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WASHINGTON STATE ENERGY
REGULATORY COMMISSION

February 4, 2008

Enloe Project
Okanogan County PUD
P.O. Box 912
Okanogan, WA 98840

**RE: Enloe Hydroelectric Project FERC No. 12569
Draft License Application
Comments**

Dear Mr. Dan Boettger:

We would like to offer the attached comments on your Draft License Application (DLA) for the proposed Enloe Hydroelectric Project.

As you recall, the DLA discussed the applicability of some of the Washington State laws and regulations with respect to the Project. As described in our comments, Ecology is currently investigating some of the details of these laws and regulations and Ecology's responsibilities with respect to the Project. We hope to be able to provide further detail on this within the next month.

If you have any questions on water quality or the general content of our comments, please feel free to call me at the Washington Department of Ecology at (509) 454-7864. For questions specific to water resources and water rights, please call Breean Zimmerman at (509) 454-7647. For questions regarding contaminated sediments, please contact Don Abbott at (509) 454-7837.

Sincerely,

Pat Irie
Hydropower Projects Manager

Cc:
Kimberley D. Bose, FERC
Patrick Verhey, WDFW
Don Hurst, Colville Confederated Tribes (Spokane)
Scott Carlon, NMFS (Portland)
Steve Lewis, USFWS (Wenatchee)
Brett Swift, American Rivers

Attachment



Comments on Enloe Hydroelectric Dam Draft License Application (DLA)

Statutes and Regulations

Several Washington state laws are discussed in the "Initial Statement". The following are corrections or clarifications to some of those statements regarding laws under which Ecology has authority. Ecology is currently investigating more details on the applicability of state laws and regulations and Ecology's responsibilities with respect to licensing the Project. We hope to be able to provide further detail on this in the next month or so.

1. 401 Certification(s). Ecology intends to issue (or deny) a 401 certification for the FERC license for the Enloe Hydroelectric Project. However, Ecology has not yet determined whether one or more certifications will be required for activities associated with the Project, including in-water work that may require a Corps 404 permit. The scope of the 401 certification(s) will be addressed by Ecology in the future.
2. Dam Safety. Ecology's role with respect to determining the safety of the dam ceases once the FERC process takes over (RCW 43.21A.068). FERC has indicated to Ecology that its (FERC's) authority has begun.
3. Water Rights. Under the Federal Power Act (16 USC Chapter 12, Sec. 821), the States retain their authority over water rights. Under State law, the water purveyor is responsible for ensuring that the proposed use(s) are within the limitations of its water rights. If the proposal's actions are different than the existing water right (source, purpose, the place of use, or period of use), then a change is subject to approval from Ecology pursuant to Sections 90.03.380 RCW and 90.44.100 RCW.

The FERC application states that a new water right application will be submitted to Ecology, upon approval of the project license, for 600 cfs. Ecology agrees that additional supply is needed to meet the additional proposed demand. In addition, there are other uses, consumptive and non-consumptive, that may require an application to appropriate water right if not encompassed in the additional 600 cfs requested. (These are described in more detail later in this document.) A water right permit is required for *all* surface water diversions and for any water from a well that will exceed 5,000 gallons per day (Chapter 90.03 RCW Surface Water Code and Chapter 90.44 RCW Regulation of Public Ground Waters). If in doubt, check with the Ecology Water Resources Program (Brean Zimmerman, (509) 454-7647).

4. SEPA. A SEPA assessment is not required when a NEPA document is prepared, unless it is determined that the NEPA document is not adequate (RCW 43.21C.150; WAC 197-11-600 (4)(d)). Although the Federal Power Act (FPA) doesn't have jurisdiction over the State's authority with respect to water rights (16 USC Chapter 12, Sec. 821), the NEPA assessment is expected to address this project impact. If the NEPA assessment is not adequate, SEPA may be applied prior to issuing water rights. With respect to other state laws, although Ecology doesn't expect to require SEPA for application of these state

laws, SEPA may be applied to portions of the project that are not (or cannot be) adequately addressed under NEPA.

