

**TECHNICAL MANAGEMENT TEAM
MEETING NOTES
September 25, 2002
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON**

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

1. Greeting and Introductions

The September 25 Technical Management Team meeting was chaired by Cathy Hlebechuk 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 Hlebechuk at 503/808-3936.

2. Bonneville PH2 Corner Collector Construction Schedule.

Doug Clarke of the Corps, project manager for the B2 corner collector project, briefed the TOC on upcoming construction plans and associated special operations needed. He distributed a handout that described the background, current status, construction actions and potential issues associated with the corner collector project. Clarke explained that, basically, what the Corps will be doing is modifying the existing ice and trash sluiceway at Bonneville's second powerhouse; 1998 testing showed that a significant number of juveniles would pass through this chute. The chute was not designed to pass fish effectively, however, Clarke said, so what we're doing is putting a new gate on the upstream end to increase flow through the system, as well as making some improvements inside the powerhouse to transition flow more smoothly. We will also be constructing a transportation channel all the way alongside Cascade Island.

With respect to construction actions, Clarke said that during the construction period (October 17-February 2003) the Corps is requesting a gradually-increasing series of target tailwater elevations at Bonneville, from 14 feet up to 21 feet. Plunge pool, support channel and downstream monolith construction will take place from November 15 through February 28; low-water work, including the placement of the chute on the monolith, will be accomplished from July 2003 through November 2003.

Clarke said the Corps has identified the following potential issues:

- Need for special operations for up to four hours of blasting/bubble curtain to remove several large underwater boulders (the Corps is developing alternatives to blasting, but if blasting is needed, it will take place in early December 2002)
- Chum operations (changing tailwater elevation could impact low-water construction; there will be minimum flows at PH2, up to four units during the in-water work period).

Clarke noted that the total cost of this project is \$55 million; the Corps awarded a \$32 million construction project in July 2002. The contract will be completed in December 2003.

The group discussed the potential impact of tidal effects on the action agencies' ability to maintain the requested tailwater range at Bonneville. In response to a question, Clarke said the contractor will be working 24-hour shifts six days a week. It's important that we get as much done as possible this year, he said, because if we have a high runoff year in 2003, we may not be able to complete this project by next year. Any chance you could start the in-water work sooner? Scott Bettin asked. The construction task force is meeting on October 4 to go through the most recent proposal from the contractor, Clarke replied; there is a chance that some of the work could be done a little sooner, but not a significant amount.

The group discussed the operational nuances associated with this project. Clarke said that is all he has to report at this time; once we make a decision about whether or not blasting will be necessary, we will coordinate further with TMT, he said.

3. Libby November/December Volume Forecast.

Hlebechuk introduced Randy Wortman of the Corps' Hydrologic Engineering Branch, noting that this arm of the Corps is charged with developing the official monthly Libby and Dworshak volume forecasts during the winter months. She noted that Wortman has created a method for developing a fall Libby forecast; usually, we don't have a Libby forecast until the January final forecast comes out. Basically the Corps is experimenting with this tool, in the hopes that we might be able to get a glimpse of what's going to happen at Libby during the winter, so that we can make some decisions about how to operate that project, Hlebechuk said. The question for TMT to consider is, do we want to adopt this tool and base some decisions on it this year? Hlebechuk said.

Wortman then led the TMT through a presentation titled "Update of Libby Statistical Forecast Procedure to Improve Early-Season Forecasts." This presentation touched on the following major subject areas:

- Historic Libby inflow, 1929-2001 (graph)
- Historic April-August runoff, 1929-2001 (graph)
- Historic Libby April-August runoff (graph)
- Libby forecast performance – April 1 forecast (forecast = average) (graph)
- Current Libby forecast model equations
- Libby forecast performance – April 1 split-basin regression (graph)
- Current Libby forecast model standard errors (graph)
- The Libby fall forecast model (graph)
- Libby forecast model standard error comparison (graph)
- New Libby forecast model – November errors, 1949-1999 (graph)
- New Libby forecast model – December errors, 1949-1999 (graph)
- Libby forecast model error comparison (graph)
- Current investigations – climate variables, fall vs. winter models

Wortman also provided information on some of the climate variables factored into this model, including the southern oscillation index (SOI) and Pacific decadal oscillation (PDO) and its correlation with Libby runoff volumes. He ended his presentation with a graph showing the current Libby forecast model (flows) – split-basin regression vs. observed for the period 1948-1998.

