COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

January 16, 2008 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg
Notes: Erin Halton

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.

Official Minutes/Facilitator Notes

The facilitator notes and official meeting minutes from the 11/28 year-end-review, 12/12 meeting and 12/19 conference call had been posted to the web. With no further changes made during the meeting, the notes were finalized.

January Final Water Supply Final Forecasts

Steve King, River Forecast Center, referred TMT to several web links posted to the meeting agenda. He noted a new link off the main page that enables viewers to participate in water supply forecast briefings. King guided meeting participants through links to regional forecasts for the current month's precipitation, as well as seasonal and snow pack outlooks. He said that for the April-September timeframe, most points in the region are predicted to be in the range of 90-110% of normal with slightly drier (75-90%) predictions for the Libby/Hungry Horse area. Climate Prediction Center forecasts were also viewed by the group, with predictions for slightly above normal precipitation over the next few months. TMT members discussed the desire to avoid 'overshooting' project draw-downs, in order to provide flows that support fish passage. Kyle Dittmer, CRITFC, referred the group to a presentation linked to the CRITFC website that illustrated the method of plotting the shape/direction of forecasts; he noted that 2008 looks to be a moderate La Niña year, with slightly wetter than normal forecasts.

Lessons Learned from 2007

TMT members discussed some of the lessons and observations that came out of the 11-28-07 year-end-review meeting. Dave Statler, Nez Perce Tribe, noted that management of Dworshak operations overcame the challenges posed by conditions. That said, had warmer water come out of the Snake River, there may not have been the same level of success. As the influence of Idaho Power is one of the challenges posed to Dworshak management, a suggestion was made at the year-end-review that a temperature control structure at Brownlee/Hells Canyon might be needed. Paul Wagner, NOAA, noted that based on further analysis by NOAA, this suggested action was unlikely to provide any benefit. Wagner added that COE modeling did well for supporting successful management of Dworshak in 2007.

Action/Next Steps: TMT members will continue to discuss the observations and recommendations that came out of the 2007 review before making decisions on actions to be implemented in 2008.

Draft 2008 Fish Operations Plan

Rudd Turner, COE, referred TMT to the Draft 2008 Fish Operations Plan (FOP), linked to the TMT meeting agenda. He clarified that the Water Management Plan and Fish Passage Plan are both used by the COE for guidance in management. The FOP, on the other hand, reflects ties to the FCRPS BiOP litigation. It includes outages planned for the year and serves as a "commitment to certain operations made up front." Turner said that part of the December court hearing was a proposal to roll over 2007 operations to 2008, with minor variations for new structure studies and planned outages (i.e. RSW at Lower Monumental and TSW's at McNary and John Day.) He reviewed tables in the FOP that show the spill patterns for each of the projects, clarifying the following points:

- Spill during tests on the TSW at John Day will likely be in the 40% range, with a few days of 0-60% on non-test days.
- At McNary, work will be performed on gate hoists, to allow for faster lifting capability at spill bays with TSWs in place.
- There will be staggered starts for transport, with the same criteria as was used for the 2007 season.
    - Specific transport start dates will be coordinated by TMT;
- Spill reduction during barge loading may be needed; the COE Division office will encourage COE District offices to allow for spill reduction while continuing research.
    - The COE anticipates no effect on Fall Chinook Transport Studies.
- New for 2008 Draft: two paragraphs on page 8 that address low flow operations and load swing hours which occurred in 2007 and were reported to the court.
- TDG management will have the same criteria as in 2007.

There was discussion amongst TMT members on the ability to use adaptive management, given the commitments made in this 2008 FOP. A question was raised as to whether the FOP would still be in effect, should there be inconsistencies with a final, signed version of the new BiOP; Turner clarified that if the FOP is adopted, it will be in effect through 8-31-08. Turner acknowledged the desire to adapt the new 2008 FOP based on 2007 observations and suggested that TMT members bring those kinds of suggestions to their Policy Work Group (PWG) representatives. Dave Statler, Nez Perce Tribe, spoke to the desire to not lose sight of non-listed species such as the Pacific Lamprey and for the topic to be discussed in the appropriate forum(s). NOAA said that if there were a proposal for a specific operation, or suggestions for slight adjustments that might be made, both TMT and FPOM are appropriate forums for that type of discussion.

