COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

May 18, 2005

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.

Comments on Notes

In the April 6 discussion of snow covered areas at Dworshak, the facilitator notes were changed, per suggestion from a TMT member, to read "Idaho and Oregon *directly challenged* the COE's methodology" rather than "*questioned*". The Oregon and Idaho representatives clarified that their intention was to question, not challenge, the COE's analysis. They will check the notes and get back to the facilitation team if a further change to the notes is desired.

Hanford Reach Update

Russell Langshaw, Grant County PUD, provided follow-up information from the 5/4 TMT meeting, that the causes for the exceedances on 4/26 and 5/1 were due to Wannapum testing and excess inflows. Russell reported on operations for May 9-15, which showed a weekly average of 144.5 kcfs. Inflows ranged from 125.5 kcfs to 147.4 kcfs. Exceedances occurred on 5/12 due to Priest Rapids and Wannapum inflows, and on 5/15 due to operator error – this prompted the PUD to develop operating protocols for the operation. The minimum weekend flows will be in effect through the upcoming weekend, using a Mon-Thursday average. End of emergence occurred last week. The PUD will operate to stay within the band constraints (but no daily minimum) until 400 temperature units are reached.

Q Adjust/ESP:

The Q Adjust and HYSSR ESP were updated based on the May final water supply forecast.

Q Adjust: Julie Ammann, COE, highlighted changes from the last model run, which included: Priest Rapids meets 135 kcfs flows through May, then 130 kcfs in June; Grand Coulee fills to 1288'; and Dworshak goes to minimum flows May 19-31.

ESP HYSSR: The ESP model included observed precipitation and runoff through May 17. Lower Granite, Grand Coulee and The Dalles showed higher volumes than the official water supply forecast. Libby showed lower, Dworshak showed higher, and Hungry Horse showed lower volumes than predicted with the water supply forecast. Grand Coulee met 1288' refill in over ½ of the years modeled, and refilled to 1290' in 1/3 of the years modeled. Priest Rapids meets 135 kcfs in May for all years, with June

showing 110-170 monthly average flows. A question was asked about why Libby showed lower refill with ESP than Q Adjust? The ESP model assumed an 800 kaf sturgeon pulse operation, but has less volume than QADJ. It was clarified that in ESP, Dworshak targets 1598' end of May elevation and remains consistently above minimum flows given the observed water supply in May so far. Q Adjust assumes a lower water supply so does go to minimum flows to meet 1598'. It was further clarified that Dworshak operations up to this point have been driven by flow augmentation, not flood control, operations. The Nez Perce representative offered that the operation has been good so far, and encouraged the COE to continue operating with both objectives (refill and providing augmentation for fish) in mind as the season continues.

Flow Augmentation Volumes

The COE provided graphs of predicted volumes at the following three projects, given the current water supply forecast and model runs discussed above:

Dworshak – The model showed that for May 16-June 30, Dworshak has 55 kaf (50% risk (or most probable), COE's prediction for most likely) volume available for augmentation. At 70% risk, the project has 180 kaf, and at 30% risk, there is no volume left. The probabilities in the graphs refer to runoff, not refill.

Libby – Including the expected sturgeon pulse operation, there is 132 kaf (50%, COE's prediction for most likely), 311 kaf (70%), or no (30%) available water for augmentation at Libby. (This graph is lower than the regression equation.)

Hungry Horse – Showed 365 kaf (50%, COE's prediction for most likely), 439 kaf (70%) or 289 kaf (30%) available water for augmentation. The BOR is operating Hungry Horse at 6 kcfs out, and will try to maintain this outflow for the rest of the season.

