

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

MEETING NOTES

February 7, 2001

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

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

Facilitator's Summary Notes of the Feb. 7, 2001 TMT Meeting

1) Meeting Minutes and process:

The group agreed to adopt meeting minutes at TMT face-to-face sessions. Time will be scheduled on the agenda to discuss any changes to the minutes, rather than one person making changes with which the group may or may not agree. Changes longer than a few words should be brought in written form to ease discussion and aid in the correction process.

Paul Wagner offered changes to the 1/24 meeting minutes to clarify the record on operations for the year. Changes will be incorporated in the web notes.

2) Power & Operations Outlook 2001

Therese Lamb's (BPA) presentation on this year's outlook was intended to both educate and be a spring board for input from TMT. The regional federal executives have been meeting to consider operations and have requested that TMT provide the region with guidance about what the biological objectives ought to be in a year with very low water and very high power prices.

*What should the biological objectives be in such a low water year?

*What reactions or thoughts do TMT members have about the contingency operations in BPA's presentation?

*Do the salmon managers suggest higher priorities for some projects over others?

Therese requested that the group or individuals in the group provide feedback to BPA as soon as possible.

3) Reservoir operations

TMT discussed the appropriate uses of headwater reservoirs this year and reached an impasse on whether or not utilizing HH and LIB now while saving DWK for later is the best strategy. Montana's Jim Litchfield requested that the issue be raised to IT for full consideration of the impacts of such a strategy. He suggested that a spread the risk

strategy may be better for the other "critters" in the upper reaches of the Columbia AND for spring/summer salmon. The group acknowledged a common wish for maintaining headwaters at minimum flows if at all possible. They also acknowledged that low water may foil that wish. In the meantime, the remainder of the group supported the strategy of stepping up LIB and HH flows while maintaining DWK at minimums.

To help save water where possible, BPA's Scott Betting suggested that opportunities to provide water on chum redds from other than elevated BON flows may need consideration. A suggestion was made to find a way to pump water onto the redds, rather than use upriver water to keep elevations at the level they have been.

The group agreed to EXPLORE the possibility, practicality and costs associated with watering chum redds with pumped water. Bettin will report back to the group as soon as he has more information.

4) Operations

The group agreed (with angst) to operate 15 out of LIB, HH at 5, DWK at min, and 1 ft out of GC. BON not to exceed 130kcfs unless needed to meet 11.7 elevation for chum.

The group was reminded of the TMT "Emergency Cold Snap Procedures". These are brought into play when 3 continuous days of 15 degrees below average temperatures are expected in the region. BPA noted that there may be an increased need for load due to power needs outside of the emergency rule. They noted a possibility of up to 20 out of LIB, and promised to convene a conference call if this becomes a reality.

5) Water Management Plan

COE agreed to email the latest draft to TMT members so you may make changes on/in the electronic version. Comments and changes are due back to the COE by Friday the 16th for discussion at the 2/21 meeting.

Facilitator's note: I recommend that a subgroup (or the whole group, if you wish) of TMT meet prior to the 2/21 meeting to work exclusively on the WMP. We are not making any headway on this and NEED to to meet BiOp and NWPPC deadlines. I suggest 10-12 on 2/21. PLEASE let me know if you can/will be there!

Very truly yours, Donna Silverberg, facilitator

Meeting Minutes

1. Greeting and Introductions

The February 7 Technical Management Team meeting, held at the Customs House in Portland, Oregon, was chaired by Cindy Henriksen 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 Henriksen at 503/808-3945.

Silverberg welcomed everyone to the meeting, then led a round of introductions and a review of the agenda.

2. Current System Conditions.

BPA's Therese Lamb provided a presentation on BPA's 2001 Power and Operational Outlook; copies of this presentation are available from Lamb upon request. There are two objectives behind this presentation, Lamb said: to consolidate the information we have about the current water supply situation and its impacts on the power system, and to start talking about what the regional executives have been discussing.