Your gut instinct is that you are comfortable with this new approach, and would recommend switching models? Bettin asked. Yes, Wortman replied – the new approach, on the average, is going to give you better guidance, despite the fact that it has errors and occasional anomalies. The TMT devoted a few minutes of discussion to the differences between the new and old Libby forecasting methods; ultimately, it was agreed that the TMT will use the new Libby modeling approach in its 2002/2003 decision-making. The model will be available on the Internet, for those who want to investigate it further, Hlebechuk added.

4. Burbot Life History.

Vaughn from IDFG led this presentation, touching on the following major topics:

- Burbot's circumpolar distribution and unique taxonomy – burbot are the world's only species of freshwater cod
- Burbot size records (up to 24 pounds)
- Burbot growth and longevity (up to 15 years)
- Burbot life stages and food
- Burbot spawning synchrony
- Burbot hatching time
- Burbot swimming endurance
- Burbot activity – diurnal and time of year
- Burbot travel range and speed
- Sensitive burbot life history factors
- Transboundary burbot in the Kootenai River
- Primary burbot study areas (map)
- Objectives of the burbot study – 1993-1994, 1995-present
- Current Kootenai River burbot population estimates (about 540 fish, nearing extinction levels)
- The current burbot study structure, parameters and objectives
- What is needed, currently (an international conservation strategy has been prepared, but a conservation agreement is needed).

What is the status of the conservation agreement? Shane Scott asked. We're working very hard to make that happen, Vaughn replied – the Kootenai Tribe of Idaho, the Idaho Office of Species Conservation, IDFG, Boundary County Commissioners, the City of Bonners Ferry, staff members from the Idaho Congressional delegation, BPA, the B.C. Ministry of Water, Land and Air and the USFWS are all involved in that effort. Are there any insurmountable obstacles in front of such an agreement? We hope there's nothing insurmountable, replied Bob Hallock, but everyone has their interest in this issue, and we need to know exactly what those interests are. We would like to get this agreement in place as soon as possible, he said, but there is still substantial progress to be made. At Scott's request, Hlebechuk said she will make copies of the burbot conservation strategy available to the TMT.

Hallock added that the Kootenai Tribe of Idaho, the Idaho Office of Species Conservation, IDFG, Boundary County Commissioners, the City of Bonners Ferry and USFWS have also collectively endorsed an SOR, SOR 2002-B1, covering a request for limited releases

from Libby Dam for the migration and spawning of burbot in the Kootenai River. This SOR requests the following specific actions:

- Maintain low flows in the Lower Kootenai River below Bonners Ferry for 45 days between December 15 and January 31.
- Flows would be a combination of local runoff and releases from Libby Dam ranging between 4 Kcfs and 10.6 Kcfs.
- Preferably, the releases from Libby Dam would remain below 7.3 Kcfs, the median
- Operate the selective withdrawal system at Libby Dam to release the coldest available water during December and January if a temperature gradient exists within the reservoir.
- The requested operation is to be implemented within flood control constraints.
- The power system is to continue to be operated to assure system stability and public safety.
- The existing BiOp ramping rates will remain in effect.
- This request is subject to favorable analysis of the effects on listed species, and in-season mitigation or adjustments to satisfy their needs.

You're hoping to implement this SOR this year? Wagner asked. Yes, Hallock replied. And is it fair to say that you don't need a decision on this SOR today, but that you would like it to be on the TMT's radar screen as they make decisions about fall and winter operations? Silverberg asked. Yes, Hallock replied.