Dworshak Operations Update

Dworshak is currently at elevation 1592.5' and reduced outflows to 12 kcfs on Monday (5/16) afternoon. The COE expects inflows to recede over the next few days. Flows at Lower Granite reached 124 kcfs yesterday, 5/17. The salmon managers recommended that the COE operate on a progressive straight line to refill to 1600' at the end of June, as a top priority, and with the objective of providing flows for fish now. The COE responded that this recommended operation may not get Dworshak to full if June flows drop significantly. Nez Perce offered that with the recent rain events, Lower Granite has sufficient flows, so recommended the COE reduce the risk of refill by adding more water in May. The salmon managers agreed that the operation should continue to be monitored and the risk of refill assessed as the season continues. After further discussion, the group agreed to the following:

ACTION: The COE will refill Dworshak by ~2-2.5' per week in May, then about 1-1.5' in June. If Lower Granite flows remain high (100 kcfs), add additional water to Dworshak refill in May. To support the priorities, outflows will reduce to 10 kcfs in the next week. The COE will send an email to TMT specifying the operation over the next two weeks. There will be a check-in on Dworshak operations at the 6/1 TMT meeting.

Update: The COE sent the following email to TMT on 5/18: *As discussed today at TMT, the Corps has made an analysis and determined this operation for Dworshak:*

May 19 12,000 cfs until the evening, then reduce to full load (about 9500 cfs)
May 20 - May 27 continue at this level. Expect to fill about 3' during the week.
Evening of May 27 reduce to about 7300 cfs (1 big and 1 small unit). Continue through May 31
Evening of May 31 reduce to about 5100 cfs (the big unit).

We are attempting to fill more this week (about 3') and about 1' the following week as Lower Granite flows are forecasted to be higher this week.

Priest Rapids Operation Update

The action agencies will target 135 kcfs weekly average flows through May at Priest Rapids; this is a Monday-Sunday operation.

Libby SOR 2005-FWS-1

The USFWS presented an SOR based on the May final volume runoff forecast of 5.189 MAF, which suggests a tier 2 sturgeon pulse operation. More detailed specifications can be found in the SOR, which overall requests operating Libby at 15 kcfs on 5/19, ramping up to 25 kcfs by 5/23, ramping down from 5/28 to 5/30, ramping back up on 5/31, and back down to 15 kcfs and holding from 6/2-6/14 to utilize the minimum tiered volume of 800 kaf. The request was intended to support USGS modeling and female sturgeon collection.

The COE responded that the operation at this point looks feasible to implement while still meeting other system operation objectives.

ACTION: In order to operate to 15 kcfs on 5/19, the COE noted that they would need to exceed ramp rates set out in the USFWS 2000 BiOp; Bob Hallock, USFWS, responded that this exceedance was acceptable. Also, for safety purposes, the COE recommended ramping to 9 kcfs at 5:00 pm today (5/18) and the additional 6 kcfs tomorrow at 6 am to reach 15 kcfs. This also was acceptable to the USFWS. BPA requested that the ramp-down operations occur at night, to which the USFWS responded was not a biologically feasible operation. The COE will proceed with the operation as requested, with the slight change noted above of a two-step ramp to 15 kcfs by 5/19. There will be a check-in on Libby operations at the 6/1 TMT meeting.

Spill at the Dalles: SOR 2005-12

The salmon managers requested that the action agencies provide 40% daytime spill at John Day for the next week in order to adjust for limited spill at The Dalles due to restricted spill gate operations. In essence, the salmon managers requested a 1:1 spill swap at the two projects to benefit high numbers of migrating juvenile steelhead and chinook.

The COE responded that, given earlier discussions about the anticipated limits at The Dalles this year and no previously discussed expectation of a spill exchange, more information was needed about the biological impacts/benefits to fish that would result from the requested operation. The salmon managers said that since there is additional water in the system, chinook and steelhead could benefit from additional daytime spill at John Day. NMFS noted that this operation could be seen as an opportunity to support survival. The COE did not feel this was a technical issue, but a policy discussion was needed about an adjustment and whether the BiOp specifically addresses offset operations such as the one requested in SOR 2005-12. Other TMT members felt the issue was technical, and that it should be resolved, if possible, through the TMT.

ACTION: The COE and NOAA agreed to further discuss the SOR and biological benefits to the requested operation. If necessary, an IT call would be scheduled for tomorrow, 5/19, to further discuss the issue.

