

Chelan River Fishery Forum

Meeting Minutes

To: Chelan River Fishery Forum
From: Jeff Osborn
Attendees: Refer to sign-in sheet
Date/Time: June 28, 2007 / 9:30 a.m. – 4:00 p.m.

INTRODUCTION

After introductions, the group reviewed and accepted the March 28, 2007, meeting minutes. All but one action item was completed. Tony Eldred's request to attempt lowering the stream bottom in the tailrace to prevent dewatering of redds was carried over to the next meeting.

Action Item: Carry over "attempt to quantify future probability for redd dewatering in tailrace" to next meeting.

CHELAN RIVER TEST SPILL RESULTS: (Refer To PowerPoint Presentation)

Anchor presented its findings to the group. The objectives of this study were to measure water elevations in Reach 4 at high flows (design); determine effects of spill on bank erosion in Reach 1 (sediment input); and determine effects of spill on substrate in Reach 4 (movement of substrate in new channel). Test spill levels of 1850, 3250, 4780, 6710, 8000 and 10,000 cfs were released in June 2007.

Anchor concluded that spills of up to approximately 4 kcfs in the Chelan River resulted in minor changes; spill of approximately 8 kcfs started erosion in Reach 1, much of substrate in Reach 4 moved; and, spill of 10 kcfs created more erosion in Reach 1, most of substrate in Reach 4 moved. Anchor did not measure velocities during this study.

Comments:

- Jeff (PUD) was encouraged by the results showing little sediment movement under the 6,710 cfs spill level, and considering how the hydraulic control structure (HCS) will further enhance the protection of the channel.
- Tony (WDFW) was concerned that if high flows were split, it will carry sediment into the channel. Anchor responded that 6 kcfs was the design flow, which would deposit minimal sediment.
- Steve Hays (PUD) reminded group that intense evaluations will be conducted once the channel is constructed in order to determine flow ranges that may trigger maintenance. He was more concerned with high flows depositing sediment at the bottom end of the tailrace than the top of Reach 4. In 1990 a high flow event deposited 6 feet of material over an alluvial fan where redds were located in the tailrace.

Action Item:

- Anchor will continue working on volumes of sediment in order to determine how much will fill pool above the HCS and when sediment begins to deposit into channel.

CHANNEL DESIGN: (Refer To Preliminary 60% Design Drawings)

Anchor presented a channel design summary to the group describing dimensions, proposed channel morphology, water depths and velocities, slope, substrate size and channel structures. Brad (Ecology) was concerned that velocities were too low and depths were too deep for spawning. Steelhead prefer a 1-2' depth for spawning. Brad (Ecology) stated to reduce depths for steelhead by widening the channel. However, Bruce (WDFW) added if the channel is widened, it affects the water velocities. Steve Hays (PUD) mentioned to keep in mind a balance between spawning/rearing and habitat.

Regarding the channel features, Bruce (WDFW) mentioned to check the height of log structures. During high velocities, it could cause scour. Use boulders to balance out. He wanted boulders more spread out. Phil (USDA-FS) agreed on random placement, closer to margins of thalweg where desired spawning parameters exist. Focus boulders closer to powerhouse side to promote vegetation and out of flood zone. Tony (WDFW) cautioned not to use gravel too large that steelhead could not move it.

Discussions focused on the detailed profile (Sheet 8 of 51). Bruce (WDFW) stated that the riffle contour should be a steep entrance, the pool, and then a gradual exit. Phil (USDA-FS) recommended placing material and let the channel determine the transition mix.

Overview continued regarding planting and permeability. Anchor informed the group of its intent to situate plantings on a narrow band 10 to 15 feet outside of the channel to get roots into the channel. They will also develop a planting strategy above and some low near water line.

For channel permeability, the loss of water from the channel will be on the order of 5 to 10 percent since the flows will be year round based on the Anchor data. Bruce (WDFW) recommended using the calculated expected water loss from the channel to be used in the channel design criteria. He recommended keeping width as is since it will be easier to fill in than deepen if needed in the future.

Decision:

- Jeff reminded the group that according to last meeting's discussions (see March 28, 2007 meeting minutes), the channel design would favor steelhead spawning depth and velocity criteria; the tailrace to Chinook spawning criteria. The group agreed.
- Anchor recommended testing 80 and 320 cfs at upstream riffle only, not entire channel. This is a critical point where flow may spill out. Brad (Ecology) and the group agreed.

Action Item:

- Anchor to develop a map of preferred steelhead spawning depths and velocities in the current design channel.
- Brad (Ecology) will send Anchor state steelhead spawning criteria curves. Phil (USDA-US) agreed that state curves are a good comparison to local area.

TAILRACE DESIGN: (Refer To Preliminary 60% Design Drawings)

Brad (Ecology) noticed how the proposed acreage in the tailrace (Sheet 4 of 51) diminished from the last designs. He mentioned that existing spawning area should not be counted in the proposed restoration acreage. Anchor will extend the boundary upstream 50-60 feet. Steve Hays (PUD) expressed his concern regarding the potential of dewatering occurring at the tip of the existing berm located between the tailrace and the proposed channel. Anchor will plan on excavating it 1 foot deeper, currently at the 706-foot elevation, down to 705 feet.