5. 2003 Water Management Plan.

Scott Boyd said the final draft of the 2003 Water Management Plan has been posted to the TMT website; our hope is to issue a final document by September 30, he said. We're also hoping that Appendix 4, the water quality appendix, will also be finalized by September 30, said Boyd. Dick Cassidy noted that he had requested and received comments on Appendix 4 from the Water Quality Team. We should have a draft of the fall/winter update in time for discussion at the October 23 TMT meeting, Hlebechuk added. With respect to the emergency protocols, she added, the action agencies are still discussing those. How do the salmon managers feel about the current emergency protocols list and notification procedures? she asked. The Salmon Managers will give the Action Agencies feedback on the protocol for notification of emergencies. There is some debate over how TMT members should receive notification and who should send out the notification. Discussions will continue on this issue at the next meeting.

6. Lower River Operations for Chum.

It was agreed to defer discussion of this agenda item until the next TMT meeting.

7. Current System Conditions.

Hlebechuk presented final numbers on the 2002 Libby/Canada swap. Libby ended up 63 Ksfd above its normal August 31 elevation of 2439, she said – elevation 2442. Because of the difference in inflows between the August 8 and August 22 TSRs, however, there was inadvertent storage in Canada, 35 Ksfd above the TSR target. After a brief discussion, it was agreed that a visual aid would be helpful in trying to understand this issue. Norris said Hungry Horse ended August at elevation 3544.7 feet, 103 KAF above its normal August 31 elevation of 3540 feet.

8. Presentation on BPA Financial Choices.

Chuck Maichel from BPA gave the TMT a presentations covering the current Bonneville financial crisis and the “Financial Choices” public process that has been initiated to take regional input on how best to respond to the crisis. Maichel touched on the following major topic areas:

Original Expectations

- The 1998 Cost Review formed the foundation of the expense targets included in the rate case.
- In early 2000, Bonneville set its base rates for FY’02-FY’06 with the expectation that it could achieve its financial objectives. These included:
- Achieving all of BPA’s public purpose responsibilities, including conservation and renewable resources
- Meeting 1,700 aMW load requests above the federal system generation capability at prices in the \$28/Mwh range
- Meeting Fish & Wildlife obligations, including an average increase of \$100 million per year
- Increasing internal operating efficiencies and decreasing costs within BPA, the Corps, Reclamation and the Columbia Generating Station
- Achieving higher than historic levels of surplus sales and revenue and
- Achieving an average wholesale power rate of around \$20/Mwh for “flat” power – no increase over 1996 base rates

However, as all of you are aware, the environment has changed, Maichel said:

- Customers requested 1,500 aMW more service, for a total of 3,200 aMW in excess of the federal system’s generating capability, requiring large purchases from the market at higher-than-expected prices.
- In order to keep rates as low as possible and avoid the need to re-set BPA’s base rates with its customers, BPA adopted a customer proposal to address the significant financial uncertainty through the five-year rate period by implementing a three-part cost-recovery adjustment clause (CRAC) provision in its power rate schedule.
- Market prices skyrocketed, causing the cost of augmenting the system to rise dramatically compared to what was assumed in the base rates. Most of the cost is covered by the Loab-Based (LB) CRAC.
- The non-power portion of the Residential Exchange settlement costs increased as a consequence of rate case negotiations.
- BPA lost \$260 million in FY’01 due to a volatile energy market and drought conditions in the Pacific Northwest.
- We consumed most of our Fish Cost Contingency Fund (FCCF) in FY’01, leaving little for future use.
- We ended FY’01 with low reservoirs, requiring water to be used for refill in FY’02 instead of generation.
- Market prices have since dropped dramatically, reducing the expected revenue from surplus sales.
- Investments in conservation and, since September 2001, increased security measures to

ensure BPA meets its mission obligations, have resulted in increased program expense levels.

