

COLUMBIA RIVER REGIONAL FORUM TECHNICAL MANAGEMENT TEAM

June 9, 2010

FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Robin Gumpert

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.

Water Supply Forecast

Steve Barton, COE, summarized the weather and water supply changes since last week's TMT meeting, noting a significant increase in precipitation basin-wide. Barton said the COE was actively working to manage the runoff and ready the system for a pending storm forecasted to enter the basin in the next few days – though it was uncertain where it would ‘land.’ Steve reported that Grand Coulee and Dworshak were likely to be nearly full by early next week; that some of the tributaries, particularly in Idaho, were above flood stage, but that flows in general were receding and that the pending precipitation would likely create a “moderate response” – e.g. not expecting the rains or runoff to cause any new tributaries to go above flood stage.

Steve shared highlights from the official June final water supply forecast, which was posted on the TMT site on 6/9. Basin-wide precipitation was forecasted at 150% of normal for the first half of June and normal for the rest of June. The forecast for Grand Coulee January-July was 46.4 MAF (74% of normal) and April-September was 48.1 MAF (75% of normal). The Lower Granite forecast for January-July was 19.2 MAF (64% of normal) and for April-July was 14.6 MAF (68% of normal). At The Dalles, the forecast for January-July was 74.7 MAF (69% of normal) and 65.5 MAF for April-July (70% of normal).

In response to a question, Steve clarified that the official forecast and ESP forecast are formulated differently and therefore don't always match – he suggested that detailed technical questions about the forecasting methodologies should be directed to the River Forecast Center, who run the models.

Libby Operations

Steve Barton, COE, reported that the sturgeon operation had begun, and that Libby had operated at full powerhouse on 6/9; at 0700 hours on 6/10, the COE planned to shift to 5 kcfs spill and would increase to 10 kcfs while managing to acceptable TDG levels.

Barton also recapped the set of operating scenarios for drafting water out of Libby that were presented at the 6/2 TMT meeting. He said the COE had responded to the feedback they heard from TMT members at last week's meeting, to look at a more stable recession and extending it into July while still maintaining a flow neutral operation for the lower Columbia River (all water is released from Grand Coulee by June 30). Two new shape

scenarios were presented today which depicted these objectives and assumed a ½ foot draft from Grand Coulee (roughly 40 KAF needed to extend the draft out of Libby into July.) The tradeoff would be that Grand Coulee would fill ½ a foot lower than “full” in order to achieve the flow neutral condition.

Joel Fenolio and Jeremy Giovando, Seattle District COE, shared more details about the graphs and suggested that given the increase in precipitation into the system, the first scenario that would shape the water out by June 30 would require an even more dramatic drop in flows to meet bull trout minimums than was shown in previous models. Alternative 1 (the second graph) shaped the descending limb by dropping flows from 20 kcfs to 16 kcfs by June 30, while Alternative 2 (the third graph) shaped the descending limb by dropping flows from 20 kcfs to 18 kcfs to 16 kcfs to July 15. Both operations carry the condition of being flow neutral in the lower Columbia River as described above. Jason Flory, USFWS, noted that the latter was the USFWS’ preferred option to best support sturgeon. Barton clarified that Grand Coulee typically refills July 4th weekend, and said that if another “slug” of water arrives, that will be water for July. He added that while there is no specific date set for filling Grand Coulee, the Action Agencies are coordinating on a date in the range of July 4-6th.

The COE asked TMT members to respond to the following proposal: to release 40 KAF of the Phase II storage at Libby in the first half of July to provide a more gradual ramp-down in discharge. To maintain the flow neutral attributes to the middle and lower Columbia River, Grand Coulee will be no higher than 1289.5 ft on July 01 (0.5 ft at Grand Coulee is the elevation equivalent of 40 KAF). The COE clarified that Grand Coulee will be made whole once the Libby water is released in early July.

