

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM MEETING NOTES

June 18, 2003

CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM  
HOUSE  
PORTLAND, OREGON

TMT Internet Homepage: <http://www.nwd-wc.usace.army.mil/TMT/index.html>

# DRAFT

## FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg

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.

### **Fish Spill Status and Tracking:**

Laura Hamilton, COE, reported that there were 60 total TDG exceedances during June 3-16. The exceedances, she reported, were due to high runoff flows/flood control, high TDG levels from Ice Harbor, and when using best professional judgment. The handout she reported can also be found on the TMT web page.

### **Libby Sturgeon Update:**

Dave Wills, USFWS, reported that a task force consisting of representatives of the COE, BPA, USFWS, NOAA and Montana drafted an SOR during a conference call on 6/5 and began counting sturgeon spawning. Operations for sturgeon began on 6/6, to full powerhouse and have continued since then. During today's discussions, the COE expressed that they would like to drop outflows to 19.4 kcfs on 6/19 through 6/26 in light of residual runoff (the theoretical volume of runoff volume remaining on the mountain). On 6/26, drop to 17 kcfs through July and August with the objective of drafting Libby to 2439' by the end of August. Oregon expressed a desire to draft Libby as much as possible for salmon in August.

**ACTION:** Per Montana's request, the COE will model the NWPPC strategy to operate Libby so that it is 10' from full by the end of August and the end of September while attempting to avoid fill and spill. These scenarios will be presented at the next TMT meeting.

**ACTION:** TMT agreed to the following two-week operation at Libby: drop from five to four units tonight (6/18); then to three units on 6/26 (roughly 14.5 kcfs out) until at least 7/6. TMT will revisit the issue at the July 2 TMT meeting. If there is a change,

there will be a TMT call on 6/26. The COE and others expressed a desire to avoid a fill and spill scenario similar to last year.

**Lower Monumental Spill Update:**

Rudd Turner, COE, updated TMT on problems that occurred at Lower Monumental due to high spills. The COE is developing a cost estimate for the construction of two walls to help solve the problem, which will be presented to SCT. If construction is not completed next year, there may need to revise the spill pattern at Lower Monumental.

**Debris Operations Update:**

Rudd Turner provided photos and updated the group on debris operations at Lower Granite. The RSW was used on June 10 for twelve hours to pass the debris. A debris operation may be necessary at Little Goose in the near future. High levels of TDG resulted from fully lifting the gate to pass the debris that did arrive at Little Goose; the COE shorten the operation to reduce TDG impacts. There will be an update on this issue at the next TMT meeting.

**Dworshak Summer Operations:**

Kyle Martin, CRITFC, presented an overview, with handouts, of seven proposals for Dworshak operations – one from Nez Perce/Idaho, two from Nez Perce, two from NOAA, the Biological Opinion plan, and an EPA water quality-driven alternative. All the information in the handouts can be found on the TMT web page. NOAA suggested using in-season management to keep temperatures low. The Salmon Managers will review the proposals at their next meeting and will develop an SOR that will likely accommodate July 4<sup>th</sup> weekend recreational uses before drafting. Idaho requested that Dworshak be filled as soon as possible instead of waiting until 6/30. TMT will revisit this issue at the July 2 meeting. Appreciation was expressed to Ben Cope, EPA, for his work on the model.

**ACTION:** For the next two weeks, the project will continue to fill and pass inflow until TMT recommends a summer operation.

**Review Current System Conditions:**

*Fish migration status:* Paul Wagner reported that yearling Chinook are on the decline; subyearlings are at a count of 680,000 to date and ahead of schedule; steelhead are nearing the end of passage with a seasonal total of 3.3 million; adults had a good year; and jack counts look ‘promising’. NOAA expressed that passing fish through spill this year seems to be good for subyearlings.

*Reservoir operations:* Rudd Turner and Tony Norris reported on operations at COE and BOR projects. The reservoirs are filling. A spill test at BPA will end on 6/28. Tony will update TMT on Grand Coulee fill at the next meeting.

*Water supply forecast/power:* Rudd Turner reported that the June final water supply forecast is out, with not much change from May. Scott Bettin, BPA, reported that there was a problem at the west of Hatwai due to lightning, but that it is now under control.