Lamb touched on current water and power supply situations, market prices, the status of efforts to reduce power demand up and down the West Coast, the likely effects of the water situation on fish measures in 2001, and a potential risk management approach. Please refer to Lamb's presentation for detailed information.

Lamb noted that the current (February early-bird) forecast shows a January-July runoff volume forecast of 67 MAF at The Dalles, 63 percent of normal. If this forecast becomes reality, she said, 2001 would be the fourth-lowest water year on record. These below-average streamflows will reduce federal hydrosystem generation by up to 4,000 MW, roughly equivalent to four times the amount of energy used annually by the city of Seattle.

Further complicating the picture is the fact that unit outages and increased power demand in California have made it impossible for California to export generation to the Northwest this winter, as they would usually be doing, said Lamb. The result is an extremely volatile power marketplace; energy prices in December 2000 were 10 times higher than the previous four-year annual average. The daily average market price escalated further in January, from \$175 per MW on January 15 to \$450 on January 19, with hourly prices in excess of \$700.

In an effort to reduce load, Lamb continued, BPA sponsored ads in 17 Northwest newspapers informing the public of measures they can take to conserve energy. BPA also contracted for a total of 1,300 MW in market purchases and DSI load reductions at a cost of \$200 million. BPA also worked with the Northwest governors in their public call for a 1,000 MW reduction in energy consumption.

With respect to the impacts of the power and water supply situation on fish, said Lamb, the Regional Executives have made the decision to meet power demand and keep chum redds

protected this winter, thereby reducing the level of April refill. Given the current forecast, it would be necessary to reduce Columbia River flow at Bonneville to below 100 Kcfs in order to refill Grand Coulee and meet the system's April 10 target elevations. She noted that the Biological Opinion does contemplate both poor water years and power emergency situations; all current operations are within the parameters of NMFS' 2000 FCRPS Biological Opinion.

The objectives of these operations are threefold, Lamb said – to maintain the integrity of the 2000 FCRPS BiOp while maintaining:

- BPA's financial health (sufficient cash flow)
- High probability of meeting BPA's Treasury payment this September
- Balance between 2001 end-of-year reserve levels and 2002 rates.

In response to a question from Kyle Martin, Lamb said BPA is not contemplating mitigation for the poor water year, although some mitigation may be possible for the power system emergency operations. She added that the system is not currently in an emergency mode, although Bonneville would characterize this entire water year as an emergency.

Lamb touched briefly on the power system emergency provisions in the 2000 FCRPS BiOp; she added that the most recent power system emergency declaration is consistent with the TMT's emergency protocols in that it was announced through the TMT, the actions and responses have been described during weekly TMT meetings, and the fact that, during weekly meetings, TMT participants have had the opportunity to ask questions about the rationale for actions and associated risks, and to suggest alternative operations.

Lamb then went through BPA's proposed risk management strategy for 2001 system operations; she noted that no decisions have been made on this proposal by the Regional Executives:

- Step 1: Identify failure for each risk (power system reliability, BPA financial health, biological harm to fish)
- Step 2: Define a contingency operation that can avoid failure to all identified risks
- Step 3: Identify indicators that may trigger the contingency operation.

Please refer to the text of Lamb's presentation for further details on each of these steps.

A 2001 contingency operational proposal might look something like this, said Lamb, adding that the TMT's input on these measures would be helpful:

- Operate to a Bonneville tailwater elevation of 11.7 feet/130 Kcfs flow during February and March
- Will not refill at all projects by June 30
- Could have a reduced spring or summer spill program
- Emphasis on summer flow and spill to the extent possible
- A planning operation that will be adjusted by indicators throughout the migration season.

Lamb then went through BPA's calculations of the monthly probability that, under the BiOp and potential contingency operations, Bonneville's cash reserves could drop to unacceptably low levels. She noted that, under the BiOp operational scenario, there is a 67% probability that BPA's cash reserves could reach zero during the month of July, due to the need to purchase power during the month of June so the projects can refill

and spill can occur. She added that a 20% probability that cash reserves could reach zero is all BPA is willing to tolerate.