5. Shoreline Management Act. Ecology has in the past retained the ability to incorporate provisions of SMA into its 401 certifications. Ecology expects to provide further clarification on this in the near future.
6. JARPA. The PUD has indicated that it plans to apply for permits through JARPA. This typically includes a 401 certification with SMA and HPA requirements. 401 certifications and SMA are discussed above. The HPA requirements will need to be discussed in context of the 401 certification(s).
7. Construction Stormwater General Permit. The National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity (RCW 90.48 Water Pollution Control Law and CWA (33 USC, Section 1251 et seq.)) will be needed for the out of water construction associated with this project.
8. Contaminated sediments. If sediment contamination exceeds the fresh water sediment criteria established by Ecology's Sediment Management Unit, cleanup and proper disposal of these material may be needed, in accordance with Chapter 173-340 WAC . Please contact Don Abbott for more information, at (509) 454-7838.
9. Arsenic TMDL (Water Quality Cleanup Plan). Ecology's arsenic Total Maximum Daily Load (TMDL) Detailed Implementation Plan for the Similkameen might be mentioned, although it does not have conditions for the Project (Ecology, 2005).
10. Flood Hazard Zone. The county generally issues the permit. It is possible these may be incorporated into either the FERC license or the 401 certification; further guidance on this is coming. Regardless, the FERC license would still have to meet Federal Emergency Management Agency (FEMA) regulations (see 44 CFR 60.3(c)(13)).

Environmental Parameters

1. Downstream impacts to flow, temperature, DO and fish. The DLA needs to address the impacts of project existence and operation on flow in Section E.2.1.

According to the DLA, the gates would only affect downstream flows during raising the crest gates (E.10-9). This would occur while flows were still high, but during this time (as the time the gates are raised and the pool filled), flows would decrease from their natural levels downstream. The DLA does not identify the magnitude or duration of the impacts, but merely states that an operation plan would be developed to address the impacts (E.10-9). Impacts on temperature and DO, need to be discussed as well.

Under a previous study (HDR, June 1991), results were provided of temperatures as a result of different flows (produced under certain, given circumstances). This may provide some assistance to obtaining estimates of impacts. Otherwise, more detailed studies may be required.

2. **TDG**. The DLA provides information on TDG which appears to indicate that the project will not cause any TDG exceedances (Table E.2-4). However, estimates of TDG based on 7Q10 flows, with confidence intervals, are needed. It appears that additional data will be needed. For Table E.2-4, it would be helpful to include the associated the spill over the dam (E.2-19).
3. **Upstream impacts on temperature**. The logic used to determine compliance with water quality temperature standards is incomplete (pp E.2-8, E.2-14). The river may have naturally cooled over this stretch. It is necessary to compare the amount of cooling/reduced heating that occurs with the project compared to what would have occurred pre-project. Slower cooling of a deeper waterbody may be relevant. However, this explanation is not adequate by itself. A semi-quantitative explanation of how the different factors related to cooling or heating water in the project area is needed, at a minimum.
4. **Dissolved Oxygen**. The DO monitoring presented is not adequate (E.2-19; Appendix E.2.1). As stated in a previous letter (Ecology, 2006), sampling over a 24-hours period during the critical season (generally June through September) is standard. Two days is not adequate.
5. **Anti-degradation**. If it is determined that the project causes a measurable negative change in the quality of the water (e.g., for TDG), then a Tier II analysis would be required. The PUD would be required to demonstrate that lowering the water quality is necessary and in the overriding public interest (WAC 173-201A-320.)
6. **Water rights**. As stated in the DLA, 1600 cubic feet per second (cfs) is the proposed water quantity needed by the Enloe Dam project. The FERC application also states that a new water right application will be submitted to Ecology, upon approval of the project license, for 600 cfs. Ecology agrees that additional supply is needed to meet the additional proposed demand. The PUD currently holds water right No.S4-CV1P243 to divert 1000 cfs at a place located on the Similkameen River on Lot 7 of Section 13, T. 40 N., R. 26 E.W.M. for the purpose of hydroelectric power.

There are other uses, consumptive and non-consumptive, that may require an application to appropriate water right if not encompassed in the additional 600 cuffs requested. These uses include, but are not limited to:

- Any additional power production water due to increased head
- Side channel development requiring ground water for fish enhancement project
- Bypass reach effects – water for fish enhancement project
- Irrigation of tree plantings to replace trees that fall into the river as a result of the project
- Water to control anchor ice formation
- Substation and powerhouse uses

If the PUD plans to use water for dust suppression at the site, they must be sure they have a legal right. A water right permit is required for *all* surface water diversions and for any water from a well that will exceed 5,000 gallons per day (Chapter 90.03 RCW and Chapter 90.44 RCW). Short-term permits may be obtainable in a short time-period. The concern of Water Resources is for existing water rights. In some instances water may need to be obtained from a different area and hauled in or from an existing water right holder.

