

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 15, 2016

Facilitator's Summary

Facilitator: Emily Plummer; Notes: Tory Hines 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 Meeting Minutes

The official TMT Minutes and the Facilitator's Summary for the June 1st meeting were reviewed and approved by TMT members.

Update Water Supply Forecast

Doug Baus, COE-NWD, provided an update on the official June water supply forecast, which is posted on the TMT website. Mary Mellema, BOR, noted that the forecasted volumes for the final June forecast for Hungry Horse Dam:

- June-July: 535 kaf (62%)
- January- July: 1,937 kaf (92%)
- April-August: 1,695 kaf (88%)
- May-September: 1,235 kaf (73%)

Doug noted the final June forecast volumes for the USACE projects:

- The Dalles April-August: 82 maf (93%)
- Lower Granite April-July: 17 maf (85%)
- Libby April-August: 6,445 kaf (110%)
- Dworshak April - July: 2,083 kaf (86%)
- Grand Coulee April-August: 54 maf (95%)
- Albeni Falls April-August: 11 maf (87%)

Doug stated that the 5-day forecast shows cool temperatures throughout the basin with freezing levels as low as 3,000-4,000ft in the Cascade Range. The 6-10-day forecast shows above average temperatures throughout the Pacific Northwest as well as below average precipitation. Dave Statler, Nez Perce, asked what the above average temperature range would be in the coming week. Kyle Dittmer, CRITFC, stated that based on recent heat spikes, temperature increases could range from 10 to 20 degrees Fahrenheit above normal on any given day. Doug continued that the current forebay temperatures for Bonneville and Lower Granite are above average, but below 2015 temperatures.

SOR 2016-C1 Summer Treaty Fishing

Kyle Dittmer, CRITFC, provided an overview of the Treaty Fishing SOR on behalf of the Columbia River Inter-Tribal Fish Commission members. SOR 2016-C1 requests a 1.5 foot band for the Bonneville, The Dalles and John Day pools during the treaty fishing periods: June 16-18, June 20-23, and June 27- 30. Kyle shared that the Columbia River at Bonneville Dam run size is estimated at 89,000 adult summer Upper Columbia Chinook (above average), 100,000 sockeye (below average) and 265,400 steelhead (below average). These runs will provide harvest opportunities for tribal fishers who will exercise their treaty rights by participating in this harvest using platform and gillnet fishing methods. CRITFC is sponsoring net flights on June 16, June 21 and June 28; nets will be counted to determine where fishing is taking place and results will be reported to TMT.

- **ACTION:** The Corps will implement SOR 2016-C1, holding a 1.5ft band at the BON, TDA, and JDA pools from June 16 at 0600 hours to June 18 at 1800 hours; June 20 at 0600 hours through June 23 at 1800 hours; and June 27 at 0600 hours through June 30 at 1800 hours.

Snake and Clearwater River Water Temperatures

Steve Hall, COE-NWW, reported on water temperatures in the Snake River and Clearwater River. Yesterday, Lower Granite tailwater temperature was 62.5 degrees Fahrenheit. Water temperatures are on the low end due to cooler air over the last week. Steve provided a water temperature comparison model run for May 24- June 23, 2016. He noted the following:

- Healthy flows are maintained out of the Snake River at Anatone, at 50-60kcfs. Flows are expected to decrease over the course of the week.
- The model is predicting lower temperatures (by 1°F) than what has been observed. This may be due to wind mixing in the pool in addition to other variables.
- Monday, June 13th, Dworshak was filled, and as a result discharge increased. Looking ahead ten days, inflows to Dworshak will come down and less water will be released. The model suggests that at the end of the ten-day window, water temperatures in the Lower Granite tailrace will approach 65 degrees Fahrenheit. Whether additional water should be released out of Dworshak to combat rising water temperatures depends on the weather forecast.
- There is a 2-3 day water travel time from Dworshak to Lower Granite pool; if the Corps needs to adjust the operation, it must occur three days prior to when the change is expected to be realized at Lower Granite.
- A high quality weather gauge will be established at Lower Granite, it will provide accurate data once installed. It will also provide quality control to make sure the model runs are accurate and to prevent corrupted data as was seen last year.
- At this time, the Corps recommends targeting 65 degrees Fahrenheit in the Lower Granite tailrace until the bulk of sockeye move through the system. In 2015 the target temperature, was 67 degrees. The not-to-exceed temperature remains 68 degrees Fahrenheit.