Lamb highlighted anticipated monthly streamflows at Lower Granite and McNary under both the BiOp and contingency operations (an average of about 150 Kcfs at McNary during the months of May, June and July, followed by about 125 Kcfs during the month of August, receding flows at lower Granite, from about 80 Kcfs during May down to 20 Kcfs during August). Lamb also touched briefly on the current status of BPA's energy exchanges with the California ISO.

Nielsen observed that BPA anticipated the possibility of such a poor water year in its consultations on the 2000 FCRPS BiOp; the only thing that has really changed is the price of power, he said. That's true, Lamb replied; current power prices are four to five times higher than the prices anticipated in the analyses BPA ran during consultation.

In response to a question, Lamb said the significance of BPA's emphasis on making its Treasury payment is that missing that payment would mean dire political consequences for BPA and the region. The outside perception is that the Northwest is fortunate to have a lucrative hydropower system, said Jim Litchfield; if BPA fails to make its Treasury payment, then the Congressional response is likely to be, if BPA can't pay its bills, perhaps they shouldn't be managing that system.

The Regional Executives would like the TMT's reactions and thoughts about these contingency operations, said Lamb; any thoughts you might have about spring flow vs. refill, as well as the 2001 spill program, would also be helpful. What is the contingency spill operation? Wagner asked. No spill in April, minimum BiOp spill during the rest of the spring and full spill during the summer, Scott Bettin replied.

One observation, said Nielsen – this presentation talks about through the end of August, but the reality is that the effects of this situation will likely linger into next winter and beyond. I agree, said Lamb; all we can hope is that the water situation and/or the energy price situation will begin to change by then.

In response to a question from Wagner, Lamb said BPA will be making this same presentation to IT tomorrow. In terms of the time-frame for the TMT's response to these risk management proposals, Lamb said the sooner, the better. Litchfield noted that these are the very topics the TMT needs to address during its development of the 2001 Water Management Plan. We can also begin to discuss at least a portion of the contingency operation when we talk about recommended operations, Pat McGrane observed.

Litchfield asked whether it would be possible for NMFS to develop some analysis of the biological implications of the projected 65 MAF runoff year, similar to what BPA has developed for the economic side. That would be helpful, in the context of our deliberations on the contingency plan, Nielsen said.

The group devoted a few minutes of discussion to Lamb's presentation; Litchfield observed that the two variables that will trigger the contingency operation – water supply and market prices – are completely beyond anyone's control. That's true, Lamb agreed; all we can do is continue to run these analyses as new information comes in. I would suggest that, given what we've heard today, the TMT needs to be as conservative as possible, particularly when it comes to making operational recommendations that will affect our operations later in the season, Litchfield said. The group discussed likely weather patterns in the coming months; Martin said there is some analysis that suggests that the Northwest is entering a new El Niño cycle, which will peak in September 2001.

Is there agreement with Jim Litchfield's suggestion that the TMT be as conservative as possible with its available resources? Silverberg asked. It depends on your definition of "conservative," Nielsen replied – I suspect that my definition of conservative and Jim's may be somewhat different. Perhaps "cautious" would be a better word, said Litchfield; my point is mainly that this will not be a forgiving year if we choose the wrong operations. We need to be as sure as possible that whatever water we have to use is applied to the highest and best biological purpose.

Pat McGrane provided an overview of current conditions at the Reclamation storage projects. Currently, he said, Grand Coulee is at elevation 1239; elevation at that project dropped 27 feet during the month of January. Hungry Horse is currently at elevation 3508, and is releasing 3.8 Kcfs. Henriksen said Libby is currently at elevation 2403, down from elevation 2411 on January 1. Libby is currently releasing 10 Kcfs. Henriksen said Dworshak is currently at elevation 1506 feet, down 12 feet from its January 1 elevation. Dworshak began releasing 6.2 Kcfs on January 23, Henriksen said; on February 2, we backed that project off to minimum outflow.