Examples of activities that may require a short-term permit include, but are not limited to:

- Road construction dust abatement water
 - Construction and demolition site dust abatement water
 - Irrigation water for re-establishment of disturbed riparian vegetation
 - Irrigation water for re-establishment of disturbed wetland vegetation
 - Water use for re-establishment of disturbed habitat.
7. **Contaminated sediments.** There has been extensive mining upstream of the project and contaminated sediments from upstream are likely to have drifted downstream and accumulated in the reservoir and on the banks of the reservoir behind the dam, due to the presence of the dam. The discussion in the DLA about its status and the impacts of the project related to the presence of the mining waste is incomplete.
- a. Active mining operations are addressed on page E.6-8. Inactive mines were minimally addressed (see E.9-5). Please provide more information about the extent of the contamination and its impacts on sediment in the river and reservoir. The metals of special concern include lead, zinc and mercury.
 - b. Please address any impacts the dam may have on aquatic life (e.g., invertebrates) in and adjacent to the reservoir and on humans using the beaches. The metals of special concerns include lead, zinc and mercury. Please address copper as well.
 - c. If sediment contamination exceeds the fresh water sediment criteria established by Ecology's Sediment Management Unit, cleanup and proper disposal of these material may be needed, in accordance with Chapter 173-340 WAC .
 - d. Describe the expected lifetime of the impoundment based on the rate of accumulation of sediment (A-11, C-6). If dredging is expected within the lifetime of the FERC license, this should be address in the License Application.
 - e. The DLA notes the presence of certain trace metals in a sediment sample containing finer organic particles mixed with sand and silt collected from the area of the reservoir where buried sediments are most likely to be disturbed during project construction (E.2-27). An Ecology-approved sediment management plan will be required, in association with a 401 certification.
8. **Wetlands.** Wetland functions need to be addressed. Impacts to existing wetlands associated with the construction and operation activities will need to be mitigated for and addressed in a 401 certification.
9. **Aquatic resources.** Ecology generally supports the actions proposed by fish management agencies for protecting aquatic resources, which may include Pacific lamprey and mussels.

Specific

1. There are frequent references to submitting an application for a specific permit "after the Enloe Hydroelectric Project License Application is accepted for filing by FERC" (IS-3 through IS-5). Please be more specific about the proposed timeframes. For instance, is this expected to occur before or after the FERC license is issued?

2. It might be helpful to include either the word "proposed" or "existing" in front of "Enloe Impoundment Storage Volume" (Figure B-8; pB-15).
3. A map and description of the "District's service area" would be useful (B-19).
4. Is it feasible to build the cofferdam in March and April? (Maximum flows over the long term have occurred in May and June.) (Fig C-1; pC-2)
5. Mention is made of surges and waves (E.2-4). It would be helpful to describe the cause(s) of these surges, the frequencies, and the magnitude of the impacts on the reservoir and dam.
6. The information provided on groundwater is very general (E.2-6). It is not at all clear what the relationship of the two aquifers is to the river. Do either or both underlie the river? If so, how thick are they? And, how high is "quite high" (for the permeability and yields of the alluvial/glacial unit)? Also, how little is "very little flow" (order of magnitude, would be helpful) for flow contributions to the river?

Temperature

7. Please clarify who conducted the water temperature monitoring (pE.2-6).
8. Please be consistent in labeling, especially graphs showing monitoring results (figures E.2-7 et al) and the monitoring locations (Figure E.2-12.) It appears that the graphs should have referred to "Head of reservoir" instead of "Shanker's Bend" (RM 10.1).
9. Please provide a more complete (and easy to read) record of the time period when the water cools through this reach (e.g., from July to September) like provided for figures E.2-6 and E.2-7. It would be helpful just to include each day on larger, 11" x 17" piece of paper, in an appendix. ("2006 Temperature Monitoring Results", starting p E.2-7.)
10. It is stated that in early July the temperature highs and lows lag through the reservoir was less than 2 hours (E.2-13) and that the water was moving "quickly" through the reservoir. Could you be more specific about the speed, especially relative to the temperature lags? Please describe how the speed was calculated. If the speed and lag are comparable, this may be a reasonable explanation. If they aren't, it is more likely related to some other cause.
11. It is then stated that in August the temperature highs and lows lagged by 8 hours, with "slower" velocities (E.2-13). Again, could you be more specific about the speed, especially relative to the temperature lags? Please describe how the speed was calculated. If they aren't, it is more likely related to some other cause.
12. Provide plot of temperature data at Shanker's Bend. Hourly during 2006 is desirable. See E.2-6.
13. This river is listed for temperature, and may be subject to a temperature TMDL at some future time (E.2-8).