UPDATE: TMT Follow-Up Conference Call 5/19
The TMT held a conference call on Thursday, May 19. More detailed notes of the full discussion can be found attached to the 5/19 meeting on the TMT web page. The following is the resulting action that came out of that discussion:

ACTION: Beginning Saturday morning, 5/21, operators will try to reach the objective in the SOR of spill at John Day to 40% daytime, through the weekend. The action agencies will check in on Monday, 5/23, and decide how to proceed with the rest of the 7-day period, given TDG, fish run timing and other monitoring data that becomes available. Cindy Henriksen, COE, will email a notification to TMT about any changes to the operation that are made, and anyone that so desires can request a TMT call.

Operations Review
Reservoirs – Libby is at elevation 2433' and releasing 4 kcfs. Grand Coulee is at 1250.5'. Hungry Horse is at 3550.5', with 16 kcfs in and releasing 6 kcfs. Dworshak is 8' from full. Priest Rapids will continue targeting 135 kcfs this week. Lower Granite exceeded 85 kcfs last week, peaking at 124 kcfs, and is expected to recede in the next week. McNary exceeded 220 kcfs last week. It was noted that upper Snake River flow has improved, and there will be water available for the Payette and other BOR projects. Tony Norris will update TMT on this at the 6/1 meeting.

Fish – Ron Boyce, Oregon, reported that yearling chinook numbers peaked last week; numbers are still strong at Little Goose and downstream. Similarly, steelhead peaked last week. The timing of increased flows was very good for migrating fish this year.

Power system – The CGS is still refueling.

Water quality -–There have been TDG exceedances at Lower Monumental and Ice Harbor tailwaters due to higher flows/involuntary spill. Cascade Island is being used to manage spill at Bonneville, and has been slightly above 120% TDG. Albeni Falls has

been spilling 19.5 kcfs and is exceeding the 110% standard, even with spill being spread through all bays.

Spring/Summer Update
There have been some minor updates to the WMP Spring/Summer update, including using the April final water supply forecast consistently throughout the document, and some other minor clarifications. The final is posted on the TMT web page.

Next Meeting, Wednesday, June 1, 9am-noon
Agenda Items include:

- Review of Notes
- Hanford Reach
- Dworshak Operations Update
- Priest Rapids Operations Update
- Libby Operations Update
- John Day Spill Update
- Operations Review
    - BOR projects and available water

1. Greetings and Introductions.

Today's Technical Management Team meeting was chaired by Cindy Henriksen and facilitated by Donna Silverberg, who led a round of introductions and a review of today's agenda. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these notes should contact Henriksen at 503/808-3945.

2. Hanford Reach Update.

Russell Langshaw said that, at the last TMT meeting, he had agreed to provide an explanation of the flow band exceedences that occurred in late April and early May. He said that the April 26 exceedence was due to the Wanapum testing, which required Grant PUD to release more water from Priest Rapids. The May 1 exceedence was caused by the fact that more water was coming down the system than could be held at Priest Rapids.

Moving on to Hanford Reach fish protection operations, Langshaw said that, for the week ending May 15, average Priest Rapids discharge was 144.5 Kcfs; the band constraint ranged between 40 and 60 Kcfs. The bands were exceeded on May 12 (by 11.9 Kcfs) and May 15 (by 8.6 Kcfs). The reason for the May 12 exceedence was that Priest Rapids and Wanapum reservoirs were full, and inflows exceeded capacity; the reason for the May 15 exceedence was operator error. Weekend protection flows will end on May 23, said Langshaw. He said he will provide a further update at the next TMT meeting.