- Montana – Support the use of Grand Coulee and support Alternative 2 if this reflects the USFWS’ preference. Thanks to the COE and Reclamation for offering ideas and working to meet the interests of all parties in the region.
- Idaho – Support the operation and Alternative 2. Thanks to the COE for their efforts to meet all needs.
- Oregon – Ok with the proposed operation.
- Washington – No objection to the use of Grand Coulee, and support Alternative 1 or 2.
- USFWS – Support the operation and use of Grand Coulee. Prefer Alternative 2.
- CTUIR – No objection to the operation.
- NOAA – Support the operation as proposed, ok with Alternative 1 or 2.
- Reclamation – Supports the operation.
- BPA – Supports the operation.

Action/Next Steps: The COE will implement the operation as proposed, using Alternative 2 as the guide for shaping flows. TMT will check in on the progress of the sturgeon operation at the 6/16 TMT meeting and the COE will continue its accounting out of Libby and stay open to questions and comments about the operation along the way.

Dworshak Operations

Steve Barton, COE, shared that given the precipitation event, refill of Dworshak was likely and there was a possibility for additional volume from the project. Steve Hall, Walla Walla District COE, provided additional details. He reported that with diminishing available space (7 KAF of space available as of 6/9) before the COE meets its 'snow covered area flood control criteria', the COE planned to do a snow flight next week to verify the snow covered area monitoring data and determine when to fill and what flow levels to release into the system. Paul Wagner, on behalf of the Salmon Managers, said that they had discussed a recommendation to go to minimum discharge and fill as soon as possible, followed by passing inflow at the project. The COE responded that it will do its best to accommodate the Salmon Managers' guidance while meeting its flood control requirements.

Action/Next Steps: TMT will revisit the operation during next week's face to face meeting.

2010 Summer Fish Operations Plan

Dan Feil, COE, shared the draft FOP that was posted on the TMT web page earlier this morning. He gave an overview of the plan, suggesting that summer operations would be rolled over from 2009, except for in two key areas:

Bonneville: The spill test at Bonneville will begin on 6/16 (earlier than last year) and will spill 85 kcfs during the day/121 kcfs at night. The night time spill level reflected the seasonal average gas cap. Normal operations would resume on 7/21, with 75 kcfs day/gas cap at night.

- **Action:** Per a suggestion from Rick Kruger, OR, the FOP will explicitly state that the Camas/Washougal TDG monitoring gauge will not be used to constrain spill operations during the test period, but it will be used for management beginning on July 21.
- The FOP notes that Bonneville will spill at a minimum 50 kcfs (or not at all) based on previous Fish Passage Plans and Water Management Plans. FPOM and FFDRWG are reviewing this criterion and, if a change is recommended, the issue will be brought to TMT for discussion.

McNary: The spillway weirs will be removed for the summer spill period. The spill pattern will be the same as the pre-TSW pattern contained in Table MCN-10 in the FPP. Agreement on this change was reached via FPOM and FFDRWG.

Action/Next Steps: The COE will submit the FOP to the court as soon as it is final, and asked that any comments be sent to Dan Feil by COB on 6/9. The COE will notify TMT members when the final version of the document is posted to the web.

Operations Review

Reservoirs: Grand Coulee was at elevation 1283.8' and expected to be close to full by the weekend. Tony Norris, BPA, recommended that the project refill within the next week to allow time to set the project up for lighter loads and recreational needs over the July 4th holiday weekend. With this proposal, the reservoir would fill, then draft down some to support those needs. Similar to Libby, the operation would be volume-neutral. Montana responded with support for the operation, as did NOAA. Paul Wagner, chair of FPAC,

suggested this response was the general consensus of the salmon managers at FPAC and suggested the need to revisit to understand the specifics of the operation as the July 4th weekend gets closer. It was also noted that this proposed operation will likely support a smoother operation at McNary.

Lower Granite day average outflows peaked at 207.2 kcfs; McNary day average outflows were 359 kcfs. Steve Barton said the COE is doing its best to manage the added water in the system.

Water Quality: Tony Norris, BPA, noted that TDG levels in the system are close to 120% limits and encouraged the salmon managers to review the spill priority list and suggest any revisions as soon as possible. The salmon managers planned to review the list. Russ Kiefer, Idaho, shared general guidance and support for a smooth transition between uncontrolled and controlled spill to the best of the action agencies' ability, noting that in the past, concerns have been raised particularly at Lower Monumental around this issue. He reminded everyone that the objective for setting TDG levels is fish protection. Scott English, COE, reported that involuntary spill has occurred in the system and caused TDG levels to rise to 125-130%. He will provide a full TDG report at the 6/16 TMT meeting.