Anchor informed the group that aggressive bioengineering stabilization is planned for the Chelan Falls Powerhouse Park shoreline and will not interfere with the shaping of the current paddlers' ramp. Brad (Ecology) expressed his concern about boat access in the lower end of Reach 4 and suggested placing stumps or signs to prevent it. Jeff (PUD) added that the lower end's primary focus was on rearing due the fluctuations from Rocky Reach backwater effect. Therefore, placement of root wads could be used as a deterrent.

Action Items:

- Anchor will extend tailrace acreage boundary upstream 50-60 feet.
- Anchor will scrape 1 foot elevation from peninsula berm.
- Anchor will include root wad barrier to deter boat access
- Vern will provide photos of the root wads.

HYDRAULIC CONTROL STRUCTURE: (Refer To Preliminary 60% Design Drawings)

Anchor stated that it has yet to figure out how to stabilize the shape of the hydraulic control structure (HCS) during high velocity events and how deep and extensive of grout to use (Sheet 21 of 51). Vern (PUD) shared Rick McLaughlin's comments regarding the HCS: namely, identifying the structure that is the HCS (not the boulders or logs); and to make the toe of the HCS stable to prevent "unraveling." Anchor shared that the boulders have a dual function, to divert flows to the left and to filter the flow entering the channel.

PUMP STATION: (Refer To Preliminary 60% Design Drawings)

Anchor is now the consultant for designing the pump station's canal and outlet structure, which was originally contracted to CHM2 Hill. Anchor informed the group that the width of the outlet structure is 70 feet and the flow from the outlet is 1 foot per second. Members were concerned about the possibility of juveniles entering the structure without safe passage back to the river.

Comments:

- Bruce (WDFW) suggested the following:
 1. to square off one of the corners of the outlet structure;
 2. rework the bar rack from horizontal to vertical;
 3. install a gutter shape/slope in the canal to flush out juveniles;
 4. provide more detail dimensions of the pump intake screens rather than just the diameter;
 5. cleaning should occur when head differential is 1/10 foot across the intake screen;
 6. requested the air velocities across the screen when being cleaned;
 7. if using shotcrete, how is spalling and cracking prevented.

Action Items:

- Steve (PUD) asked the group to provide Anchor any criteria that deters juvenile passage up culverts.
- Anchor will provide contact information in order to obtain the Packwood relicensing report.

SCHEDULING: (Refer To Gant Chart)

Janel Duffy (PUD) presented an overview of the schedules for the three Chelan River projects.

Low Level Outlet (four month delay)

According to Janel, the Low Level Outlet project is approximately four months behind schedule. Original due date was November 1, 2008, per the new license; expected date is March 2009. The primary reason is due to the long lead time in procuring a "custom" pipe required to tap into the existing power tunnel intake structure located at the dam. The discharge from this outlet will provide a minimum of 80 cfs and up to 320 cfs flow to the Chelan River.

Flows cannot be released until the pump station and the Reach 4 habitat work is completed.

Pump Station (on track)

Because of NEPA requirements regulating traffic and access near the switchyard, Chelan PUD is unable to use the narrow bypass road in front of the powerhouse through the switchyard and to the site location. Therefore, Chelan PUD is constructing an access road through Reach 4. This work must be done before Reach 4 habitat work is completed and before minimum flows are released.

Reach 4 Habitat (on track)

This work is on track. However, scheduling is dependent upon the completion of the pump station.

Pat and Brad (Ecology) stated that if Chelan PUD is showing due diligence in its efforts to complete the projects as quickly as practicable, then their agency has no objection to the time extension request. Tony (WDFW) agreed, but would need to pass this information to the WDFW director. Janel and Jeff (PUD) explained that concurrence from the forum was the first step before requesting a time extension from FERC. Though the projects' schedule delay is approximately 4 months, the request will be made for a two-year extension in case other circumstances arise unexpectedly. A draft letter requesting the extension will be presented to the forum for review and comment, and then submitted to FERC for approval, subject to approval from Ecology.

Action Item:

- Jeff will present a draft time extension letter to the forum for review at the next meeting.

MODERNIZATION:

Janel (PUD) informed the group that Chelan PUD is upgrading the generators/turbines at the Project. Chelan PUD is filing a non-capacity license amendment associated with the upgrade work because the increase in hydraulic capacity associated with a rehab/upgrade is less than 15%. Section 401 and ESA Section 7 consultation will occur before the amendment is submitted to FERC. Chelan PUD will not initiate this until contract negotiations are finalized in mid-August and the efficiencies of the equipment are confirmed.

Brad (Ecology) mentioned that it may not require the re-issuance of a 401 certification and that a letter from his agency would meet the consultation requirements. However, he mentioned that this work may affect power fees and state water rights, subject to approval from Ecology.

CONCLUSIONS:

The group concurred with the preliminary 60% design drawings with the provision that Anchor incorporate the results of the day's decisions in the updated 60% design drawings due the end of July 2007.

Jeff will send a meeting request to the forum to select a date between August 14 and 16, 2007. The meeting purpose is to review the updated 60% design drawings and continue discussions regarding Chelan PUD's time extension request.