3. Recent QADJUST Runs.

We have been updating the QADJ runs and ESP/HYSSR runs to reflect the May final water supply forecast, said Henriksen. Julie Ammann reminded the group that the QADJ run shapes the available "cup" of water 69 different ways, based on the historic record. According to the most recent run, Priest Rapids meets its 135 Kcfs flow objective in May in 63 of the 69 years; it meets a June flow of 130 Kcfs in 59 of the 69 years. The May and June flow objectives at Lower Granite and McNary will almost certainly not be met. With respect to refill probability, Libby, Hungry Horse, Dworshak and Grand Coulee are almost certain to refill by June 30 (Grand Coulee to 1289.6). The QADJUST run also includes the following table of period average outflows:

	Observed APR 16-30	May	June	July	AUG 1-15	AUG 16-31
Libby	4	11.1	14.2	20.2	18.8	16.1
HGH	7.2	4.9	5.8	5.8	5.4	4.2
GCL	82	123	118	120	104	99
PRD	95	140	140	131	110	103
DWR	5.4	8.1	4.3	10	10	9
BRN	12	13	12	9	9	9
LWG	45	66	57	32	25	23
MCN	147	201	188	156	132	124
TDA	143	200	180	152	130	123
BON	153	202	181	154	132	125

Moving on to the most recent ESP/HYSSR run, Ammann explained that this represents the current starting conditions, plus historical weather patterns from the 44-year historic record. This forecast is somewhat more pessimistic than the QADJ results, said Ammann. According to this model, Priest Rapids will meet its May and June flow of 135 and 130 Kcfs, respectively, in 44 and 20 of the historic years, respectively. The ESP run also shows that Libby would refill in only 27 of the 44 historic scenarios, but Hungry Horse, Dworshak and Grand Coulee are more certain to refill by June 30 (Grand Coulee to 1288.8). The ESP/HYSSR run includes the following table of projected period average outflows:

	Observed APR 16-30	May	June	July	AUG 1-15	AUG 16-31
Libby	4	11	13	16.3	16.8	15.8
HGH	7.2	4.5	3.3	5.2	5.5	4.4
GCL	82	117	116	120	110	105
PRD	95	135	129	126	113	108
DWR	5.4	10.6	5.5	10.1	10.1	10.3
BRN	12	18	11	8	11	12
LWG	45	84	59	32	29	29
MCN	147	231	192	161	145	140
TDA	143	235	186	159	145	141
BON	153	238	189	161	147	143

In response to a question from Dave Statler, Ammann said that, if Dworshak inflows are lower than the historic average, Dworshak may have to go to minimum outflow for a couple of weeks in late May. In response to another question, Henriksen said the releases to date from Dworshak have been primarily driven by a desire to augment flow in the Lower Snake, not by precipitation events. We've been lucky so far, said Statler – it may be time to re-examine that operational priority in order to avoid having to go to minimum outflow at Dworshak to ensure refill. It's a balancing act every year, he said, but if we can manage that project so that it refills without having to go to minimum outflow, that would be helpful. And we will discuss Dworshak operations in more detail later in today's agenda, said Silverberg.

Litchfield asked about the discrepancy between the Libby runoff forecasts in the QADJ and ESP runs. Ammann replied that she doesn't have a good answer for that question, but said it has to do with the different assumptions used by the Corps and the National Weather Service.

4. Flow Augmentation Volumes at Headwater Reservoirs.

Henriksen said that, at Dworshak, according to the water supply forecast developed using a regression equation, and the 50% probable forecast, only 55 kaf of available flow augmentation volume remains above minimum flow.

The group discussed the implications of this information. Russ Kiefer noted that, as the action agencies have repeatedly observed, the salmon managers are not reservoir operators; what the salmon managers need is the

action agencies' best estimate of how much flow augmentation volume is available. Henriksen replied that this range – from -69 kaf assuming 70% probable forecast of Dworshak inflow to 55 kaf assuming 50% probable inflow forecast to 160 kaf assuming 30% probable inflow forecast refill – is the best estimate available at this time. It sounds, then, as though there is a real possibility – 30-50% – that Dworshak will not refill in 2005, observed Litchfield. That's correct, Tony Norris replied.

Henriksen said that, at Libby, assuming a 50% probable inflow forecast, the current forecast shows 132 kaf of available flow augmentation volume. If 70% probable inflow forecast is assumed, there is a slight deficit; assuming 30% probable inflow forecast, 311 kaf would be available for refill. She added that this forecast assumes an 800 kaf sturgeon "pulse."

