

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 25, 2012 (Updated 5/18/12)

Facilitator's Summary

Facilitator: 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.

Meeting Notes

TMT members said they needed more time to review the 4/13 and 4/18 Official Minutes and Facilitator's Summary, so these sets of notes will be finalized at the 5/2 meeting.

Juvenile Transportation

Paul Wagner, NOAA, reported that the BiOp prescribes start of transportation operations to begin no later than 5/1 at Lower Granite. He reminded the Corps that the barge has problems docking at Lower Granite at a certain level of high flows, and asked that collection only begin if the barge is able to safely dock and transport the fish.

Action: The Corps will keep this in mind as they plan for transportation operations. If a change to the current plan of beginning collection on 5/1 at Lower Granite, on 5/5 at Little Goose and on 5/8 at Lower Monumental is necessary, this change will be communicated with TMT via email and/or during next week's 5/2 TMT meeting.

Spring Creek Hatchery Release Update

Doug Baus and Lisa Wright, Corps, described the action agencies' proposed operating plan to support the next Spring Creek Hatchery release scheduled to begin on 5/3. The timing of the release was coordinated with USFWS to occur just after fish screen cleaning scheduled at Bonneville.

Lisa provided a flow chart that described the proposed operation relative to different flow conditions. This new proposed plan included a change from last week's operation and, she said, was intended to accommodate multiple needs including safe passage of juveniles, safe passage of adults, water quality management and making this an implementable operation. The proposal flow chart is linked to today's agenda.

USFWS' Dave Wills said he appreciated the option put forth by the Corps and would need to run this back through his agency. He said the USFWS still prefers to cap all units at 50% or less and this preference is based on the NOAA study from 2009 indicating that running PH2 units in the 50-100% of the 1 % operating range increases mortality. He added his frustration that this year, like the last few, has required the region to take a 'band aid approach' because a longer term solution has still not been resolved. He hoped to raise more awareness around the issue to prompt the region to move on finding a more permanent solution. The Corps' Dan Feil responded that regional Salmon Managers were part of the recent coordination process involving modifications at PH2 that were designed to improve juvenile survival through PH2. Unfortunately these modifications that were

coordinated with regional Salmon Managers did not yield the desired juvenile survival benefits. The Corps is continuing to work with regional Salmon Managers in other regional forums (FFDWG) in efforts to improve juvenile survival at PH2. Dan also said adult fallback is a real concern and the intent with the Corps' proposed operation was to find a balanced approach to support juvenile and adult passage.

TMT also had some discussion of TDG management. The Corps clarified that they are regulated to and have been exceeding 120% TDG due to high flow conditions. In a very simplified response to a question, the Corps' Laura Hamilton indicated implementing the USFWS request to cap PH2 at the mid-point would result in approximately a 2% increase in TDG. (She also said there are many factors that influence this including system flows, wind, and temperature.)

Tom Lorz, CRITFC/Umatilla, said that with regards to adult fallback, the real concern is with adult delays. Dave Statler, Nez Perce, asked the Corps to articulate how they view their operation as a balanced approach in terms of protecting both adults and juveniles.

TMT discussed the Corps option and explored additional options. Those that stayed on the table for consideration included the Corps options, modifications to the specific units at PH 1 and PH 2; modifying the option to cap all units at 50% at night; and revisiting the proposal put forth in last week's SOR (this was the USFWS stated preferred option).

Action/Next Steps: The salmon managers and action agencies said they needed more time to caucus on these various options and agreed to revisit the issue during a conference call on Friday, 4/27 at 10:00 am. Paul Wagner will provide a memo with the options being explored, and Doug Baus will provide additional justification language for the Corps' current proposed operation. All TMT members were asked to come prepared to move forward toward a solution rather than adding more options to the table on Friday.

Operations Review

Special Operations –Karl Kanbergs, Corps, reported that a barge hit the guide wall below John Day and was grounded yesterday. It was not carrying hazardous materials and the Coast Guard is currently assessing the situation. The project modified spill operations and is currently filling to accommodate the barge removal operation. The Corps planned to begin releasing water again today and noted that performance standard testing is scheduled to start on 4/26. It was unclear at this time if damage had been done to the guide wall.

Action: The Corps will provide an update to TMT during Friday's special conference call (Note: Karl Kanbergs sent an email update to TMT once the barge was unstuck about 1400 hours on 4/25. There was a small hole in the hull which was patched and no indicated guidewall damage. The John Day pool was drafted back down to its seasonal operation level and to provide flood control space by 0900 hours on 4/26).

Tony Norris, BPA, reported that a transmission system emergency occurred yesterday around 4:30 pm and lasted about 40 minutes. BPA re-dispatched generation from McNary to The Dalles and John Day and as a result, the Dalles went outside 1% for about

40 minutes. Line conditions were restored by 8:00 pm that evening. BPA has resolved the source of the problem and will report back to TMT if any additional information is available.