Dissolved Oxygen

14. As noted in the text, DO concentrations are generally higher (as desired) when the water is colder (E.2-19). Conversely, DO is lower (undesirable) when the water is warmer. Therefore, DO monitoring should occur at these times as well.

Total Dissolved Gas (TDG)

15. Please describe how much TDG the turbines would generate.

Contaminated Sediment

16. Analyses need to be done for contaminants associated with upstream mining, as well. Historical mining, with a brief discussed of contaminated sediments and cleanup, is discussed in Section E.9-5. The DLA should provide more detail, including size of mining areas, locations relative to the project, contaminants of concern (e.g., lead, zinc and mercury), and times and methods of the cleanups.

Turbidity

17. Potential impacts to turbidity should be addressed in this section of water quality. This includes instream work. It also includes the sediment releases and turbidity associated with clearing the bypass sluice for ice and debris and opening it during an outage (A-5).

Fish and Aquatic Resources

18. It is helpful to identify which fish are federally or state- listed (E.3-1) at the beginning of this section. And again at E.3-13.
19. Resident fish should also be identified as either native or non-native (Table E.3-2 and in text).
20. "Historically, there have been significant runs of anadromous Pacific lamprey..." (E.3-4). Please clarify where these runs have occurred, because the DLA then follows with the statement that the falls have been a barrier to fish.... And, later, "Pacific lamprey are not expected to occur upstream of Similkameen falls" (E.3-18). Please identify the source of this judgment.
21. Information is missing on macroinvertebrates (E.3-29).
22. Please address any existing aquatic invasive species and the potential for future impacts, given project existence and proposed operation.
23. Please clarify what is meant by "a five-year program would be conducted once... with yearly contributions of gravel"(E.3-41). Specifically, would the yearly contributions of gravel take place over the life of the license? This seems to be appropriate.
24. Adaptive Management Plan (AMP) (E.3-42). We recommend that all fish resource management agencies and Ecology be included in the development and periodic review of the results of the AMP. A review and update frequency of five years is recommended.

25. The "C" in QA/QC usually standards for "Control" (E.3-42).
26. Riparian forest, riparian shrub and herbaceous wetland is provided on p E.3-62 with proposed mitigation measures on p E.3-65. Note that wetlands will be addressed in association with 401(s); however, it is not yet determined whether it will be for the FERC license or the Corps 404 permits.

Geology and Soils (E.6)

27. On Figure E.6-2, it appears that the geological formation that runs north-south through Enloe dam hasn't been labeled on the map. It appears to be described in the text (E.6-2) as "granitic clast conglomerate", but that description does not seem to appear on the table of lithologic units (Table E.6-1; pE.6-7).
28. Discuss the toxicity of the sediment removed. Where will it be disposed? (E.6-14)

Recreational Resources (E.7)

29. Any impacts of wetlands created by or associated with new or expanded recreational uses (e.g., new parking area, E.7-19) will need to be addressed and mitigated.

Aesthetic Resources (E.8)

30. Aesthetics associated with water in the river should be discussed. From the description, it does not appear that the project will affect the aesthetics associated with water in the river or over the falls, except for reduced flows over the dam. Historical and future interest should be discussed.

Land Use (E.9)

31. Historical mining, with a brief discussed of contaminated sediments and cleanup, is discussed in this section (E.9-5). The DLA should provide more detail, including size of mining areas, locations relative to the project, contaminants of concern (e.g., lead, zinc and mercury), and times and methods of the cleanups. This discussion should be included in Section E.2.6.

Appendix D.1 Environmental Protection, Mitigation and Enhancement

32. This section would need to be re-reviewed by Ecology after the above corrections or clarifications are made to the DLA.

Citations

Ecology, July 27, 2006. "Enloe Dam Water and Sediment Quality Studies' Plan – Comments". Letter to Okanogan County PUD.

Ecology, 2005. "Lower Similkameen River Arsenic Total Maximum Daily Load (Water Cleanup Plan): Detailed Implementation Plan"

HDR, June 1991. "Enloe Hydroelectric Project, Application for License, Volume I of II, Appendix C, Enloe Hydroelectric Project Instream Flow Analysis".