At Hungry Horse, assuming a 50% probable inflow forecast, 365 kaf would be available for flow augmentation; assuming 70% probable inflow forecast, 289 kaf; assuming 30% probable inflow forecast, 439 kaf. Norris noted that, given the current 6 Kcfs discharge from Hungry Horse, some of the available flow augmentation volume is already heading down the hill.

5. Dworshak Operations Update.

Henriksen said that, as of midnight last night, Dworshak was at 1592.5 feet. Dworshak had been releasing 15 Kcfs; that was reduced to 12 Kcfs on Monday afternoon. Warm, dry weather is expected through the weekend, so Dworshak inflows are already beginning to recede – from 12 Kcfs yesterday to 10 Kcfs today, at Canyon Ranger Station. Actual inflow to the project yesterday was 18.6 Kcfs, but it is dropping as well. The volume remaining to fill at Dworshak is about 140 kaf. Yesterday's outflow at Lower Granite was 124 Kcfs; the average for the past week was in excess of 85 Kcfs. Since last Wednesday, there has been rain in the area, which has helped increase Lower Granite outflow.

We need to decide what to do at Lower Granite after today, Henriksen said. After a brief caucus break, Wills said the salmon managers would like to see a progressive straight-line refill to the end of June at Dworshak, based on actual inflows and the water supply forecast. Our preference is not to reach 1598 by the end of May, because that would not be a straight-line refill, he said. We're seven and a half feet from full now, said Kiefer; we would like to see the action agencies refill Dworshak in a straight line, to the best of their ability. That gives us more water in the river now, while inflows are higher, said Wills; what we're trying to avoid is filling the project too soon.

That means a fill of approximately 1 foot per week, Henriksen observed. We are willing to try to manage outflows such that, across the week, we'll have a relatively steady outflow, she said. Ammann noted that June inflows at Dworshak are generally significantly lower than May inflows; if we're four feet from full by

May 31, we may not be able to refill the project, she said. Again, we understand that there may be bumps in the road to straight-line refill, Wills said; to the extent that you can avoid having to go to minimum outflow, that would be preferable. Ammann added that, according to the ESP runs, Dworshak inflow may drop below 2 Kcfs by the end of June, so at that point, it may not even be possible to release minimum outflow without drafting the project. We understand, said Wills – it sounds as though, mechanically, it may be necessary to fill more during May in order to assure refill. I think we'll want to be pretty close to full – within a foot or so – by mid-June, said Ammann.

Given that desire on the part of the salmon managers, we will evaluate Dworshak outflow as inflows begin to recede, and adjust outflow as needed to refill by about 1.5 feet per week through the end of May, and about 1 foot per week in June, Henriksen said. Statler said his preference would be for the Corps to go to full powerhouse discharge now, in order to store more water during May. Kyle Martin added that more precipitation is expected in Idaho over the next week; as long as Mother Nature is cooperating, he said, we should take advantage of increased inflows and fill Dworshak more quickly. Boyce said he would prefer to let the Corps decide how best to refill Dworshak; we will obviously be monitoring the inflow situation, he said, and will revisit the Dworshak operation as needed.

And how will a target fill of 1.5-2 feet per week during May affect Dworshak outflow? John Palensky asked. It will probably be necessary to reduce Dworshak inflow from 12 Kcfs to 10 Kcfs between now and next Wednesday, Henriksen replied; next Wednesday, it may be necessary to reduce outflow further, to 6.5-7.5 Kcfs. Henriksen said she will keep the TMT apprized of the Dworshak operation via email. As long as Lower Granite flows continue to be 100 Kcfs or higher, I don't see any problem with filling Dworshak two feet this week, added Margaret Filardo.

6. Priest Rapids Operations Update.

It was agreed to maintain a week-average flow of 135 Kcfs at Priest Rapids, probably through the end of May.

7. Libby SOR.

On May 13, the action agencies received SOR 2005 FWS-1. This SOR, from the US Fish and Wildlife Service, requests the following specific operations:

- On Thursday, May 19, beginning at 6 am, increase flow from Libby Dam to 15 Kcfs
- On Saturday, May 21, beginning at 6 am, increase Libby outflow to 20 Kcfs
- On Monday, May 25, beginning at 6 am, increase Libby outflow to 25 Kcfs.