**End of Spill at Collector Projects:**

At the last meeting, TMT members agreed to a tentative June 20, 6 am, end of spill date. NOAA does not want to start transport at this point, considering there are still spring-like conditions. There will be a check-in at next week's FPAC meeting, after which transport operations will be coordinated with the COE. Paul Wagner and Rudd Turner will be the NOAA Fisheries and COE contacts on this.

**Other:**

*Lower Granite:* Rudd Turner reported that there was a frozen valve at the Lower Granite juvenile fish bypass pipe that may effect future operations. The COE is waiting for a replacement part and, for now, is operating the bypass as usual. BPA stated that a zero flows operation might be requested while the part is installed. This issue will be revisited at the next TMT meeting.

*Ice Harbor:* Rudd Turner reported that there have been recent conference calls to discuss summer spill at Ice Harbor and injuries to fish that may be due to the spill pattern. The COE and NOAA Fisheries have conducted a study on an alternative spill pattern, and would like to do a summer test with 48-hour blocks for test conditions. Shane Scott, Washington, provided statistics on fish injuries and survival rates showing abnormally high injury rates for the last two years. An update on the study will be provided at the next TMT meeting.

**Next Meeting, July 2, 9am-noon:**

Agenda Items:

- Fish Spill Status and Tracking
- Libby and Hungry Horse Operations and Models; NWPPC Strategy
- Sturgeon Update
- Dworshak Summer Operations – Decision
- Hungry Horse Draft Update
- Transport Update
- Lower Granite Bypass Pipe Update
- Ice Harbor Spill Test Update
- Other

## **Meeting Minutes**

### ***1. Greeting and Introductions***

The June 18 Technical Management Team meeting was chaired by Rudd Turner of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Turner at 503/808-3935.

### ***2. Fish Spill Status and Tracking.***

Laura Hamilton drew the group's attention to the Corps' most recent Exceedence Tracking report, for the period June 3-16. She noted that there were a total of 60 water quality standard exceedences during this period, most of which were either Type 1 (due to high runoff flows and flood control efforts), or Type 6 (due to uncertainties when using best professional judgment to apply the spill guidance criteria). The Lower Monumental forebay, Ice Harbor forebay, McNary forebay and Camas/Washougal stations were the main locations at which these exceedences occurred. There were also some Type 11/12 exceedences, due to high TDG levels coming from upstream projects or sharply rising (+3-5 degrees C) water temperatures. TDG levels are now beginning to subside throughout the system, Hamilton said; all of these exceedences occurred prior to June 10.

So high flows caused most of these exceedences? Paul Wagner asked. That's correct, Hamilton replied – at McNary, for example, we kept backing off spill, but because the gas levels coming down from Ice Harbor were so high, we had a series of exceedences at McNary from June 3-9.

### ***3. Libby Sturgeon Update.***

On June 6, the Fish and Wildlife Service submitted SOR 2003-10. This SOR requested the following specific operations:

- From June 5-June 26, attempt to maintain discharge target from Libby Dam of 20 Kcfs.
- Sturgeon augmentation flows should be followed by rampdown to the tiered bull trout minimum flows/salmon flows per the 2000 BiOps, except as noted below.
- Avoid forced spill at Libby.
- Refill the project to near 2459 feet by July 1 or later if needed to avoid forced spill.
- If on June 26 additional water is available, we recommend splitting the volume equally to extend the then current target sturgeon incubation flow beyond June 26, and to achieve a higher tiered bull trout flow through July, if possible up to the optimum tiered flow of 9 Kcfs.

This SOR was received following the June 4 TMT meeting, said Turner; as you may recall, we formed a TMT subgroup, which met by conference call on June 5, to discuss this issue. At that meeting, he said, the subgroup discussed the need to bring Libby outflows up to avoid filling and spilling at that project; within an hour or two of the end of that meeting, we learned that field personnel had found sturgeon eggs on the mats, indicating successful spawning, and made the decision to increase Libby outflow to 25 Kcfs on the evening of June 5. We have been operating the project at pretty much full powerhouse capacity since then, Turner said, although there have been some transmission system and weather-caused curtailments during the intervening period.