Paul Wagner, NOAA, asked what volume of the Dworshak reservoir would be required to achieve LWG tailrace temperature no higher than 65degrees Fahrenheit. Steve noted that full powerhouse will likely not be discharged. Currently, discharge is at 2.5kcfs, and it may increase to 6-7kcfs, he estimated that it would require a fairly insignificant volume, approximately 10 to 15 kaf. Charles Morrill, WA, asked where the weather station would be located at Lower Granite. Steve noted one gauge will be near the end of the lock approach wall and eventually they hope to install a second gauge on the temperature string buoy in the forebay. Dave Statler asked if current Dworshak discharge temperatures are at the coolest point for the summer season, and if the temperatures are acceptable to the hatchery. Steve stated that temperatures are at what is expected to be the coolest point. The Corps in coordination with the hatchery has been leaving gates up in “undershot” mode so water is pulled from deep in the reservoir (approximately 1,400ft) in an effort to keep disease levels low; temperatures average around 43 degrees Fahrenheit in the hatchery.

TMT members were asked for input on the suggestion of targeting LWG tailrace temperatures of 65 degrees Fahrenheit versus 67 degrees Fahrenheit. Steve noted that the Corps will need a response from salmon managers within a week, before it is critical to make a decision and implement the action.

- Dave Statler requested more information on implementation dates and discharge amounts.
 - Steve noted that the temperature model provided is for the next 5-7 days, forecasting beyond that would not be reliable. As temperatures get warmer the model will be run on a daily basis.
- Charles Morrill, WA, asked if 65 degrees Fahrenheit is targeted, will available volumes be expended more quickly if temperatures continue to rise?
 - Steve noted that it is possible, however the Corps is not recommending targeting 65 degrees Fahrenheit all summer, only during critical passage times for sockeye.
- Dave Swank, USFWS, asked why last year’s buffer of 67 degrees Fahrenheit was not achieved.
 - Steve noted that due to incorrect solar radiation data, the operation did not release sufficient water to lower water temperatures enough. The model incorrectly suggested temperatures would cool off if discharge was held at 7kcfs, when in actuality 10kcfs was needed. Once temperatures

exceeded 67 degrees Fahrenheit it took roughly a week to regain critical mass in order to drop temperatures.

- Dave Statler asked for additional temperature model results comparing target temperatures of 65 degrees Fahrenheit and 67 degrees Fahrenheit. He also noted that if operations are able to provide better conditions beyond the criteria, it is beneficial to other migrants as well.
 - Charles suggested salmon managers wait a week and review additional information on the impacts to the lower river in an effort to be judicious with cool water available at Dworshak.
 - Paul Wagner stated that waiting until next week may present challenges with potential air temperature increases looming. He recommended providing the Corps with guidelines to increase flows, but not to exceed 4kcfs, if temperatures increase over the weekend.
 - Russ suggested discussing this more at the June 21st FPAC meeting and then bringing a recommendation to TMT. He noted that the temperatures will likely rise starting on Monday and targeting 67 degrees Fahrenheit until Salmon Managers meet at FPAC should be fine.
 - Dave Swank agreed with Paul that temperatures are forecasted to reach 90 degrees Fahrenheit and it may be prudent to meet before the 21st. Dave also recommended allowing the Corps to have flexibility in raising flows if temperatures rise above model predictions.
 - Steve noted that another model run will be provided via e-mail on Friday. Additionally, there is a lag time between air and water temperatures. If warm temperatures occur starting on Sunday, there will be a 1-2 day lag until water temperatures increase as well. If temperatures increase dramatically an unscheduled TMT call may occur on Monday to make any operational changes.
- **ACTION:** The Action Agencies will operate Dworshak Dam through Wednesday, June 22nd targeting 67 degrees Fahrenheit in the Lower Granite Dam tailrace. If water temperatures increase and suggest the Corps would not be able to operate Dworshak Dam outflows not to exceed 65 degree Fahrenheit in the Lower Granite Dam tailrace prior to the Wednesday, June 22nd TMT meeting then a TMT call will be scheduled for Monday, June 20th to address potential operational changes.
- **ACTION:** Steve Hall will provide updated model runs on Friday, June 17th to be posted to the TMT website on the agenda for the June 22nd meeting.
- **ACTION:** FPAC will convene on Tuesday, June 21st to discuss a 65-degree target and will provide TMT with a recommendation on Wednesday, June 22nd.

