was present to report on fish.

Water Quality: Nothing to report.

Power System: Nothing to report.

The next TMT meeting will be face to face on May 7th at 9:00am at the USACE office.

Agenda items include:

- Water Supply Forecast Update
- Vernita Bar Update
- Wanapum Update
- Libby Operations – SOR:# MT-2014-1

- Transportation Operations Update
- Spring Creek Hatchery Release Update
- Dworshak Operation Update
- Other?

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES

April 30, 2014
Minutes: Pat Vivian

1. Introduction

Doug Baus, COE, chaired this TMT meeting facilitated by Emily Plummer, DS Consulting. Representatives of Montana, BPA, the COE, Idaho, BOR, USFWS, CRITFC, Washington, Colville Tribe and others participated. This summary is an official record of the proceedings, not a verbatim transcript.

2. Meeting Minutes – April 16 and 23

There were no comments on either the facilitator's notes or official minutes today. Review was postponed until the next meeting to give people more time to comment.

3. Update on Water Supply Forecasts

Doug Baus and Mary Mellema, BOR, presented the most recent 5-day QPF forecasts for individual basins:

- TDA (April-August) – 93.7 maf, 107% of average. Official forecast will be available May 7.
- LIB (official April) – 6.9 maf, 117% of average. The current RFC forecast is down to 6.6 maf, 113% of average.

4. Vernita Bar and Wanapum Dam Update

Russell Langshaw, Grant PUD, gave an update on the Hanford Reach fall chinook protection program. The season is progressing well despite the Wanapum Dam fracture. There have been no exceedances to date.

Grant PUD is currently planning its four special weekends of additional flow protections during peak susceptibility. Emergence is predicted to end the third week in May and rearing the third week in June. This is later timing than usual because it was a cool spring. Daily average flows at Priest Rapids Dam are running 140-180 kcfs, with daily delta flow constraints of 60 kcfs. The mean daily delta is 45.2 kcfs.

Passage at the Wanapum fish ladder is being monitored visually and electronically. Visual counts are summarized weekly. Counts have been increasing at Priest Rapids, where the fish are being tagged. When they reach Wanapum, they will be tracked via a combination of PIT tags and acoustic telemetry. Tagging for juvenile studies began today. Repair of the cracked pier at Wanapum and investigation of the underlying root cause is ongoing.

Tom Lorz, CRITFC, asked when weekly monitoring data will be available. Langshaw said updates will be released over the next several days, as the first fish are reaching Wanapum now.

5. Libby Operations

Attached to today's agenda is SOR #MT 2014-1, which requests that Libby flows in September be managed for a steady decline, with no sudden rampdowns, for the sake of river biology. Review of the SOR was deferred until the next TMT meeting because several members couldn't attend today due to scheduling conflicts with other meetings.

Meanwhile, Jim Litchfield, Montana, clarified the main goal of the SOR is expressed in its final sentence, which says that if actual inflows differ from forecasted inflows, it is more important to maintain stable outflows than reach a specific reservoir elevation by end September. This statement caused some confusion because it conflicts with an earlier specification in the SOR that says Libby reservoir will be drafted to 2449' elevation by end September. However, Litchfield said he has discussed the SOR's true intent with Paul Wagner, NOAA, who didn't object to prioritizing flows over reservoir elevation. Wagner was unable to attend today's TMT meeting. TMT will discuss Libby operations at its next meeting May 7.

6. Spring Creek Hatchery Release

The April release from Spring Creek Hatchery was completed successfully, David Wills, USFWS, reported. The second release will be on May 6. Wills and Baus have already discussed operational needs at Bonneville Dam for the May release.

Baus presented to TMT how Bonneville Dam will be operated as a hard constraint from May 7-11 and a soft constraint from May 11-16. This is the same flow-neutral operation as the one used for the April hatchery release.

1. Operate BON powerhouse 2 units up to the midrange (13-15 kcfs, targeting 14 kcfs).
2. Operate BON powerhouse 1 to the 1% upper limit.
3. Operate BON powerhouse 1 units to best operating point (BOP).
4. If necessary to pass additional flow, increase flow through powerhouse 2 units in a manner that maintains a flow-neutral operation with powerhouse 1 at BOP.

Tom Lorz, CRITFC, commented that conflict over this operation and the Fish Passage Plan change form has yet to be resolved at FPOM. Wills and Baus agreed that more discussion is needed of how to handle the FPP change form regarding Bonneville operations during high flows. The Bonneville Task Group will be meeting on May 7 to re-evaluate the current draft change form to determine if any revisions are needed and the goal is to have the change form finalized soon.

Baus indicated the Action Agencies will continue to make best efforts to maintain the powerhouse 2 midpoint operation in conjunction with powerhouse 1 BOP operation after the Spring Creek Hatchery release operation ends.