Libby inflows are now on a downward trend, Turner said; there is still some residual water volume remaining in that basin, but we're planning to drop to four units outflow from Libby beginning at midnight tonight. In response to a question, Turner said the Corps estimates that 43% of the residual April-August volume above Libby has yet to

make it down to the project. We're trying to not fill too quickly, to smooth the operation so that we get close, but not too close, to full by late June/early July, Turner said. The model shows a maximum elevation of about 2455 feet. Current inflow to the project is 30 Kcfs, he added.

Turner said four units at Libby will yield 19.4 Kcfs outflow; the Corps plans to hold that operation through June 26. At that point, he said, model runs show we can drop to 17 Kcfs, and hold that flow through July and August. The objective of the 17 Kcfs is to get to elevation 2439 by the end of August, without a double peak, he said; the TMT can talk about that operation, but that's what we've come up with in our model run. Turner added that Libby won't quite reach elevation 2459 under this operation -- 2455 will be the maximum elevation in 2003.

Not filling is a consequence of providing the sturgeon flow volume in June, although, again, we don't want to fill and spill at Libby, Turner said. We could fill by early July if that's the TMT's desire. Julie Ammann said it would be possible to go to a discharge of 14 Kcfs-15 Kcfs after June 26 if the desire is to refill Libby, but it would then be necessary to increase outflow to 19 Kcfs to draft to 2439' by 31 August, she said. We could monitor inflow to the project and increase discharge if it looks as though filling and spilling is becoming more likely, Scott Bettin said.

The group devoted a few minute of discussion to the desired operation at Libby; ultimately, the TMT recommended that the action agencies reduce Libby outflow to three units (a little under 15 Kcfs) on June 26. Turner said the Corps will tentatively agree to this operation, but will monitor the Libby inflow situation closely. We'll let you know if it becomes necessary to increase Libby discharge, Turner said. Jim Litchfield requested that the Corps model the strategy, recommended by the Council, of a straight draft to 10 feet from full (2449 feet) at Libby by August 31 and September 30. We will provide those model runs at the TMT's July 2 meeting, Turner said. In response to a suggestion from Bettin, Litchfield said he will raise the issue of the 10-foot draft at Libby at the July 3 IT meeting.

#### ***4. Lower Monumental Spill Update.***

Turner reminded the group of the photographs he had shown at the last TMT meeting, showing the spill problems during high flow periods at Lower Monumental; he noted that the spill restriction of 2 stops or less at spill bays 1 and 8 remains in effect. The District is now discussing the possibility of constructing parapet walls to contain the spill at the project this winter, and will be submitting an FY'04 funding request to SCT to allow that work to proceed, Turner said. You will recall that, during peak flows in the Snake River, when spill was in the 80 Kcfs range, spill was coming up in waves onto the tailrace deck below the project, creating some very hazardous conditions for workers and washing both juvenile and adult fish up onto the deck. It's not a problem right now, as spill at Lower Monumental has decreased to about 40 Kcfs, but it could be a problem again next year, Turner said.

#### ***5. Debris Operations Update.***

Turner reported that last week in particular, as another consequence of the high flows in the Snake, debris from the tributaries caused fairly serious problems at the Lower Snake projects, starting with Lower Granite where several acres of debris accumulated rapidly. Debris passage operations were initiated with the RSW at that project beginning June 9, operating the RSW for three hours. On June 10 it operated for 12 hours, which got about 95% of the debris through the project. Somewhat surprisingly, much of that debris hasn't really shown up at Little Goose yet, Turner said, but we do expect it to arrive soon, at which point we'll likely need to initiate debris passage operations at that project.

We did run into some problems when we opened up Little Goose Spill Gate 2 all the way, Turner said; this operation increased TDG to 140% below the project. We now have a protocol in place which restricts that operation to 30 minutes, so we're seeing short-term TDG increases which then go back down. We also pulled the spilt-beam transducers at the Ice Harbor spillway in anticipation of the debris' arrival at that project, because those units cost about \$10,000 apiece, and can be damaged or torn away by passing debris, he said. There are also concerns about the damage debris can cause to the spillway seals and hazards to recreational boaters, so we're monitoring the situation closely, Turner added. Steve Pettit noted that trees up to 120 feet long have been seen floating past Lewiston this spring. Turner added that the next project at which it will be possible to remove a significant amount of debris from the river is McNary. He also noted that the Corps' debris-removal capability has been reduced in recent years. Turner agreed to provide a further update at the next TMT meeting.