Operations Review

Reservoirs: Mary Mellema, BOR, reported on Reclamation projects:

- Hungry Horse midnight elevation was 3,555.9ft, with 6.2kcfs inflow and 2.2kcfs outflow. Mary reported that they are 4ft from full and inflows are dropping off. Paul asked why Hungry Horse was difficult to fill if the forecast is close to average. Mary noted that the elevation was low in the beginning of the year due to dry conditions last year and a 20-foot draft. Moreover, the early season forecasts were also high which caused an expectation of higher inflows in May and June which did not happen.
- Grand Coulee elevation was 1,285ft; starting July 1st, Lake Roosevelt elevation will be no higher than 1,286.5ft in anticipation of the holiday weekend. July 1-4th forebay elevations will increase no more than 0.5ft each day, ending no higher than 1,288.5ft at noon on Tuesday, July 5th. This operation is for recreation over the 4th of July holiday weekend.

Lisa Wright, COE-NWW, reported on Corps projects:

- Libby midnight elevation was 2,432.0ft, with 7.1kcfs outflow and 21.6kcfs inflow.
- Albeni Falls midnight elevation was 2,061.8ft, with 33.8kcfs inflow and 28.6kcfs outflow.
- Dworshak midnight elevation was 1,600ft, with 4.4kcfs inflow and 5.6kcfs outflow.
- Lower Granite average outflow was 55.1kcfs.
- McNary average outflow was 200.4kcfs.
- Bonneville average outflow was 194.6kcfs

Lisa noted that the FOP summer spill operations officially begin tomorrow, June 16, at Lower Columbia projects which include: McNary (50%), John Day (continuation of alternating between 30% and 40%), The Dalles (continuation of 40%), and Bonneville (alternating every two days between 95 kcfs and 85 kcfs day/121 kcfs night). Summer spill operations will begin on June 21st for Snake River projects which include: Lower Granite (18 kcfs), Little Goose (continuation of 30%), Lower Monumental (17 kcfs), and Ice Harbor (continuation of alternating between 30% and 45 kcfs day/Gas Cap night).

Doug noted that per the Low Flow provisions in the Fish Operation Plan, Little Goose and Ice Harbor pools, if needed, will be adjusted up to 1ft above MOP for navigational safety purposes at the upstream projects. The Corps will provide an update at the next TMT meeting on any adjustments to MOP operations due to low flow.

Fish: Paul Wagner, NOAA, reported on fish. For adults:

- Bonneville: Summer Chinook counts are 31,333 (108% of 10-year average); Jacks counts are at 42% of the 10-year average; and sockeye counts are 40,729 (284% of 10-year average). Sockeye numbers are strong and converting well from Bonneville to The Dalles dam. PIT-tagged data shows an 88% conversion rate which reflects that sockeye are not stalling. From The Dalles to McNary 100% of PIT-tagged sockeye have converted so far. The sockeye forecast at Bonneville estimates 100,000 returns, meaning the run is well underway.
- Lamprey returns are at 6,730 (236% of the 10-year average). Lamprey passage upriver is not as promising at Bonneville.
- Lower Granite: Spring Chinook counts are 60,300 (108% of the 10-year average and 58% of last year's average). Jacks are at 44% of the 10-year average and no sockeye have passed Lower Granite yet.
- 23 PIT-tagged sockeye were collected on June 13th and of the 23, 20 were Upper Columbia sockeye and 3 were from the Snake River.
 - Russ noted that Snake River sockeye run is typically a week later than Upper Columbia fish; the first of the Snake River run should be appearing shortly. So far, 5 PIT-tagged Snake River sockeye have been detected at BON.

For juveniles, yearling Chinook passage is nearly complete at all Snake River projects, with less than 1,000 per day at each project observed this week. For Columbia River projects, yearling Chinook are also essentially done for the season. Subyearlings peaked at Lower Granite near 61,000 then down to 15,000 this week. Similar trends are occurring at Little Goose and Lower Monumental. At McNary subyearling counts are still strong, however yesterday's count was stopped early due to a drumgate sweeper which broke and prevented counts. At John Day, subyearling counts on Monday were at 25,000, a record high for the year at that project. Subyearlings have been detected at Bonneville in the low thousands per day. Steelhead are mostly done for the season, as well as sockeye in the Snake River and lower Columbia projects.

Water Quality: Laura Hamilton, COE-RCC, noted that all gauges are operational, functional and transmitting properly. There were a few exceedances in the Ice Harbor forebay and at Bonneville forebay. Erick Van Dyke, OR, asked why Chief Joseph showed an exceedance of 111%. Laura noted that the TDG target at Chief Joseph is 110% and that 111% occurred for one hour without spill.