Russ Kiefer also expressed appreciation to Walla Walla District and project personnel at McNary for their flexibility and diligence in meeting operational recommendations throughout the spring as conditions changed. He added that important listed fish were supported by these operations.

The next TMT meeting will be: face to face on 6/16 at 9:00 am.

Agenda items will include:

- Notes/Meeting Minutes Review
- Dworshak Operations
- Libby Operations
- Grand Coulee Operations
- Hanford Reach Update
- Operations Review

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

June 9, 2010

Notes: Pat Vivian

1. Introduction

Today's TMT conference call was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting). Representatives of BPA, COE, NOAA, Montana, Washington, USFWS, BOR, USFWS, Oregon, Idaho, the Umatilla Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript. Anyone with questions or comments about this summary should give them to the TMT chair or bring them to the next meeting.

2. Updated Water Supply Forecast

Weather. Over the past 7 days the region has experienced significant precipitation basin-wide, Barton reported. The Cascade Range in Oregon, southern Washington and northern Idaho, as well as areas of British Columbia received significant precipitation. The highest rainfall was in the Willamette valley which received 3-10 inches above normal. Central Idaho has received 2-8 inches above normal. Across the basin, the historic average precipitation for June was exceeded in the first 4 days of the month. The Action Agencies have been managing significant precipitation and it's unknown where this weather system will land. Grand Coulee and Dworshak reservoirs are expected to be nearly full by next week. Some tributaries are above the flood stage, mainly in Idaho. Flows in general are receding, however, and no rivers are expected to rise above flood stage that aren't already there.

Water Supply. The final RFC water supply forecast as of June 7 was posted to the TMT web page yesterday, Barton said. The latest RFC forecast assumes that precipitation will be 150% of normal for the first half of June and normal for the rest of the period. Inflow forecasts for specific projects are:

- Grand Coulee – January-July: 46.4 maf, 74% of normal; April-September: 48.1 maf, 75% of normal
- Lower Granite – January-July: 19.2 maf, 64% of normal; April-July: 14.6 maf, 68% of normal
- The Dalles – January-July: 74.0 maf, 59% of normal; April-August: 65.5 maf, 70% of normal

John Hart (EWEB) asked how the final forecast is assembled and how the official and ESP forecasts differ. The primary difference is in model formulation, Barton replied. All parameters are updated for the final forecast, while

parameters for the early bird and mid-month forecasts might not be up to date. The RFC can provide further technical details on how its forecasts are prepared.

3. Libby Operations

Libby outflows have picked up to levels specified in the sturgeon operation, Barton said. Full powerhouse flows will occur today, with the project continuing to operate at full capacity and spilling 5 kcfs beginning at 7 am mountain time tomorrow, June 10. The aim is to increase spill to the full 10 kcfs specified in the sturgeon operation, while monitoring TDG saturation levels as spill increases.

Deviation Request Accounting. Link 3a to today's agenda contains three charts: the modeled shape of the June 30 flow-neutral scenario and two alternative scenarios that extend 40 kcfs outflows into July. Scenarios 2 and 3 were formulated in response to requests by Montana and USFWS for a more gradual ramp down than scenario 1 provides. Scenarios 2 and 3 differ in that scenario 3 has a more gradual transition from 20 to 15 kcfs outflows in late June, which would benefit sturgeon spawning.

In order to maintain the flow-neutral attributes of the Libby operation to satisfy downstream parties, the COE proposed today to supply the 40 kaf for scenarios 2 or 3 by refilling Grand Coulee to approximately half a foot lower than its usual refill target of 1,290 feet. Thus an elevation of 1,289.5 feet in Grand Coulee reservoir would be considered full. A decision to aim for half a foot less by end June wouldn't preclude refilling Grand Coulee later in the summer, Jim Litchfield (Montana) noted.