Maichel went through a series of graphs showing the major drivers of adverse financial impacts for the FY'02-FY'06 period, as well as the total FY'03-'06 net increase in program costs by major program category. He then moved on to the topic of "Uncertainty Around BPA's Financial Outlook:"

- Given the combination of reduced revenue from surplus sales, the net program cost increases and the reduction in 4(h)(10)(C) credits,
- The total net revenue for FY'02-'06 is projected at \$860 million, with no use of Safety-Net (SN) CRAC and no further use of Financial-Based (FB) CRAC after FY'03.
- There is a 20% probability that the net revenue loss could be eliminated if prices are higher than expected or if we experience greater than average hydro conditions.
- However, there is also a 20% probability that the net revenue loss could double in the event of lower-than-expected prices or lower-than-average hydro conditions.
- Plans to address this net revenue gap need to recognize this large range of uncertainty.

Maichel then moved on to the topic of "Regional Discussion:"

- BPA intends to put a four-year financial plan in place to address its financial condition by the end of this year. The plan must acknowledge the range of uncertainty around BPA's expected financial outlook (e.g., low water, low market prices)
- Before deciding on the plan, BPA needs regional input on the approaches it is considering:

1. Simply letting the established rate mechanisms (FB and SN CRAC) play out over the next four years (which includes cost cuts and capital and expense reductions already in place)
2. Cutting more costs (both capital and expense) down to levels that put mission accomplishments at risk and raising rates as necessary to cover the remaining gap.
3. Taking more risk in paying the Treasury (no SN CRAC).
4. Using financial tools to manage net revenue and cash shortfalls and to push the financial problem into the future.
5. Making a one-time adjustment to FY'03-'06 rates through SN CRAC to achieve a five-year 80% TPP, then applying no further FB or SN CRAC adjustments. Potentially combined with using cash tools to increase FY'03 TPP.

Maichel noted that the public comment period on the “Financial Choices” process ends September 30. After that, he said, BPA will take about a month to evaluate its expenses and the comments received, to analyze various scenarios, and to develop some alternatives for Steve Wright’s consideration. He will then be making his final decisions, and announcing them to the region by mid-November, Maichel said. Any rate increases imposed through this process would be imposed beginning in April 2003, he added.

Has Bonneville actually entered into contracts to deliver that 3,200 aMW in power over and above the capacity of the federal system? Wagner asked. Yes, Maichel replied. And you entered into those contracts while prices were artificially high? Wagner asked. For the most part, that is correct, Maichel replied.

9. New System Operational Requests.

This topic was discussed during Agenda Item 5, above.

10. Recommended Operations.

Recommended operations were discussed during a previous agenda item.

11. Next TMT meeting Date.

The next face-to-face meeting of the Technical Management Team was set for Wednesday, October 8. Meeting summary prepared by Jeff Kuechle, BPA contractor.

**TMT ATTENDANCE LIST
September 25, 2002**

Name	Affiliation
Cathy Hlebechuk	COE
Tony Norris	USBR
Shane Scott	WDFW
Bob Hallock	USFWS

Chuck Maichel	BPA
Paul Wagner	NOAA Fisheries
David Wills	USFWS
Rudd Turner	COE
Tina Lundell	COE
Robin Harkless	Facilitation Team
Donna Silverberg	Facilitation Team
Chris Ross	NOAA Fisheries
Doug Clarke	COE
Blaine Ebberts	COE
Steven Wallace	PacifiCorp
Nancy Yun	COE
Richelle Harding	D. Rohr & Associates
Tim Heizenrater	UBSWE
Kourtney Nelson	UBSWE
Mike O'Bryant	CBB
Scott Boyd	COE
Richard Cassidy	COE
Colin Beam	PPM
Ken Soderlind	COE
Randy Wortman	COE
Tom Lorz	CRITFC

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

September 25, 2002

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.