Power System: Tony Norris, BPA, noted that on June 9-10, spill blocks at Ice Harbor and John Day were swapped to accommodate hot weather temperatures at John Day and Ice Harbor the previous weekend. This operation is consistent with the FOP.

The next TMT meeting will be a conference call on June 22nd at 9:00am.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

June 15, 2016
Minutes: Pat Vivian

1. Introduction

Representatives of USFWS, COE, Washington, Nez Perce Tribe, BOR, NOAA, BPA, CRITFC, Oregon, Idaho and others participated in today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Plummer, DS Consulting. This summary is an official record, not a verbatim transcript.

2. Review Meeting Minutes – June 1

The facilitator's notes and official minutes for June 1 were approved as final.

3. Official Water Supply Forecast

3a. June final forecast. Baus and Mary Mellema, BOR, gave final forecasts for individual basins:

- Hungry Horse (June-July) – 535 kaf, 62% of average
 - (January-July) – 1937 kaf, 92% of average
 - (April-August) – 1695 kaf, 88% of average
 - (May-September) – 1235 kaf 73% of average
- The Dalles (April-August) – 82 maf, 93% of average
- Lower Granite (April-July) – 17 maf, 85% of average
- Libby (April-August) – 6445 kaf, 110% of average
- Dworshak (April-July) – 2083 kaf, 86% of average
- Grand Coulee (April-August) – 54 maf, 95% of average
- Albeni Falls (April-August) – 11 maf, 87% of average

3b. 10-day forecast. Cool temperatures are expected to persist for the next 4-5 days with a warming trend after that. This pattern is consistent across the basin.

3c. Climate forecast. Temperatures and precipitation forecasts for 6-10 days out as well as 8-14 days out show the region is headed for a period of above average temperatures and below average precipitation. Dave Statler, Nez Perce Tribe, wondered how many degrees F above average. The predictions are reported as probabilities and don't translate into specific readings, Baus said. Based on heat spikes seen so far this year, temperatures could rise to 10-20 degrees F above normal, Kyle Dittmer, CRITFC, said.

According to the Fish Passage Center website, forebay temperatures at Bonneville, Little Goose and Lower Granite dams are currently above average but lower than temperatures were in 2015, Baus said. Cool flows from Dworshak could have a proportionally strong effect on temperatures relative to

warm water from the upper Snake, Statler noted. Steve Hall, COE Walla Walla, said he will cover this topic under temperature modeling later today (see agenda item 5).

4. SOR 2016-C1 Summer Treaty Fishery

Kyle Dittmer, CRITFC, introduced this SOR which requests the typical 1.5 foot elevation bands in the three lower Columbia pools for the opening weeks of summer treaty fishing. The special operation is requested from 6 am to 6 pm on June 16-18, June 20-23, and again on June 27-30 at Bonneville, The Dalles and John Day dams. The Action Agencies will implement the SOR as presented and will report to TMT as necessary.

Dittmer gave CRITFC's adult forecast for the 2016 summer fishery: 89,000 upper Columbia chinook returns, 100,000 sockeye, and 265,000 steelhead. CRITFC-sponsored net flights are planned for June 16, June 21, and June 28.

5. Snake and Clearwater River Water Temperatures

Steve Hall, COE Walla Walla, reported. Temperatures in the Lower Granite tailwater have been low – 62.5 F yesterday, with a peak of 65 degrees F late last week. With air temperatures near 100 degrees F, water temperatures on the Snake River at the Anatone gauge and on the lower Clearwater River gauge at Lewiston, both above Lower Granite, peaked near or slightly above 65 F degrees this week. Currently air temperatures are 60 to 70 degrees F, a big change from the previous week.

Hall presented a graph (linked to today's agenda) of modeling information based on 2007 as an analog year which indicates that temperatures in the basin will slowly rise. Flows from the Snake River at Anatone are currently in the 50-60 kcf range and expected to decline. While temperatures in 2007 turned out cooler than expected, and flows were somewhat lower than expected, this year's modeled temperatures are slightly below observed temperatures. The disparity is a likely result of wind mixing in the pool caused by dramatic temperature shifts. Wind gusts hit 30 miles per hour on June 13, the day Dworshak reservoir refilled and discharges were increased to pass inflow.