Joel Fenolio (COE Seattle) described each of the three scenarios. Scenario 1 shows 260 kaf of water stored under the deviation request, to be released by June 30. This basically means releasing flows of 23 kcfs during the first part of the sturgeon operation and ramping down to 7 kcfs flows in July. Scenario 2 shifts 40 kaf into July by holding 15 kcfs outflows, then ramping down to 9 kcfs. Scenario 3 essentially does the same thing as scenario 2 with an intermediate step between 20 and 15 kcfs outflows. This extends the descending limb which would benefit the sturgeon spawning operation.

Barton asked TMT members for their views of the COE proposal to supply 40 kaf via a decision to miss Grand Coulee refill. TMT members gave their views of the options:

- **USFWS** – Strongly favors scenario 3 because it supports the incubation of sturgeon eggs. Comfortable with using half a foot of water from Grand Coulee to shape the Libby draw down.
- **Montana** – Either scenario 2 or 3 would satisfy Montana's objectives. Montana is highly appreciative of Action Agency efforts to find a workable alternative for all parties.

- **Idaho** – Supports scenario 3, including use of Grand Coulee water to keep the Libby operation flow-neutral. Idaho appreciates the COE’s work to meet everyone’s needs with this operation.
- **Oregon** – Either scenario 2 or 3 would be acceptable.
- **CRITFC/Umatilla** – Either scenario 2 or 3 would be acceptable.
- **Washington** – No objection to scenario 2 or 3.
- **NOAA** – Supports either scenario 2 or 3 as proposed.
- **BOR** – Supports the proposed operation.
- **BPA** – Supports the proposed operation.

With consensus on scenario 3, the COE will operate Libby Dam accordingly. TMT will track the sturgeon operation in upcoming meetings.

4. Dworshak Operations

Dworshak has started discharging additional water, thanks to recent precipitation, Barton said. The COE has increased discharges in order to moderate flows. The current objective in this difficult balancing act is to refill Dworshak reservoir.

Since the beginning of this week, the COE has been concerned about Dworshak flood control requirements, which are based on snow covered area, Steve Hall (COE) said. On June 7, the reservoir had 30 kaf of space according to flood control regulations; today it has 7 kaf of space. The snow covered area requirement is being tracked via a model that runs hourly, but the COE plans to verify the amount of snow covered area via satellite photography taken from a flight schedule for June 14 or 15.

The last time the Salmon Managers discussed the Dworshak operation, it was recognized that the COE needed to schedule 2-3 days of 7.5-8 kcfs outflows, Paul Wagner (NOAA) recalled. After that, the preference was to go to minimum discharges to fill the project and pass inflows. The COE is continuing to release 7.5 kcfs daily average flows from the project, Hall said. Additional modeling will indicate whether it’s possible to cut back to passing inflows this Friday, June 11. Flows might need to be held a little higher due to the snow covered area requirement, but not reduced to minimums.

The COE is aware of the Salmon Managers’ intention to refill Dworshak as soon as possible and will do what it can to accommodate the request, Barton said. TMT will revisit Dworshak operations at its next meeting June 16.

5. Summer Fish Operations Plan

The 2010 Summer Fish Operations Plan is posted on the TMT page and linked to today's agenda, Dan Feil (COE) said. The plan is to roll over last summer's operation at all federal projects, with the exception of Bonneville Dam.

A two-treatment test planned for Bonneville had been postponed this year due to lack of water, but recent precipitation makes the test possible. The plan is to start the spill test on June 16, four days earlier than last summer. The test will consist of two treatments: First is 85 kcfs spill during daytime and 121 kcfs spill at night (i.e. the seasonal average of nighttime gas cap spill over the past few years). That treatment will be compared to spill of 95 kcfs for 24 hours a day. The two treatments will be randomly alternated, with treatments lasting 2 days each. The test will begin next week and run through July 20. From July 21 to the end of August, Bonneville will repeat last year's operation of 75 kcfs daytime spill and to the gas cap at night.

Rick Kruger (Oregon) said a statement needs to be added clarifying that the 120% TDG limit at night won't be constrained by readings from Camas-Washougal gage, as agreed to earlier. The COE will add this specification, Feil agreed. While Camas-Washougal gage won't be used for spill management at night during the research study, it will be used for spill management from July 21-August 31, Laura Hamilton (COE) noted.