Action/Next Steps:

- TMT members will review the 2008 Draft FOP, in the context of the 2007 FOP and 2004 BiOP.
- A TMT conference call on 1-23 will allow for group discussion of the suggested edits or changes to the document.
- The PWG will meet on 1-24 to discuss the edits to the FOP.

- The court parties will likely review the FOP by the end of January.
- The Draft 2008 Fish Passage Plan is posted to the TMT web page; the COE is taking comments. FPOM will hold a meeting on January 25th to comment on the draft FPP.

Draft 2008 Water Management Plan

Scott Boyd, COE, reported that the Action Agencies were in the process of synchronizing the Draft Water Management Plan (WMP) with the Fish Operations Plan.

Action/Next Step: A revised draft of the WMP will be posted to the web in the next week or two; TMT members will be notified when this occurs, in order to provide comments on the latest draft.

Operations Review

Reservoirs – Grand Coulee was at elevation 1280.4' and releasing water as needed to meet the 11.5 feet minimum tailwater below Bonneville for chum. Hungry Horse was at elevation 3523.3', with outflows in the range of 2.6-2.8 kcfs to meet Columbia Falls minimum flows; Reclamation's January water supply forecast for Hungry Horse was 100% of average, which resulted in an end of January flood control elevation of 3543.6'. Libby was at elevation 2409.9' and was operating to minimum flows; based on the most recent water supply update, the end of January flood control target elevation is 2410.3'. Albeni Falls was operating within an elevation range of 2055-2056'; inflows were at 16.4 kcfs and outflows were at 14.1 kcfs. Dworshak was at elevation 1521.4' with inflows in the range of 1.6-1.7 kcfs and outflows of 1.3 kcfs; currently planned operations at the project will be to pass minimum flows through the end of February. The end of January flood control elevation target for Dworshak is 1536.1'. 7-day average flows at Lower Granite were 24 kcfs range; McNary flows were in the 125-130 kcfs range.

Fish – No report.

Power system – No report.

Water quality – No report.

1/23/08 TMT Conference Call

- Comments on the Draft 2008 Fish Operations Plan

1/30/08 TMT Meeting:

Agenda items may include the following:

- Revised Draft 2008 Water Management Plan
- Update: Fish Operations Plan
- Update: Zebra/Quagga Mussels Rapid Response Plan
- SWRG Trucking Proposal (?)
- Spring Creek Tagging (?)
- Operations Review

Columbia River Regional Forum
Technical Management Team Meeting
January 16, 2008

1. Introduction

Today's TMT meeting was chaired by Jim Adams (COE) and facilitated by Donna Silverberg (D.S. Consulting). Representatives from COE, BOR, NOAA, BPA, CRITFC, RFC, the Nez Perce Tribe, Montana, Idaho and others attended in person or by phone. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

2. Review Meeting Minutes

There were no changes to the notes from the November 28 year-end review or the December 12 meeting.

3. January Final Water Supply Forecasts

Steve King (RFC) showed TMT the RFC's main water supply forecast page as well as forecasts of precipitation and for water supplies at individual projects. To see the tables that generated today's discussion, go to NOAA's RFC page (linked to the TMT website) and click on "join us for a water supply briefing."

A. Main water supply. The overall forecast for April-September 2008 is 90-100% of normal in most of the basin, with the arid exceptions being eastern Oregon, the upper Snake, and a pocket in the Hungry Horse/Libby region The RFC forecasts are coordinated forecasts based on regression techniques, not to be confused with ESP forecasts. Early bird, mid month and final forecasts are available on the main water supply page.