Action: Tony will share relevant information from the assessment with TMT as it is available.

Reservoirs – John Roache reported on Reclamation projects. Grand Coulee was at elevation 1227.4’ and as of yesterday, entered a transition phase between flood control and refill as a result of the ICF date being declared in the next few days. The project will not be drafted to the April 30 flood control elevation of 1220.2’. Hungry Horse was at elevation 3524.6’ with 10.8 kcfs outflows (1kcfs spill) and expected to be reduced to 9.8 kcfs (no spill) this evening. Flows are coming up on the main stem Flathead River so the project may need to be managed to local flood control, which is 14 feet/51 kcfs at Columbia Falls (currently at 41.5 kcfs). With 18 kcfs inflows, the project was filling. Lisa Wright reported on Corps projects. Libby was at elevation 2381.4’, with 23.2 kcfs inflows and 15.9 kcfs outflows – reduced for flood control. Albeni Falls was at elevation 2056.3 feet with 73.2 kcfs inflows and 54.1 kcfs outflows. Priest Rapids inflows were 219.1 kcfs. Dworshak was at elevation 1517.4’ with 35.6 kcfs inflows and 14.4 kcfs outflows. Inflows at Lower Granite were 144.2 kcfs; at McNary were 358.2 kcfs; and at Bonneville were 367.5 kcfs.

Fish – Paul Wagner, NOAA, reported on fish. Adult Spring Chinook counts at Bonneville were 500-1,000/day; at The Dalles were 691/day; and at John Day were 161/day. Juvenile counts were running higher than usual for this time of year. Yearling Chinook counts at Lower Granite were 100,000/day and 68,000/day at McNary. Many traps had been pulled due to high flows in the system and extra debris. Subyearling Chinook counts at Bonneville were 1,400 (Spring Creek hatchery) and steelhead numbers were running higher than usual at Lower Granite (117,000), Little Goose (78,000) and John Day (76,000). Sockeye counts were also high for this time of year, with about 1,000-3,500/day at McNary. Lamprey collection counts at John Day were 500-1,000/day and at Bonneville were less than 100/day.

Water quality – Laura Hamilton, Corps, reported that there has been a lot of involuntary spill throughout the system with accompanying TDG exceedances. This is expected to continue for a while. She also reported on temperature conditions.

Power system – Nothing more to report.

Special Meeting, 4/27: 10:00 am at the Corps

Agenda items include:

- Spring Creek Hatchery Release
- Update on John Day barge

Regularly Scheduled Meeting, 5/2: 9:00 am at the Corps

Agenda items include:

- Spring Creek Hatchery Release
- Transportation Operations
- Vernita Bar Update
- Other?

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES

April 25, 2012

Notes: Pat Vivian

1. Introduction

Today's TMT meeting was chaired by Doug Baus, COE, and facilitated by Robin Gumpert, DS Consulting. Representatives of the Nez Perce Tribe, Montana, BOR, BPA, Oregon, USFWS, NOAA, COE, Idaho, Colville Tribe, Washington and others attended. This summary is an official record of the proceedings, not a verbatim transcript.

2. Review April 13 and 18 Meeting Minutes

Review of official minutes and facilitator's notes for these meetings was postponed until the next regular TMT meeting May 2.

3. Juvenile Transportation Update

Paul Wagner, NOAA, gave an update on transportation plans for this year. The BiOp and the FOP both say transportation will be initiated at Lower Granite Dam no later than May 1, but that is a planning date, not a deadline, if the initiation of transportation is not appropriate based on real time conditions. For example, at flows of greater than approximately 180 kcfs there are operational challenges associated with operating (eg. traversing the tailrace, docking, and loading) the transportation barge. If high flows limit the ability to load collected fish then NOAA recommends postponing collection until flows allow for the transportation operation.

The plan, absent these conditions, is to begin collection on May 1 at Lower Granite, on May 5 at Little Goose, and May 8 at Lower Monumental. If forecasted conditions require a change in plans, the COE will inform TMT via email. TMT will revisit the juvenile transport operation at its next meeting May 2.

4. Spring Creek Hatchery Release

The first scheduled Spring Creek Hatchery release of 2012 passed Bonneville Dam in April with operational adjustments coordinated during TMT meetings, Baus reported. On May 3, USFWS will release another 4 million juvenile tule fall chinook salmon from the Spring Creek Hatchery. Lisa Wright reported that the COE has coordinated the second release to coincide with cleaning of the fish screens at Powerhouse 2 (PH2). Juvenile passage is known to improve when screens are free of debris.

Based on feedback received after the first Spring Creek release, the COE will implement a special operation at Bonneville Dam to aid passage for the second release while minimizing adverse impacts to adults and to water quality. Wright shared a flow chart with TMT depicting the proposed operation. In response to requests from TMT members for a written format, she later posted a written summary of the operation which is linked to today's agenda.