#### ***6. Dworshak Summer Operations.***

Kyle Martin said the salmon managers had looked at seven potential Dworshak operations this summer, including the Nez Perce Tribe/Idaho plan (pass inflow for much of July, then ramp up to 14 Kcfs Dworshak outflow, leaving 200 kaf for use in September). Under another scenario modeled, Dworshak would release a flat 10 from July 14 through September 15. We also modeled a flat Dworshak outflow of 12 Kcfs through July and August, Martin said; another alternative was to begin releasing 14 Kcfs on July 7, hold that flow through August 17, then ramping gradually down to minimum outflow by August 31.

We then asked Ben Cope of EPA to model Dworshak outflow, said Martin; Ben used the EPA model to develop an operation that will give us the most bang for our buck, cooling-wise. Ben suggested that we ramp up to 9 Kcfs at the end of June, then to 12 Kcfs by July 18, holding that flow through the mid-August, at which point Dworshak outflow would be ramped down to 8.7 Kcfs. The EPA plan would then release an average of 4.8 Kcfs from Dworshak during the month of September. Another alternative, NPT #2, would release 6 Kcfs from Dworshak through July 13, ramp up to 11 Kcfs for one week, to 12 Kcfs through August 31, then hold 8 Kcfs from Dworshak through mid-September.

Martin provided a few more operational details about these various scenarios, including the expected number of exceedences of the 20 degree C standard for each of these alternatives. Wagner then described the anticipated temperature effects of each of these alternatives through the season. Essentially, said Wagner, all of these operations are

on the table at this time; we'll just have to see how the temperature situation plays out. Martin then described the weather condition assumptions used in developing these model runs.

He said Dave Statler of the Nez Perce Tribe was not available for yesterday's FPAC meeting; we would like to discuss the Dworshak operation further at next week's meeting, once Dave is available, and develop a Dworshak SOR for discussion at the next TMT meeting. In the interim, the salmon managers recommended that Dworshak be allowed to fill, then pass inflow, at least through July 6, unless conditions change significantly. We are currently within 2-3 feet of full at Dworshak, Julie Ammann said. We'll touch full, then try to maintain that elevation by passing inflow, Bettin said. At Pettit's request, Turner and Ammann said the Corps will look at the possibility of filling Dworshak sooner than June 25 in order to maintain a full pool for as long as possible.

What about the scenarios that show Dworshak outflow ramping up as early as June 30? Turner asked. Are we saying that's not going to happen? We won't be requesting that Dworshak outflow be increased before the next TMT meeting on July 2, unless conditions change drastically in the interim, Wagner replied.

### ***7. Current System Conditions.***

Wagner said yearling chinook numbers in the Lower Snake are now declining; the wild indices continue to hold as a higher proportion of the total outmigration than we've seen in recent years, however. We're seeing indices in the 50-fish range at Little Goose, currently, Wagner said. Ron Boyce noted that it is as important to protect the tail end of the outmigration as it is the higher numbers at the beginning of the run.

Subyearling chinook indices are where the real action is, at this point, Wagner said; we've seen 680,000, year-to-date, and an average daily index of 32,000 – that's much higher than anything we've seen in recent years. We think it's a good thing that the majority of these fish are passing through spill, Wagner added; in-river conditions are still good, with respect to flow and water temperature. With respect to steelhead, Wagner said steelhead passage is nearly over, although the indices are still running in the 2,000 fish per day range at Lower Granite.

With respect to adult passage, 2003 was another excellent year, although it was not a modern record, Wagner said. Jack returns also look good this year, with more than 18,000 past Bonneville year-to-date. That bodes well for next year's adult returns, Wagner said; if you'll recall, we only saw 8,800 jacks past Bonneville in 2002, but got a large number of five-year-old chinook back in 2003, which made the overall adult run better than expected. We don't know why that occurred, said Pettit; I've never seen such a large five-year-old run in my 30-year career. Pettit noted that 78% of the fish passing Lower Granite Dam in 2003 were five-year-olds. Essentially, we got lucky, he said – the large number of three-salt fish offset the low number of returning four-year-old fish from the 2001 outmigration.