B. Current month precipitation. Most of December has been wet, with the exceptions being eastern Oregon and Washington and the Snake River area.

C. Seasonal precipitation. This shows a slightly more definite pattern of fairly wet conditions throughout the basin, particularly in British Columbia, the middle Snake area, southern Idaho, and the headwaters of the Snake. Eastern Washington and the Hungry Horse/Libby areas are fairly dry.

D. Snowpack. Here is a different story, King said. This forecast, based largely on NRCS information, shows somewhat normal conditions throughout the region including the east side. It looks like snowpack in 2008 will be fairly normal.

King demonstrated how this map works by clicking on Molson Creek in the Mica Dam area of British Columbia. The report shows a steady, above-normal influx of snow to this site, a good sign for water supplies in the upper Columbia River and to The Dalles Dam, which gets 30% of its flows from this area.

E. Water supply/ESP. Using Libby reservoir inflow from April-August as an example, King showed how the various forecasts compare to normal runoff throughout the season. Only the final forecast for each month is coordinated, with the effects of that tuning carrying forward to the next early bird prediction.

Using Dworshak flows, the 50% likely forecast for April-July is 2,610 kaf, or 99% of normal based on a 30-year average. The ESP forecast shows a probability of 2,818 kaf, 200 kaf more than the regression method. The COE's forecast for the same period is 2,717 kaf, or 101% of normal.

The COE methodology is a straightforward progression based on the past 30 years, while the Weather Service lumped all parameters for the past 50 years into one index and regressed that. The Weather Service uses the same equation while the COE uses a different equation each month, which leads to wider fluctuations. Weather Service forecasts tend more toward normal conditions. Wagner asked if that applies to both basins; King replied that's a big unknown.

Another factor is SOI parameters that could be related to El Nino or La Nina conditions, King pointed out. This year the Weather Service is calling for a mild La Nina trend. Inclusion of these parameters tends to yield a slightly wetter forecast, which could account for some of the disparity between COE and Weather Service predictions.

How we handle drawdown now can affect spring flows, Dave Statler (NPT) said. He expressed concern about over drafting reservoirs early in the season for flood control, based on water supply forecasts that don't materialize.

Snowpack as of January 1 was forecasted to be below normal because last year was dry, although precipitation was healthy during the same period. The lower runoff levels and snowpack amounts forecasted recently have as much to do with temperatures as the volumes of rain that fall. Consequently, there's lots of snow this year at lower elevations.

F. Climate Prediction Center forecasts. The one-month outlook for January indicates increased odds for more rain than usual throughout the Northwest, King said.

G. Temperature probability. Temperatures are predicted to be close to normal this year, King said. In general, a La Nina trend identified in August indicates that above normal precipitation is likely the following spring.

Kyle Dittmer presented another view of recent weather conditions. The CRITFC forecast calls for near-normal temperatures in January but below-normal temperatures in February and March, which will tend to lock snow in place. CRITFC's preseason forecast for The Dalles is 119 maf or 111% of normal. This year, CRITFC began doing consensus forecasting using three independent methods. The consensus forecasts over the past three months all point to a medium-high water supply in 2008. Recently, the Australian Bureau of Meteorology updated their January advisory from a weak to a moderate La Nina. More information is available on the CRITFC website under Technical Reports.

4. Lessons Learned from 2007

Dworshak operations. Last year was challenging, but conditions at Dworshak were managed fairly well given the circumstances, Statler said. A lot depended on the low volume of hot water coming out of Hells Canyon complex in the upper Snake. Typically when Dworshak flows are low, the Snake also has a low water year, Adams said. The biggest challenge the COE had in doing CEQUAL modeling last year was predicting what Idaho Power would do.

A lot is at stake for listed stocks in the lower Snake, Statler said, and it could be disastrous if the system gets overwhelmed by hot water from the middle Snake River that Dworshak releases can't moderate. Statler suggested that there was a need for selective temperature withdrawal features at upstream projects. However, NOAA has found little temperature benefit in providing outflow temperature control on Idaho Power releases at Brownlee Dam, Wagner said. He commended the COE on management of Dworshak flows, recalling that the reservoir was allowed to fill when the model indicated drier conditions than usual.