Along with a decline in inflows, the model predicts that water temperatures at Lower Granite tailwater will approach 65 degrees F toward the end of the 10-day forecast period. At that time, probably around June 22-23, the COE will assess whether to start temperature augmentation from Dworshak. It takes 2-3 days for Dworshak releases to reach Lower Granite.

In light of last year's experience with rising temperatures and low inflows as the season progressed, Hall made two recommendations to TMT: (1) make adjustments 3 days before cooling is needed at Lower Granite, and (2) target 65 degrees F instead of 67 degrees F as the trigger point for temperature augmentation flows until most of the sockeye run has passed Lower Granite.

Wind activity in the pool and solar radiation can both complicate temperature management. Last year's solar radiation data were corrupted, producing erroneous predications. Augmentation releases were therefore inadequate and temperatures at Granite rose to above 68 degrees F for a week. To prevent a recurrence, the COE is installing a high quality weather station at Lower Granite pool that should significantly improve modeling accuracy. The COE will report to TMT in a few weeks when the new

equipment goes live. There will probably be two new weather stations, one where TDG monitoring equipment is already located, plus a station on the temperature string buoy in the forebay.

Paul Wagner, NOAA, asked what additional volume might be needed from DWR as a result of adopting Hall's recommendation to target 65 degrees F. It might take 6-7 kcfs releases instead of 5 kcfs for 2-3 days, or approximately 10 kaf total, which is minimal compared to Dworshak reservoir capacity, Hall said. Dave Statler, Nez Perce Tribe, asked whether current discharges are the lowest temperature acceptable at the Dworshak National Fish Hatchery. Hall said yes, the gates are in undershot mode, drawing the coolest water from the reservoir at about 1400 ft elevation. The current release temperature is 42-44 degrees F. Releasing the coldest water available from DWR is apparently congruent with hatchery needs.

Discussion turned to a strategy for counteracting rising temperatures. Hall said sometime next week a decision will need to be made whether to increase releases from Dworshak, based on modeling updated twice weekly. Russ Kiefer, Idaho, suggested waiting until FPAC meets on June 21, followed by a TMT conference call June 22. Statler advocated prudence now because cooling flows will be needed through September 15, and Charles Morrill, Washington, agreed it's important to conserve water for fish in the lower river.

Next week might be too late for action to avoid exceeding 65 degrees F at Granite, Wagner, Swank, and Morrill agreed. Russ Kiefer, Idaho, proposed targeting 67 degrees F at Granite as usual, with a tentative TMT conference call on Monday, June 20, prior to the FPAC Tuesday call. USFWS and NOAA agreed to this strategy.

The COE will provide TMT with updated modeling results on June 17 posted to the website on the June 22 meeting agenda. Based on the modeling update, the Salmon Managers will decide whether a conference call is needed on June 20 to keep temperatures below 65 degrees F in the Lower Granite tailwater. The COE will take action if necessary to keep temperatures from exceeding 67 degrees F. TMT will revisit Dworshak operations at its next regular meeting on June 22.

6. Operations Review

6a. Reservoirs. Hungry Horse is at elevation 3555.9 ft, 4 ft from full. Inflows are 6.2 kcfs and discharges are 2.5 kcfs. Inflows have been dropping as the project fills. In response to questions, Mary Mellema, BOR, reported that inflows were above average in April and May but the reservoir started the year at a very low elevation due to dry conditions last year. It has been challenging to refill given the low elevation from maintaining Columbia Falls minimum flows last year and managing flood control requirements vs. refill. The project will draft down 10 feet by the end of September.

Grand Coulee is at elevation 1285 ft. The current plan for the Fourth of July operation will start with an elevation target of no higher than 1286.5 ft on midnight July 1 for beach access. Lake Roosevelt will fill by no more than half a foot per day through July 5, ending at no higher than 1288.5 ft elevation July 5th at noon. The project will refill the following weekend to a target of 1289.8 ft due to Lake Roosevelt incremental storage releases program.

Libby is at elevation 2432.0 ft with inflows of 21.6 kcfs and minimum discharges of 7.1 kcfs. Albeni Falls is at elevation 2061.8 ft with inflows of 33.8 kcfs and outflows of 28.6 kcfs. Dworshak is full at 1600 ft with inflows of 4.4 kcfs and outflows of 5.6 kcfs. Lower Granite average outflows are 55.1 kcfs, McNary average outflows are 200.4 kcfs, and Bonneville average outflows are 194.6 kcfs.