In terms of future operational scenarios, said McGrane, Reclamation has done some model runs showing expected discharges from Hungry Horse and Libby vs. refill probability at these projects. The bottom line is that, if Libby and Hungry Horse reduce outflow to minimum, Reclamation is now estimating that both projects will be 5 feet from full on June 30; if Libby continues to release 10 Kcfs and Hungry Horse releases 4 Kcfs (the current operation), both projects will be approximately 12 feet from full on June 30; if Libby discharge is increased to 13.5 Kcfs and Hungry Horse discharge is increased to 5 Kcfs, both projects will be approximately 18 feet from full on June 30.

What are the TMT's thoughts on the current operation? McGrane asked. It doesn't meet the chum criteria or the power system reliability criteria, said Robyn MacKay. It was observed that Dworshak operations need to be added into this mix; the TMT hasn't actually made a recommendation about Dworshak operations. We did discuss it at the January 31 TMT conference call, said Bettin. Henriksen added that it was the Federal Executives who made the decision to reduce Dworshak outflow to minimum. Does the TMT agree with that decision? McGrane asked. My understanding was that we were going to discuss the Dworshak operation today, said Litchfield, and I would still like to have that discussion. It would be helpful if we could add the effects of various operational scenarios at Dworshak to Pat's chart, he said -- is there a significant chance

we can completely refill Dworshak this year? Will we be able to store enough water at that project to make a difference later this summer?

The group devoted a few minutes of discussion to the complex question of refill probabilities at various headwater storage projects under multiple operational scenarios. Litchfield said his concern is that the benefits of refilling Dworshak may not outweigh the negative impacts caused by that operation on the Columbia portion of the system.

Henriksen said the Corps has also done some model runs, one of which shows the required end-of-month elevations at Dworshak if that project is to have a 95% confidence, 70% confidence, 50% confidence, 30% confidence and 5% confidence of refill this year. Given the current elevation at Dworshak, said Henriksen, the Corps is estimating that there is about a 70% chance that Dworshak will refill completely in 2001, if we continue to release minimum outflow. This is very helpful information, Litchfield said.

If we were to do a proportional draft and spread the pain, it seems to me that would give us at least some water for both the Columbia and Snake sides of the system, Litchfield said. Even if we can avoid using Dworshak for spring flow augmentation, which is no certain bet, given the recent history of this group, there is still only a 70% chance the project will refill this year, he said. If we choose that operation, that means we'll have to draft Libby and Hungry Horse more heavily, which means there won't be a great deal of water available for the sturgeon pulse or bull trout operations this year, said Litchfield.

McGrane asked which TMT members feel the minimum outflow operation is a better choice than Litchfield's "share the pain" suggestion. Nielsen asked how much of the current operation is for chum, and how much is for power. That's a relevant question, said Litchfield – if the salmon managers said, forget the chum, drop Bonneville flows to 110 Kcfs, would BPA accommodate that? We couldn't accommodate that request during all hours, Bettin replied.

McGrane suggested that, as loads drop later this spring, in order to allow for increased headwater storage, the TMT may want to find some additional, creative ways to keep the chum redds watered up at a lower flow, such as watering the redds with irrigation pumps. That was done successfully on the Rogue in 1977, Dick Cassidy observed. The only problem is that that won't get the emergent fry out of the gravel, said Nielsen. Correct, said Bettin – you would need to bring flows up for part of each day to flush the fry out of the gravel.

Is it fair to say that the TMT is in favor of storing as much water as possible for use later in the season, with headwater projects at minimum outflow? McGrane asked. Litchfield, Wagner, Nielsen, all answered that, if it was possible to store more water, from a power system reliability and chum protection standpoint, they would be in favor of such an operation. The second question is, given the opportunity to drop flows at

Bonneville, would you support doing that if the redds can be protected through mechanical watering, or even if it would mean dewatering the redds? McGrane asked. From Reclamation's standpoint, I would say yes and yes, although I'm not sure about the dewatering proposition, McGrane said.