5. Draft 2008 Fish Operations Plan

Rudd Turner (COE) explained the difference between the FOP, the FPP and the WMP:

- Water Management Plan. COE document that spells out system operations in detail, including reservoir storage levels.

- Fish Passage Plan. Involves specific fish passage facility operations and maintenance criteria, including details such as settings for gates and screens, fish sampling and handling procedures, spill patterns, and tables for operators to use in operating the turbines within the 1% of best efficiency range.

- Fish Operations Plan. Spells out Action Agency commitments for spill at mainstem projects, transportation, and fish passage research. The document is a product of FCRPS litigation and was instituted in 2006 as the Fish Passage Implementation Plan.

The draft FOP was posted to the TMT website January 15, Turner said. At the December court hearing, the defendants proposed to roll over 2007 operations into 2008 to conserve human energy for finishing the BiOp. Minor variations for studies related to new structures, such as the RSW delivered to Lower Monumental Dam last fall, will be allowed. The FOP will be in effect from April through August 2008.

Turner focused on projects where 2008 operations will differ from 2007.

Two new TSWs at John Day Dam will be tested in 2008. Wagner asked what the spill levels will be with the TSWs in place. The FOP says the COE will test either 30% or about 40% around the clock. Modeling has shown that a spill level much over 40% has created poor egress conditions at John Day. The precise spill regime to be used during the spill test will be developed based on model studies to be performed at ERDC beginning the week of January 28. The John Day spill testing during spill season is scheduled to begin on April 22nd and would continue through July 20th. Prior to the start of the spill testing, the project will operate as done last year with no spill during the daytime and 60% of total outflow spilled during the nighttime hours. Upon completion of the spill test, the project will spill 30% of total outflows 24 hours per day. There will be a pre-season balloon tag test there in March or April, Tony Norris (BPA) added.

McNary Dam has two new TSWs. The one in bay 22 has been moved to bay 19 and will be tested this year. Project staff at McNary is working on the gate hoist for spill bay 20. They're offering a contract to modify the spill gate so it can be used to close off the TSWs during transport operations. The court's ruling means the same transportation criteria will be in place for 2008. That will require an early morning outage of the TSWs every other day for up to 4-5 hours during transport operations. Otherwise, McNary will spill 40% day and night in spring, alternating 40% and 60% spill round the clock in summer, as it did in 2007.

Spill reduction or stoppage will be allowed this year at Lower Monumental Dam for research or transport operations. The RSW will be in place at bay 8 next to the powerhouse this spring, and spill will need to be stopped for transportation. When transportation starts will be a TMT discussion as the time approaches, Turner said.

Lower Granite Dam operations will be the same as last year, 20 kcfs spill with the RSW in place in spring, and 18 kcfs spill during summer. Bonneville Dam will probably experience a slight change, with about 30 days of 85 kcfs spill. Spring spill levels will be 100 kcfs round the clock. Summer spill levels start June 21, with 85 kcfs daytime spill through July 20 for testing. After that, the project will spill 75 kcfs in daytime and to the gas cap at night.

Different spill patterns will be tested this summer at Little Goose Dam in preparation for the TSW to be installed in 2009 (not 2008 as planned earlier). Goose operations will otherwise remain the same as last year, allowing TMT to call for up to 14 nights of spill to the gas cap between April 22 and May 15. Ice Harbor Dam will follow the same spill program as last year, with daytime spill at 45 kcfs and nighttime spill to the spill cap. From April 20 through July 16, the above operation will alternate with spill at 30% of total outflow.

Given that the system is supposed to operate based on NOAA's best assessment of best available science, Jim Litchfield wondered how the system can be operated based on the 2004 BiOp once it becomes obsolete. He raised the question, What if mimicking last year's operations turns out to be inconsistent with the new BiOp? Montana is still very interested in seeing the operations of Libby and Hungry Horse dams comply with the Council's recommendations regarding the mainstem amendments, he emphasized.