Summer FOP spill operations on the lower Columbia will begin June 16 with McNary transitioning to 50% spill, The Dalles remaining at 40% spill, John Day continuing to alternate between 30% and 40% spill, and Bonneville switching to alternating between 95 kcfs or daytime spill of 85 kcfs/nighttime spill of 121 kcfs, Lisa Wright, COE, reported. Summer FOP spill operations on the lower Snake will begin June 21, with Lower Granite spilling 18 kcfs, Little Goose continuing 30% spill, Lower Monumental spilling 17 kcfs, and Ice Harbor continuing to alternate between 30% and 45 kcfs daytime spill/nighttime spill to the gas cap, Wagner said.

Baus reminded everyone that, with Lower Granite releasing 55.1 kcfs now and the inflow forecast declining, Little Goose and Ice Harbor might need to go up to MOP+1 ft operations to provide safe navigation at Lower Monumental and Lower Granite, which is required during periods of 50 kcfs total river flows or less. The navigation issue was first addressed in the 2014 Fish Operations Plan. The COE will notify TMT when MOP+ operations become necessary.

6b. Fish. Paul Wagner reported.

Adults: Lower river projects are now in summer chinook passage season, while Lower Granite and projects upstream are still in spring chinook season. The summer chinook return to Bonneville is 31,333 to date, which is 108% of the 10 year average. Jack returns to Bonneville are 42% of the 10 year average. The sockeye return is 40,729 to date, which is 284% of the 10 year average. Conversion rates have been good – 88% from Bonneville to The Dalles and 100% from The Dalles to McNary which indicates sockeye are moving successfully upriver. The TAC forecast is for an adult sockeye return of 100,000 this year which seems possible. Lamprey returns to Bonneville are 6,730 which is 236% of the 10 year average, but returns upriver are not as strong. This is unfortunately typical for adult lamprey.

Adult spring chinook returns to Lower Granite are 60,300 which is 108% of the 10 year average but 58% of last year's stellar return. Like Bonneville, Lower Granite has low jack returns at 44% of the 10 year average. No sockeye have passed Granite yet. The Snake River sockeye run is typically a week later than the mid-Columbia run, Kiefer noted. IDFG has detected 5 PIT tagged Snake River sockeye at Bonneville Dam to date, all hatchery fish from Redfish Lake. This year's run is forecast to be about a third of last year's phenomenal adult return to Bonneville.

Juveniles: Yearling passage is nearly complete at all Snake projects, and yearling chinook have passed all the Columbia River projects. Subyearling passage probably peaked at 61,000 yesterday at Lower Granite, with Goose and Lower Monumental following the same trend. Yesterday's passage index at McNary was 11,000, but this is likely a very low estimate due to drum gate problems that shut down sampling for 3 hours. John Day passed 252,000 subyearling chinook which is high for that project, an indication that this year's run is strong. Steelhead and sockeye juvenile passage is over for the season. Lamprey are still passing the Snake and lower Columbia projects.

6c. Water Quality. Laura Hamilton reported. All gauges are working well. There have been a few exceedances at Ice Harbor and Bonneville forebays, and one at Chief Joseph when TDG levels were 111% with no spill. This happens occasionally; the gauge is measuring correctly.

6d. Power. Tony Norris, BPA, reported. On June 9-10, the Action Agencies swapped spill treatment blocks at John Day and Ice Harbor per the FOP to accommodate additional generation during hot weather.

7. Next TMT Meeting

The next regular TMT meeting will be a June 22 conference call. Topics on the agenda include Dworshak temperature management, a net flight report from CRITFC, and an update on any MOP changes made for navigation safety. TMT will have an unscheduled call June 20 if temperature conditions warrant an earlier discussion on Dworshak augmentation operations.

<i>Name</i>	<i>Affiliation</i>
Dave Swank	USFWS
Doug Baus	COE
Charles Morrill	Washington
Dave Statler	Nez Perce
Lisa Wright	COE
Mary Mellema	BOR
Paul Wagner	NOAA
Tony Norris	BPA
Steve Hall	COE
Tory Hines	DSC
Laura Hamilton	COE
Russ Wickham	COE
Kyle Dittmer	CRITFC
Michelle Yuen	COE
Eric Van Dyke	Oregon
Russ Kiefer	Idaho
Brian Ziegler	Snohomish PUD
Shane Scott	PPC
Wayne XX	COE Walla Walla
Paula Calvert	ODEQ
Dave Benner	FPC
Sheri XX	Puget Sound Energy