Bonneville 2nd Powerhouse Corner Collector Construction:

Doug Clark, Portland District COE, handed out a schedule and graph for the construction plans at the 2nd powerhouse at Bonneville. The COE would like to complete construction by December 2003. Chum concerns are being addressed in consultations with NMFS. TMT requested an earlier start than the proposed October 17th date. The COE might begin work a week early, but a test panel needs to be completed first. There are two potential issues for TMT to discuss as the project moves forward: special operations (four hours) for blasting and the effects on chum operations. The COE will coordinate with TMT on this project as needed. For safety reasons and to complete the project in a timely fashion, the contractors requested that alternatives to spill be used during construction. The project contractor is aware of the need for regional discussions as progress continues.

BPA Financial Choices:

Chuck Maichel, BPA, presented a handout on 1998-2000 financial expectations for BPA, deviations from those expectations in the last two years, and options for BPA's four-year financial plan. Options include letting the established rate mechanism play out, cutting costs, taking higher risks in paying the Treasury, pushing the financial problem into the future, and making a one-time rate adjustment to make up for the shortfall. The public comment period for feedback on the options ends on September 30th. All recommendations will be reviewed before BPA makes a decision, and the decision will be announced in mid-November. The decision will be followed by 40-60 rate hearings.

Libby November/December Volume Forecast:

Randy Wortman, COE Hydrological Engineering Branch, gave a presentation on a new model for November and December forecasts at Libby. He showed graphs of the regression model currently being used by the COE, and compared it with the new model. Randy said that, on average, the new approach should provide better information than prior modeling efforts. It was pointed out that five storms create more than 50% of the annual snow pack.

TMT agreed to use the new model as an additional forecasting tool. The forecast model will be available on the TMT website.

2003 Water Management Plan:

The final draft WMP is on the TMT website. There is an additional Appendix 4 that addresses water quality issues. The fall/winter update should be available by the October 23rd TMT meeting. Emergency protocols are still being discussed. The Salmon Managers will give the Action Agencies feedback on the protocol for notification of emergencies. There is some debate over how TMT members should receive notification and who should send out the notification. Discussions will continue on this issue at the next meeting.

Burbot Life History Study:

Vaughn Paragamion, Idaho Fish and Game, gave a report on a burbot study conducted at the Kootenai River. The report is posted on the TMT website. Vaughn noted that the study has not yet gone through a peer review and that statistics are preliminary. He

highlighted some characteristics of burbot, a freshwater cod. Burbot are fecund, have low endurance, have highly-synchronized spawning times and maturity rates, migrate long distances, and spawn in the winter. Flow tests show that lower flows cause an increase in movement of burbot. Idaho Fish and Game are working with other partners to put together an international conservation strategy for burbot.

Action: Cathy Hlebechuk will email the proposed strategy to TMT members.

SOR 2002-B1:

Bob Hallock, USFWS, presented an operation request (for burbot) to maintain low flows in the lower Kootenai River below Bonner's Ferry for 45 days, and to keep water temperatures as cold as possible. TMT was asked to consider the request as they plan operations for the year. This issue will be on future TMT agendas for discussion.

Current System Conditions:

The Libby/Canada swap resulted in the release of 179 ksf days of treaty storage. The final elevation at Libby was 2442'.

Hungry Horse was at elevation 3544.7' on August 31. Tony Norris, BOR, handed out a summary of Hungry Horse operations for September.

Treaty Fishing:

Cathy Hlebechuk distributed a handout showing the COE's compliance with treaty fishing agreements. A letter has been sent out regarding SOR compliance. Meetings will be held to discuss the issue for next year's operations. The last fall tribal fishery began today and will last until 6 pm on Saturday, September 28th.

Next Meeting, October 8, 1:30-4 pm:

Agenda Items:

- Chum Discussions
 - Answers to Questions from 9/3 – OR, WA, USFWS
 - Five Alternative Chum Operations from 9/13 Meeting – COE
 - Plan for '02-'03 Chum Operations
- Notification of Issues/Emergencies
- Post-Season Review: Set Date (*Email topics to Donna Silverberg)

October 23rd Meeting: Agenda Items:

- Report on RSW meeting in Walla Walla
- Modeling results of burbot discussions
- Fall/winter update for WMP