- On Saturday, May 28, beginning at 6 am, reduce Libby outflow to 20 Kcfs
- On Sunday, May 29, beginning at 6 am, reduce Libby outflow to 15 Kcfs
- On Tuesday, May 31, beginning at 6 am, increase Libby outflow to 20 Kcfs
- On Thursday, June 2, beginning at 6 am, reduce Libby outflow to 15 Kcfs
- Maintain 15 Kcfs outflow until the 800 kaf sturgeon volume is exhausted, probably on June 14.

Wills provided an overview of the contents at this SOR, the full text of which is available via hot-link from today's agenda on the TMT homepage. Henriksen said that, in order to achieve 15 Kcfs outflow by 6 am tomorrow, it will be necessary to exceed the BiOp ramp rates. That's OK, said Bob Hallock – the ramp-down rate is more important than the ramp-up rate. I would suggest that we do this in two steps, in order to keep tailwater conditions safe, said Henriksen – would it be all right if we go to 9 Kcfs outflow by 5 pm (Mountain time) today, then increase to 15 Kcfs tomorrow morning? That would be acceptable, said Hallock. Ultimately, the action agencies agreed to implement the SOR as requested, with the minor modifications agreed to at today's meeting.

8. Spill at The Dalles.

On May 17, the action agencies received SOR 2005-12. This SOR, supported by USFWS, IDFG, ODFW, WDFW, NMFS, the Nez Perce Tribe, the Shoshone-Bannock Tribes and CRITFC, requests the following specific operations in compensation for decreased spill volumes at The Dalles:

- Provide compensation for the spill that is not occurring at The Dalles Dam due to restricted spill gate operations
- The compensation should be in the form of a spill volume equal to what would have been provided if The Dalles Dam were fully operational
- Spill is to be implemented as daytime spill at John Day Dam as 40% of instantaneous flow for the next seven days.

Wills provided an overview of this SOR, the full text of which is available via hot-link from today's agenda on the TMT homepage.

We looked at this SOR, and it raised a lot of questions for us, said Henriksen. You're aware that we discovered, last year, that we would not be able to use all of the spill gates at The Dalles in 2005. We explained to the TMT that we would do the best we could to come as close as possible to 40% spill. Flows have been higher than anticipated in recent days at The Dalles, which has limited our ability to spill 40% of total river flow. However, as we stated previously, our intent was to do the best we could – we did not anticipate providing compensatory spill if we were unable to achieve 40% exactly.

Wills replied that, when the initial discussions of the gate hoist problems at The Dalles took place, the water supply forecast was much pessimistic – at that

time, it appeared that the action agencies would be able to come much closer to the 40% level than they have. We now have more water than was anticipated at that time, he said; this SOR is simply our attempt to take advantage of changing conditions to improve fish passage for in-river migrants. Kiefer added that he had spoken to Gary Fredricks of NMFS, who indicated that 40% spill at The Dalles is the minimum necessary to provide acceptable passage at that project. We appreciate the problems the Corps is dealing with, with the gate hoists, he said; still, we would like to see increased spill at John Day to compensate for the worsened conditions at The Dalles.

It is fortunate that we're having more flow than we anticipated, said Henriksen, but we're not prepared to provide compensation for a situation we discussed before the passage season began. John Palensky replied that, in his view, rather than "compensation," this request is simply an opportunity to provide better passage conditions for fish, given higher-than-expected precipitation. In response to a question from Jim Litchfield, Wills said the intent of this SOR is to provide a 1:1 spill volume ratio – in other words, we are asking the action agencies to spill the equivalent of whatever volume below 40% has been provided at The Dalles so far in 2005, he said.

In trying to meet our overall performance standards for the system as a whole, said Henriksen, I haven't really heard how this may or may not affect our overall system performance. There is not much in this SOR that outlines why this operation is a biological advantage to fish. I must confess that the word "compensation" is troubling; frankly, this doesn't feel like something we would normally make a decision on at TMT. It goes beyond the operations required under the UPA. It is more a policy call, which should probably be elevated to the IT, she said. Palensky agreed that that would be an appropriate action. Wills said the salmon managers had struggled with the word "compensation" as well; the intent was more to take advantage of changing forecasts and river conditions.