So if it is feasible to keep the redds mechanically watered, would the TMT support reducing lower river flow in order to store some additional water in the headwater storage projects? McGrane asked. In response to a question, Bettin said the technical feasibility of the mechanical pumping option is unknown at this point, although it appears doable. There are also permitting and land access issues that would need to be resolved, he said; it would also make sense to wait until after the Spring Creek Hatchery release, so that the chinook smolts aren't impacted by the pumping operation.

Lamb observed that, while McGrane's questions are pertinent, the real question that has to be answered this week is whether the current operation should continue, or whether more of an effort should be made to share the pain among all of the upstream storage projects, in terms of maintaining the 11.7-foot tailwater and 130 Kcfs maximum flow parameters at Bonneville. Litchfield said he is very concerned about the current elevation at Hungry Horse; there is very little probability that project will refill this year.

After a few minutes of additional discussion, Wagner said NMFS recommends that the current operation continue, with the recognition that it could cause some hardships at other storage projects. I understand NMFS' rationale, said Nielsen; however, Washington is concerned about the listed species in the Mid-Columbia as well as those in the Snake. If put on the spot, however, I would support NMFS, with the understanding that that concern exists, Nielsen said. David Wills said the Fish and Wildlife Service would also support NMFS' decision, with the caveat that he has not discussed this issue with the Service's policy people. Litchfield observed that Dworshak is a much more efficient delivery-point for water for chum, compared to Libby and Hungry Horse. He advocated a more balanced operation, which would lessen the severity of the current operation's impact on refill probabilities at Libby and Hungry Horse.

Basically, we need to make a decision today about where the increased draft is going to come from – Libby, Hungry Horse or Dworshak, said Bettin, because we can't continue to draft Grand Coulee by more than one foot per day. After a few minutes of additional discussion, McGrane said what he is hearing, from today's discussion, is general support for NMFS' recommended operation, with the exception of Montana; in addition, he said, I'm hearing general support for reducing lower river flows later this spring if it is possible to mechanically water the redds.

Is anyone opposed to continuing the exploration of creative redd-watering technology? Silverberg asked. We deeply regret the situation nature and the power problems have put us in, said Nielsen; WDFW would not oppose such an effort if it comes to that, although there are certainly some potential problems. Litchfield said Montana definitely supports pursuing this option. The NMFS, Fish and Wildlife Service, Reclamation, Corps and BPA representatives at today's meeting all expressed their

support for exploring the redd-watering idea. Cindy and I will talk to Oregon and Idaho about this question as well, said Silverberg.

What about the current operation, said Silverberg – does Montana want to raise this issue to IT? I think it would be beneficial to discuss the Snake/Columbia tradeoff at IT tomorrow, Litchfield replied – it's a very important decision, and people need to understand the tradeoffs. I think we should also note that there is general TMT agreement that outflow from the headwater storage projects be reduced as the opportunity presents itself, said McGrane. No opposition was voiced to this suggestion.

After a few minutes of additional discussion, Litchfield said he isn't necessarily suggesting that this issue be elevated to the IT, only that IT needs to fully understand all of the implications of this issue. Bettin suggested that Dworshak outflow be increased today and tomorrow, by 5 Kcfs, to 6.4 Kcfs, in order to fill in the anticipated reduction in Grand Coulee outflow. We can maintain that through tomorrow, he said, and wait until the IT makes its recommendation. The other question is whether or not we want the IT to make a decision about our long-term operational strategy, Henriksen said.

What NMFS will say at IT tomorrow is what NMFS has already said on this issue, said Wagner – that Dworshak is a higher storage priority than Grand Coulee and the Montana projects. In other words, he said, the likely answer you'll get tomorrow is the same one NMFS is giving you today. MacKay said her preference would be to bring Libby up to 15 Kcfs and Hungry Horse up to 5 Kcfs in the near-term, ramping back down on the weekends. We can continue to evaluate Grand Coulee elevation in light of the changing water supply forecast, she said.