Moving on to reservoir operations, Turner said Lower Columbia flows are holding steady in the mid-200 Kcfs range, although flows have declined from the peak

during the spring freshet. The day-average flow was 281.8 Kcfs at Bonneville yesterday; flows have ranged between 244 Kcfs and 316 Kcfs over the past two weeks. Turner said the spill test at Bonneville will end on June 28 and June 26 will be the last day of daytime spill to the TDG cap. Yesterday's day-average flow at McNary was 255 Kcfs; flows at that project have averaged 279 Kcfs since June 1. Water temperatures in the Lower Columbia are increasing, Turner said. Camas-Washougal temperatures were 62 – 64 deg. F. yesterday, while McNary temperatures were 61 – 66 deg. in the Oregon forebay, 62 – 64 deg. in the Washington forebay, and 61.5 – 62.8 deg. F. in the tailrace. These data are from the fixed monitoring sites. Day-average flow at Lower Granite was 83 Kcfs yesterday, and has averaged between 81 Kcfs and 149 Kcfs over the past 2 weeks. Flows are receding from the peak in mid-June, he said. Dworshak was at elevation 1597.2 feet as of midnight last night, with 5.9 Kcfs out. Dworshak has filled 11 feet in the past two weeks; the project is expected to reach full (elevation 1600) by June 30. Libby is currently at elevation 2452 feet, 7 feet from full, with outflows of 24.3 Kcfs and inflows of 30 Kcfs. Albeni Falls is at elevation 2061.7 feet and releasing 35 Kcfs, getting close to its summer operating range of 2062.0 – 2062.5 feet.

Tony Norris reported that Hungry Horse was at elevation 3554.5 yesterday with one unit operating; the project is filling half a foot per day. Grand Coulee is at elevation 1283.6 feet, and will be filling slightly over the next several days; the project is expected to fill by the July 4 weekend. With respect to the power system, Bettin said everything is currently under control, but West of Hatwai has been a problem in recent weeks, primarily due to lightning strikes curtailing transmission capacity.

Norris said he will provide some model runs showing the 20-foot draft from Hungry Horse this summer; in response to a question from Litchfield, Pat McGrane said Hungry Horse would need to release 6.6 Kcfs through the end of August to achieve a 20-foot draft; a 10-foot draft would yield about 4.5 Kcfs through the end of August, while a 10-foot draft by September 30 would yield about 3.7 Kcfs. Any major changes on the Upper Snake River volume forecasts? Boyce asked. It looks as though we should have about 280 kaf to work with, Norris replied; flow augmentation from the Boise started last Friday, and should total 60 kaf this year. What about Flathead Lake? Chris Ross asked. It's essentially full right now, Norris replied.

The June final Water Supply Forecast was issued on June 9, said Turner; there isn't much change from the May final. The Dalles water supply is down 1% compared to the May final forecast; Grand Coulee is 88% of normal, the same as it was in the May final. The COE June final forecast shows Libby April-August runoff volume at 5.13 MAF, 82% of normal, down 1.5% from the May final. The COE new April-July runoff volume for Dworshak is 2.37 MAF, 90% of average, up 1% from the May final. Brownlee's June final runoff forecast is 3.54 MAF, 56% of normal, no change from the May final. Lower Granite's June final forecast is 18.1 MAF, 84% of normal, down 2% from the May final.

### ***8. End of Spill at Collector Dams.***

Turner reminded the group that, at the last TMT meeting, 6 a.m. June 20 was the planning date and time discussed for the end of spill at the collector dams. Wagner said

passage indices indicate that we're still on track for the June 20 end of spill at the collector dams; at McNary, some voluntary spill is expected to continue. We aren't ready to begin transportation at this point, however, because spring like conditions continue in the system, Wagner said. The weather is expected to be cool, at least for the next several days, so I would recommend that we discuss transportation at Tuesday's FPAC meeting, then contact the Corps, Wagner said.