Steps the COE will take to manage flows at Bonneville are:

1. Operate all seven Powerhouse 2 (PH2) units to 25% of 1% best efficiency operating range.
2. To pass additional flow, operate all ten Powerhouse 1 (PH1) unit to 100% of 1% best efficiency operating range.
3. To pass additional flow, increase operation of PH2 one unit at a time to 25-50% of 1% best efficiency.
4. To pass additional flow, increase operation of PH1 one unit at a time in the order of priority up to best geometry.
5. To pass additional flow, increase operation of PH2 one unit at a time and no more than four units, up to 100% of the 1% range. As a hard constraint, do not exceed 50% of the 1% range at three of the PH2 units. The goal of the operation is to be generation neutral. Additional generation gained at PH1 resulting from operating at best geometry would be offset to the best extent practicable with equivalent generation limitations at PH2.
6. To pass additional flow above powerhouse capacity, spill involuntarily above the TDG spill cap rate.

Capping all seven PH2 units at the midpoint of the 1% range, as requested today by USFWS, would result in approximately 28 kcfs (4 kcfs per unit) of additional spill.

Step 5 caps three of the PH2 units at 50% of 1% peak efficiency while increasing generation at an equivalent rate up to but not to exceed best geometry at PH1.

The Action Agencies believe this operation effectively balances the passage needs of 4 million smolts with those of significant numbers of adults that were not present two weeks ago. The operation also needs to be consistent with water quality requirements. Step 5 is where this operation differs from the operation to accommodate the April release, which was overly complex and difficult for dam operators to implement.

Wagner asked which of the PH2 units would be capped at 50% of 1% best efficiency. Rick Kruger, Oregon, said the units closer to the corner collector should not run at 100% of 1% efficiency because that's where most of the juveniles will be concentrated. David Wills, USFWS, asked why the project shouldn't spill to a 125%TDG gas cap in the absence of management criteria for

Camas Washougal gage; USFWS would prefer to cap all seven PH2 units at 50% of 1% efficiency or less. Wills reminded everyone that the ideal operation is 25% of 1% efficiency as shown by a NOAA study in 2009. Because operating above that limit is known to kill fish, he urged the COE to find a long-term solution to this problem soon.

The FOP says the COE is to manage spill at this time using the Camas Washougal gage, Dan Feil, COE, replied. Bonneville is currently spilling 150 kcfs, and studies have shown that adult fallback increases when spill exceeds 110 kcfs. Capping all PH2 units at the mid-point does not appear to be a prudent operation. Spill levels in excess of 150 kcfs are currently a concern and the addition of approximately an additional 30 kcfs would have additional adverse impacts on adults (eg delay and fallback). The TDG waivers for Bonneville specify limits of 120% TDG in the tailrace and 115% TDG downstream at Camas Washougal gage, Laura Hamilton, COE, added. Feil said the COE has working with the region for years to improve Bonneville PH2 fish guidance efficiency via the Fish Facilities Design Review Work Group.

Tom Lorz, CRITFC/Umatilla, suggested there could be more flexibility at night to accommodate juveniles because adults don't pass at night. Wills asked what the difference between 12 kcfs and 30 kcfs would be in terms of additional TDG saturation. Hamilton said approximately 10 kcfs of added spill generally equates to a 2% increase in TDG saturation, but high spill can alter that ratio to a 2% increase in TDG saturation per 15 kcfs of added spill.

Russ Kiefer, Idaho, asked whether there is a rationale for capping all seven of the PH2 units at 75% of 1% efficiency instead of capping three at 50% and four at 100% of 1% efficiency. There aren't any survival data on the 75% range, and it is a difficult operation to implement, Wright and Baus replied.

NOAA has found that mortality dramatically increases when turbines exceed 50% of 1% best efficiency, so 75% of 1% would not be a good operation for juvenile passage, Wagner said. The Action Agency proposal is a reasonable one because it attempts to provide juvenile benefits without adversely impacting adults.

Five options emerged from today's brainstorming:

1. The COE proposal as described above.
2. Cap all PH2 units at 50% of 1% efficiency around the clock, which would put an additional 28 kcfs through the Bonneville spillway. Operate PH1 at the 1% operating range (the USFWS proposal).
3. Operate PH1 at full capacity (with or without open geometry), cap the PH2 units at 50% of 1% efficiency and spill the rest.
4. Cap all PH2 units at 75% of 1% efficiency, with PH1 operating at open geometry.

5. Continue the current operation, with spill as needed at night to accommodate juvenile passage through the PH2 turbines.