So the TMT needs to do some thinking about long-terms strategy between now and next meeting, Silverberg said. The question I have is the fact that the federal executives wanted this group to make this decision, while the TMT is now planning to ask the IT to make this call, she said. Is that a problem? Mainly, I would like the IT to fully understand all of the implications of this decision for all of the listed species, not just those in the Snake, Litchfield said – to me, a proportional draft of all of the projects makes more sense.

To be clear, said Henriksen, does this issue need to be elevated to the IT? Wagner summarized the proposed operation as follows: increase Libby outflow to 15 Kcfs, increase Hungry Horse discharge to 5 Kcfs, keep Dworshak at minimum outflow, and discuss the wisdom of this operation at tomorrow's IT meeting. No disagreements were raised to this suggested operation. The group also briefly discussed potential cold snap operations, given the fact that up to two weeks of below-normal temperatures are expected starting this Friday. It was observed that, if the cold snap procedures go into effect, it may be necessary to increase Libby discharge up to 20 Kcfs.

Shall we agree to convene an emergency TMT conference call if it becomes necessary to increase Libby outflow above 15 Kcfs, or Hungry Horse discharge to more than 5 Kcfs? Lamb asked. No disagreements were raised to this suggestion.

A few minutes of additional discussion were devoted to the precise constraints agreed to regarding the maintenance of the 11.7-foot tailwater elevation below Bonneville; Wagner observed that it is important to achieve clarity on this issue, because it will help the TMT to figure out any necessary mitigation later. It gets back to the question of what portion of the current operation is for chum protection, and what portion is for power operations, Wagner said; we probably need to talk about this internally at NMFS before I can give you the answer you seek.

3. New System Operational Requests.

No new System Operational Requests were submitted prior to today's meeting.

4. Recommended Operations.

Recommended operations were summarized during Agenda Item 2.

5. Discussion of How to Process Changes to TMT Minutes.

Henriksen said one of the things the group agreed to talk about today was how to handle the meeting minutes each week. We thought this might be a good time to discuss this topic again, she said; as you know, we post the minutes as soon as they come in, usually on Friday or Monday following the meeting. One question is how to handle any changes or corrections to the minutes, she said; we typically allow a week for any changes people would like to make. Are there any other thoughts about how changes should be made? Henriksen asked.

My understanding is that we're to review the minutes prior to the meeting, and bring any changes to the next meeting, said Wagner; after a week, the minutes are considered final. He provided an example from the January 24 TMT meeting; the group briefly discussed this change. Bettin suggested that the group devote some time to the discussion of any changes to the last two weeks' meeting minutes at each face-to-face meeting of the TMT; no disagreement was raised to this suggestion. It was agreed that any extensive changes will be provided in writing, while minor tweaks can be provided verbally.

Henriksen said she will make Wagner's requested change to the January 24 meeting minutes, and will post the revised version of the minutes to the TMT website.

6. Extent of Need for Meeting Time for Information Review.

Discussion of this agenda item was deferred until the next TMT meeting.

7. Review of Water Management Plan.

Boyd said he had incorporated comments received from Pat McGrane into a new draft of the Water Management Plan; that new draft is now available on the TMT website. He agreed to email electronic copies of the current draft of the WMP to the TMT membership, and asked that the group review this document and develop any comments they may have. These comments are to be submitted to Boyd by Friday, February 16, for discussion at the February 21 TMT meeting. .

8. 2001 TMT Process to Develop Operational Recommendations.

Discussion of this agenda item was deferred until the next TMT meeting.

9. Update on NWPPC Request for TMT Decision Rationale.

Discussion of this agenda item was deferred until the next TMT meeting.

10. Next TMT Meeting Date.

The next face-to-face meeting of the Technical Management Team was set for Thursday, February 21. Meeting notes prepared by Jeff Kuechle, BPA contractor.

TMT PARTICIPANT LIST

February 7, 2001

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