7. Operations Review

a. Reservoirs. Dworshak: A large part of today's meeting was spent discussing Dworshak operations. Lorz inquired whether the COE is planning to manage flows to the latest STP inflow forecast. Current DWR elevation is 1490.36' with inflows of 11.3 kcfs and releases of 10.7 kcfs (full powerhouse), Steve Hall, COE Walla Walla, reported. If full powerhouse flows continue, the end-of-month elevation is projected to be approximately 1492', which is approximately 14.5' below the refill curve (the elevation at which DWR has a 95% chance of refilling). Hall noted that since April 18, DWR has been providing significant fish augmentation flows when actually it should be in refill mode, discharging only 2.4 kcfs. That is why the project is currently headed toward an elevation that's 14.5' below the refill curve.

Therefore the COE is planning to reduce releases to 2.4 kcfs beginning May 1, which should allow the project to refill by the last week of June. At that point DWR will transition to releases of approximately 7-8 kcfs. Hall asked the Salmon Managers for comments on this operation.

Current index counts indicate many thousands of fish are passing Lower Granite, so this is a bad time to curtail flows, Lorz said. He advised releases of 10 kcfs until Monday, May 5, or at least until Friday, May 2, then dropping to 7 or 5 kcfs over the weekend. Hall and Tony Norris, BPA, clarified that any flow augmentation provided now could impact the ability to refill later. Furthermore, 2014 could turn out to be an el Nino year, making summer flow augmentation all the more needed, Norris cautioned. The Salmon Managers were asked to acknowledge the risk in keeping flows higher now. Releasing 10 kcfs until May 2 is equivalent to about a foot a day of reservoir elevation loss, Norris said. Hall suggested operating DWR at 5 kcfs releases until May 2. He estimated the reservoir would refill by June 25 or 26 under this scenario, which would provide a buffer zone if inflows are less than anticipated.

Hall asked the Salmon Managers to clarify their flow recommendations and acknowledge the associated risk. The project could miss refill by up to 2' at the end of June if flows are kept high for a few more days. The COE will avoid reducing DWR flows below 2.4 kcfs because of wear and tear on aging equipment at minimum flows of 1.3 kcfs. TMT members who were present today expressed their views:

- **Idaho** – Continue full powerhouse (approximately 10 kcfs) through May 2, then taper down slowly. A slightly increased risk of missing refill is acceptable to provide flows now.
- **Washington** – Could we have done anything different to avoid letting the project get so far below the refill curve? Supports 10.7 kcfs releases through May 2.

- **USFWS** – Maintain full powerhouse through May 2, then taper down.
- **CRITFC** – It's worth taking minimal risk to supply a few extra days of full powerhouse flows. The risk is that the reservoir elevation will be 2' lower in June than it would otherwise have been – not that it will miss refill.
- **Colville** – No objection to maintaining full powerhouse flows through May 2.
- **Montana** – No objection to this operation
- **BPA** – Supports the COE in making this decision.

Because several TMT members were missing and time is of the essence, Baus said he will email those who were absent, asking them to notify the COE by 4pm today if they object to the proposed DWR operation:

1. Maintain full powerhouse discharge (approximately 10.7 kcfs) outflows through 2400 hours on Friday, May 2.
2. On Saturday, May 3 at 0001 hours begin decreasing outflow to approximately 5.0 kcfs.
3. On Sunday, May 4 at 0001 hours begin decreasing outflow to approximately 2.4 kcfs (1 small unit).

Little Goose: Baus reminded TMT that on April 24, the spillway weir was changed from the high crest to the low crest position. The bulkhead stow operation was completed April 28 with the forebay held at elevation 637-638' until noon. The project operated outside MOP (633-634 ft.) for about 70 hours (Sunday, April 27 at 0200 hours through Tuesday, April 29 at 2200 hours) and returned to MOP last night at 2300 hours.

Libby is at elevation 2388.4' with inflows of 9.7 kcfs and releases of 24.5 kcfs. Albeni Falls is at elevation 2054.8' with inflows of 50.2 kcfs and releases of 45.2 kcfs. Hungry Horse is at elevation 3495.36', slightly below its April 30 flood control target. Releases are 12.9 kcfs (4 kcfs of that is spill). Grand Coulee is at elevation 1233.6', below its April 30 flood control target of 1235.2'.

Lower Granite daily average inflows are 71.2 kcfs. McNary daily average inflows are 270.5 kcfs. Bonneville daily average inflows are 308 kcfs.

b. Fish. There was no update today due to Paul Wagner's absence.

c. Water Quality. There was nothing to report today.

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

8. Next TMT Meeting

The next TMT meeting will be in person on May 7.

<i>Name</i>	<i>Affiliation</i>
Tony Norris	BPA
Lisa Wright	COE
Scott Bettin	BPA
Doug Baus	COE
Jim Litchfield	Montana
Julie Doumbia	BPA

Phone:

Russ Kiefer	Idaho
Mary Mellema	BOR
David Wills	USFWS
Karl Kanbergs	COE
Steve Hall	COE
Joel Fenolio	COE
Heather Dohan	Puget
Don Tinker	SCL
Russell Langshaw	Grant PUD
Margaret Filardo	FPC
Barry Espenson	CBB
Mike SHafley	Snohomish
Tom Lorz	CRITFC
Sheri Sears	Colville
Charles Morrill	Washington