Turner said flows are expected to decline to below 220 Kcfs at McNary by about June 23. Also, he said, when you say spring like conditions, are you saying that temperatures need to be above 62 degrees and flows need to be below 220 Kcfs, or one or the other? That's what we'll be discussing at Tuesday's FPAC meeting, Wagner replied. We'll wait to hear from you on Tuesday, said Turner.

With respect to spill at McNary, said Turner, it looks as though there will continue to be substantial involuntary spill at that project for some time; however, would it be acceptable to stop voluntary spill to the gas cap at that project on June 20? Yes, was the reply. Boyce recommended that the action agencies shape the involuntary spill into the nighttime hours. We'll do so whenever possible, Bettin replied. And we'll let project personnel know transport at McNary could begin as soon as next week, Turner said.

#### ***9. New System Operational Requests.***

See Agenda Item 3, above, for discussion of SOR # 2003-10, Libby operations for sturgeon and bull trout.

#### ***10. Recommended Operations.***

Recommended operations were summarized in a previous agenda item.

#### ***11. Other.***

Turner said the main fish bypass pipe at Lower Granite has been experiencing some problems; the valve controlling the water supply through that pipe is currently stuck in the fully open position, so we cannot regulate flow through that pipe, possibly because of a debris problem. The valve stem is also stripped, he said. The plant is 25 years old, so it could just be age and wear, he said. We do want to get that fixed, however, but we're waiting to get the necessary part – it may be necessary to fabricate something, because it is a French part if we need to order it. This may take awhile, in other words, Turner said.

The upshot is that we will likely need to dewater the fishway in order to fix the debris problem, said Turner; under the Fish Passage Plan, the project can operate that way for up to five hours. We hope it will be possible to fix the problem in that time, but it may not be possible to do so, Turner said. We were planning to do that yesterday, he said, but canceled the operation – we will likely reschedule it some time in the next two weeks. Turner spent a few minutes describing the operational nuances of the repair, noting that there is a line outage scheduled for mid-July at Lower Granite. If the part is available, it may be possible to fix the bypass pipe valve at the same time.

At Ice Harbor, said Turner, the Corps is coordinating summer spill operations and tests, given the high juvenile injury rates documented during spill tests at that project in 2003. The feeling was that this may be related to the spill pattern. We conducted a four-hour test, discharging 15 Kcfs through spill bays 2, 3 and 4 yesterday (45 kcfs total spill discharge), Turner said; biologists from NOAA Fisheries and the Corps were on hand to observe the test. We saw gas levels of about 120.3% at the fixed monitoring site downstream, Turner said; we would likely need to cut back a stop or more in order to avoid TDG exceedences if we decide to implement this spill pattern this summer. Turner agreed to provide an update at the July 2 TMT meeting.

***12. Next TMT Meeting Date.***

The next regularly scheduled meeting of the Technical Management Team was set for Wednesday, July 2.

Meeting summary prepared by Jeff Kuechle, BPA contractor.

***List of Attendees***

Rudd Turner	COE
Dave Wills	USFWS
Steve Pettit	IDFG
Tony Norris	BOR
Pat McGrane	BOR
Ron Boyce	ODFW
Shane Scott	WDFW
Jim Litchfield	State of Montana
Chris Ross	NOAA Fisheries
Paul Wagner	NOAA Fisheries
Scott Bettin	BPA
Steve Kerns	BPA
Donna Silverberg	Facilitation Team
Robin Harkless	Facilitation Team
Kyle Martin	CRITFC
Julie Ammann	COE
Mary Karen Scullion	COE
Laura Hamilton	COE
Jeff Laufle	COE
Nick Lane	BPA
Nancy Yun	COE
Tina Lundell	COE
Mike Butchko	PowerEx
Mike Hill	EWEB
Kevin Nordt	PGE
Tom Haymaker	PNGC
Tim Heizenrater	PPM

Mike O'Bryant	CBB
Russ George	WMCI
Lance Elias	PPL
Dennis Rohr	D. Rohr & Assoc.
Glenn Traeger	Avista
Steven Wallace	PacifiCorp