In response to these ideas, Baus and Wagner will work together on a counter-proposal to the Action Agency proposal. TMT members requested a written description of that proposal, which the COE will post to today's TMT agenda. TMT scheduled a conference call on April 27 to reconsider the Spring Creek Hatchery operation.

5. Operations Review

a. Reservoirs. Karl Kanbergs, COE, reported that peak flows on the Columbia River have created an issue below John Day Dam. A runaway barge got stuck on a gravel bar. Although the cargo is not hazardous, the barge remains stuck, which resulted in curtailment of all spill at John Day last night. Spill at John Day has stabilized at around 86 kcfs plus full turbine operations, so outflows are around 300 kcfs. Nevertheless, John Day pool is filling, and water will need to be released from John Day later today and tonight for flood control. The release is expected to increase Bonneville outflows, now around 350 kcfs, to more than 400 kcfs.

Grand Coulee is at elevation 1227.4 feet and is no longer drafting. Until yesterday, it was drafting to an April 30 flood control elevation of 1220.2 feet, but is currently in a transition phase between drafting for flood control and managing refill as the ICF date is about to be declared.

Hungry Horse is at elevation 3524.6 feet, with outflows of 10.8 kcfs, including 1 kcfs of spill with full turbine capacity. Releases will be reduced to 9.8 kcfs today and may need to be reduced further to provide local flood control on the Flathead River at Columbia Falls. Flood stage at Columbia Falls is 14 feet, which is equivalent to approximately 51 kcfs. With flows at 41.5 kcfs now, there's a good chance the BOR will need to reduce discharges at Hungry Horse for flood control.

Libby is at elevation 2381.4 feet, with inflows of 23.2 kcfs and releases of 15.9 kcfs. Albeni Falls is at elevation 2356.3 feet, with inflows of 73.2 kcfs and releases of 54.1 kcfs. Dworshak is at elevation 1517.4 feet with inflows of 17.6 kcfs and releases of 14.4 kcfs.

Priest Rapids inflows are 219.1 kcfs. Lower Granite inflows are 144.2 kcfs. McNary inflows are 358.2 kcfs, and Bonneville inflows are 367.5 kcfs.

b. Fish. Adults: The spring run has just begun in earnest, Wagner reported. Spring chinook have been arriving at Bonneville at the rate of 4,000-5,000 per day for the past few days. Adults are gradually moving upstream, with

200-700 per day passing The Dalles and John Day dams. McNary is passing less than 100 fish per day.

Juveniles: Lower Granite is passing more than 100,000 fish per day, with a passage index of 155,000 yesterday. Sampling at the Snake River traps has been suspended to avoid harm caused by debris at high flows. Sampling at Little Goose occurs every fourth day, with the latest index count being 64,000 fish. Subyearling chinook peaked at 1 million passing Bonneville on April 14 and went down to 1400 on April 24.

Steelhead index counts for Lower Granite are 17,000 per day, which is high for this time of year. Steelhead index counts are 78,000 per day at Little Goose and 76,000 per day at John Day, also high. Sockeye numbers are surprisingly high – 1,000 passing McNary on April 23. Lamprey passage counts at John Day have been in the range of a few hundred thousand per day for the past few weeks. However, lamprey passage at Bonneville is down to around 100 per day. In general, migration is early this year.

c. Water Quality. There has been a lot of involuntary spill throughout the system, Laura Hamilton, COE, reported. Several sites on the Columbia and Snake rivers have been spilling involuntarily since March 14. All gages are operating and involuntary spill is expected to continue. It is unusual to have this much spill in April. Involuntary spill is more likely in mid-May and June.

d. Power System. Tony Norris, BPA, reported that in the early evening of April 24, a transmission system emergency resulting from problems on BPA transmission lines from McNary to John Day and from McNary to The Dalles caused the Dalles Dam to operate outside of 1% efficiency for about 37 minutes. Normal conditions were restored by 8 pm. BPA is investigating the impacts, if any, to other fish protection measures. Norris will report back to TMT if more information is available.

6. Next TMT Meeting

There will be a TMT conference call on Friday, April 27, to continue the discussion of Spring Creek hatchery operations. The next regular TMT meeting will be on May 2.

Name	Affiliation
Dave Statler	Nez Perce
Jim Litchfield	Montana
John Roache	BOR
Tony Norris	BPA
Rick Kruger	Oregon
Dave Wills	USFWS
Paul Wagner	NOAA

Doug Baus	COE
Dan Feil	COE
Karl Kanbergs	COE

Phone:

Russ Kiefer	Idaho
Havey Hall	EWEB
Laura Hamilton	COE
Sheri Sears	Colville
Cindy LeFleur	Washington
Margaret Filardo	FPC
Shane Scott	PPC
Russ George	WMC
Ruth Burris	PGE
Barry Espenson	CBB
Richelle Beck	Grant PUD
Rob Allerman	Deutsch Bank
Bill Rudolph	NW Fish Letter