Paul Wagner noted that, if flows are less than 70 kcfs, transport operations should start on April 6, not April 20. *[Clarification: Wagner and Turner discussed this further after the meeting. Fish collections at Lower Granite for transportation research will begin April 6, while transportation operations in low flow years would begin on April 20.]*

Coordination of transportation research will occur in 2008 as it did in 2007, so there's a new section on page 25 of the draft FOP that covers juvenile fish transport research, Turner said. The avian predation study at Lower Monumental has been added to this section. Appendix 2 deals with turbine unit outages, but doesn't include every outage that will occur because a number of them won't affect spill.

Turner offered TMT a conference call next week to discuss the FOP. TMT agreed to a conference call January 23 for this purpose.

Russ Kiefer (Idaho) asked whether the COE and other TMT members would be open to a proposal from FPAC to smooth out 2008 spill and transport operations. The COE's instructions are to replicate last year's operations and not make changes, Turner replied. Perhaps this issue could be discussed at the next Policy Work Group meeting January 24.

Dave Statler asked, what is the relationship of these planning documents to the deliberation at TMT? He wondered whether TMT is the appropriate forum for discussion of lamprey passage issues. If there's a proposal for how the system should be operated for lamprey, TMT would be an appropriate place for that discussion, Wagner said. TMT takes into account other non-listed stocks that are of importance to the region, such as Hanford populations. Wagner and Tony Norris agreed that changing fish ladder operations for lamprey shouldn't affect

system operations. Wagner and Scott Boyd (COE) suggested working out these changes via FPOM and the FPP.

Part of rolling over 2007 operations means TDG levels will continue to be managed to the 120% tailrace/115% forebay criterion, Turner said. The Camas-Washougal gage will continue to serve as a surrogate for the forebay below Bonneville. TDG levels will continue to be defined as the average of the highest 12 nonconsecutive hours in a day.

6. Updates to the Draft 2008 Water Management Plan

The COE has been waiting for the 2007 BiOp to be finished, Scott Boyd (COE) said. The Action Agencies need to produce a draft that is consistent with the FOP. They will notify TMT members via email when it is ready for review.

7. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,280 feet, with releases to meet power demands and maintain the 11.5-foot tailwater elevation for chum below Bonneville. Hungry Horse is at elevation 3,523.30 feet, discharging 2.6-2.8 kcfs to meet Columbia Falls minimum flows. Two separate BOR forecasts for Hungry Horse predicted that water supplies this year will be 100% of normal.

Libby forebay is at elevation 2,409.9 feet, operating to minimum flows of about 4 kcfs. The January 31 flood control target elevation is 2,410.3 feet.

Albeni Falls continues to operate within a 1-foot range of elevation 2,055-2,056 feet, with fluctuating outflows (16.4 kcfs today, 10.9 kcfs on January 11).

Dworshak forebay is at elevation 1,521.4 feet, continuing to operate at minimum flows. Total outflow is 1.3 kcfs currently, with inflows averaging 1.6-1.7 kcfs over the past week. Inflows at Lower Granite dam were approximately 24 kcfs (7-day average). Inflows at McNary are 125-130 kcfs (7-day average).

b. Fish. There is nothing to report, Wagner said.

c. Power. There is nothing to report, Norris said.

d. Water Quality. There is nothing to report, Adams said.

8. Next Meeting

The next TMT meeting will be a conference call on January 23 to discuss the Fish Operations Plan. The next regular TMT meeting will be January 30, with a briefing on the zebra and quagga mussel rapid response plan USFWS and the PSMFC have been developing; presentation of the draft WMP for comments; a

SRWG trucking proposal; and possibly Spring Creek Hatchery operations on the agenda. This summary prepared by consultant and writer Pat Vivian.

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Tony Norris	BPA
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