Kiefer observed that, in his mind, the spill requested at John Day falls into exactly the same category as the spill that has occurred at the Snake River projects due to overloading of the barge loading facilities. The intent of the UPA and BiOp is to mitigate the impacts of the hydrosystem on fish, he said. At The Dalles, fish passage is being negatively impacted due to a mechanical problem. The UPA anticipates that a certain percentage of the in-river migrants will pass The Dalles via spill, and a certain percentage will pass via the powerhouse. Because of the gate hoist problem, a greater-than-anticipated percentage is passing The Dalles via the powerhouse, and that is a problem for which the action agencies should provide compensation, Kiefer said.

It was agreed that the whole TMT, rather than an individual agency, will elevate this issue to IT for discussion tomorrow. It was further agreed that Silverberg will work with Henriksen, Norris and Kiefer to craft the exact question for IT discussion.

9. Operations Review.

Henriksen said Libby is filling quickly, with 40 Kcfs inflow yesterday. The current elevation is 2433, 36 feet from full. The sturgeon operation will begin this afternoon. Norris said Grand Coulee is at 1258.5, with 160 Kcfs inflow. Hungry Horse is at 3550.5, 9.5 feet from full, with 6 Kcfs outflow. Henriksen said Dworshak is 7.5 feet from full, and will be filling 1.5-2 feet per week through the end of May. At Priest Rapids, the flow target will be 135 Kcfs next week. At Lower Granite, the current flow of 126 Kcfs is expected to begin receding soon. McNary's week-average flow was in excess of 220 Kcfs last week.

Norris noted that the Upper Snake flow augmentation situation is improving; it now appears that the Payette system will fill this year, which should mean a significant improvement over his previous estimate of available volume.

Moving on to fish, Boyce said yearling chinook indices have declined sharply over the past week at Lower Granite – from 591,000 on May 7 to about 12,000 yesterday. Passage indices continue to be high at McNary and Bonneville. With respect to steelhead, Boyce said the indices peaked at Lower Granite last week and have now declined to about 85,000 per day. Steelhead numbers continue to be strong at the Lower Columbia projects.

Nic Lane said the Columbia Generating Station is still refueling, power prices are low because flows are high.

Jim Adams reported that a number of TDG exceedences have occurred over the past week. He said the Cascade Island fixed monitoring site is being used to set spill volumes at Bonneville. Inadvertent spill is occurring at Albeni Falls Dam, producing TDG levels in excess of 120%.

10. Final Spring/Summer Update.

Henriksen said the spring/summer update has been updated to reflect the April final water supply forecast. The updated final version of this document is available via the TMT homepage. In response to a question, Henriksen said comments are still being accepted on the update.

11. Next TMT Meeting Date.

The next Technical Management Team meeting was set for Wednesday, June 1.

TMT Participant List
May 18, 2005

Name	**Affiliation**

Cindy Henriksen	COE
Ray Gonzales	COE
Davis Wills	USFWS
Tony Norris	USBR
Nic Lane	BPA
Ron Boyce	ODFW
Russ Kiefer	IDFG
Jim Litchfield	Montana
John Palensky	NMFS
Lee Corum	PNUCC
Margaret Filardo	FPC
Cathy Hlebechuk	COE
Julie Ammann	COE
Kyle Martin	CRITFC
Ruth Burris	PGE
Russ George	WMCI
Robin Harkless	Facilitation Team
Tim Heizenrater	PPM
Tom Le	PSE
Mike Buchko	Powerex
Sue Ireland	Spokane Tribes
Rudd Turner	COE
Russell Langshaw	GPUD
Dave Statler	NPT
Jim Adams	COE
Dan Spear	BPA
Dave Benner	FPC
Tom Haymaker	PNGC

Bob Hallock	USFWS
Donna Silverberg	Facilitation Team