One other operation differs slightly from last year's – McNary Dam will operate without its spill weirs this summer, as recommended via FPOM and FFDRWG consensus. The minimum spill level at Bonneville is 50 kcfs. If FPOM and FFDRWG come up with an alternative recommendation based on hydrological modeling data and biological findings, that recommendation would be referred to TMT for further discussion, Feil said. For the time being, spill will be shut off at Bonneville if it's not possible to spill 50 kcfs.

Feil asked for feedback by close of business today on the 2010 summer FOP, which will be submitted to the court soon. The COE will notify TMT via email when the final version is posted to the TMT web page.

6. Operations Review – Highlights

Reservoirs. Grand Coulee – With a current elevation of 1,283.8 feet, Grand Coulee Dam spilled in the past week in response to heavy rains and will probably be close to full by this weekend, John Roache (BOR) said. With high flows at present, BPA would like to refill the reservoir early, meaning sometime between now and June 28 and possibly within the next 5-8 days, Tony Norris (BPA) said. To accommodate recreation and create space, the proposal is to refill Grand Coulee before the 4th of July weekend, then draft the reservoir. The Action Agencies would not expect to refill Grand Coulee again under this proposal. Instead, refill would be defined as elevation 1,289.5 feet elevation, per

the Libby adjustment discussed earlier. This would probably produce a smoother operation at McNary than if the Action Agencies hold off on spill after the 4th of July. Norris asked the Salmon Managers for their views of this proposal (Oregon, Washington and USFWS didn't vote):

- **Montana** – No objections.
- **NOAA** – While no problems have been identified, the operation over the 4th of July weekend is still unclear – to be refined as the time approaches.
- **Idaho** – Wants a smooth transition from uncontrolled to controlled spill. Doesn't want the spill program cut unnecessarily as a result of gas produced by uncontrolled spill. Lower Monumental Dam is of special concern in this regard. Idaho appreciates the efforts of Walla Walla COE and project staff regarding spring operations this year at McNary. The COE will do its best to ensure a smooth transition out of uncontrolled spill.

Lower Granite –The peak release was 207.2 kcfs on June 6. Current releases are 181 kcfs per day, and flows on the Snake are still high, producing TDG exceedances.

McNary – Yesterday releases were 341 kcfs; currently they're 359 kcfs. Flows are high, and the COE intends to run the river on the high side in order to maintain operational flexibility under current weather conditions, Barton said. Precipitation and spill levels will be uncertain for the rest of June.

Spill Priority List. With a lot of water in the system pushing against the 120% TDG standard below the dams, Norris advised TMT members that now is the time to look closely at the spill priority list and identify any needed changes.

Water Quality Monitoring. All fixed monitoring stations are working, Scott English (COE) reported. Involuntary spill throughout the system is yielding TDG readings of 125-130%. English will give a final report on TDG exceedances in May at the June 16 TMT meeting.

9. Next Meeting

The next TMT meeting will be in person on June 16 at the COE. Agenda topics include Dworshak and Libby operations, a final report on the Hanford Reach operation, and the usual operations review.

Name	Affiliation
Tony Norris	BPA
Steve Barton	COE
Paul Wagner	NOAA
Jim Litchfield	Montana
Cindy LeFleur	Washington
David Wills	USFWS

John Roache	BOR
Scott Bettin	BPA
Rick Kruger	Oregon
Tom Lorz	CRITFC for Umatilla Tribe
Jason Flory	USFWS
Greg Hoffman	COE Libby Dam
Joel Fenolio	COE Seattle
Jeremy Giovando	COE Seattle
Dave Benner	FPC
Steve Hall	COE Walla Walla
Shane Scott	PPC
Greg Lawson	Point Carbon
Kim Johnson	COE
Scott English	COE
Laura Hamilton	COE
Barry Espenson	CBB
Doug Baus	COE
Dan Feil	COE
Rob Dies	Iberdrola Renewables
Glen Trager	Shell Energy
XX	Seattle City Light
Ruth Burris	PGE
Rob Allerman	Deutsch Bank
Mike Butchko	Powerex
John Hart	EWEB
XX	Puget Sound Energy
Russ Kiefer	Idaho
Bill Rudolph	NW Fish Letter
Holli Krebs	JP Morgan