

September 11, 2015

Michael J. Sale, LIHI Executive Director
Low Impact Hydro Institute
PO Box 194
Harrington Park, NJ 07640



Dear Mr. Sale,
I'm pleased to submit our Re-certification documents, including:

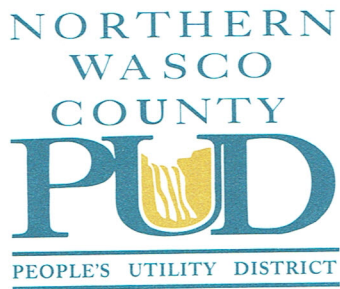
1. The LIHI questionnaire.
2. Sworn statement A- attesting that the package is true and complete.
3. Sworn statement B- releasing LIHI, its Governing Board and its agents from any liability.
4. The \$2000 recertification fee.
5. A copy of the NMFS Endangered Species Act Biological Opinion, including the incidental take statement for Northern Wasco County PUD's North Shore Hydro Project.
6. The 2014 Fish Passage Monitoring Report for the project

If there is anything else you need please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Robert Guidinger". The signature is written in a cursive style with a large, looping initial "R".

Robert Guidinger
Northern Wasco County PUD
Hydro Department Manager



September 14, 2015


Certified Facility Name: **North Shore Fishway Project (FERC no. 7076)**
Location: **Located on the North shore of The Dalles Dam, in Washington State, on the Columbia River.**
LIHI Certificate Number: **00071**
Certificate Term: **July 17, 2014 – July 17, 2015**

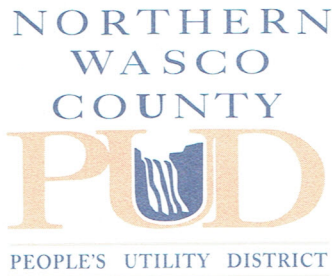
Statement

The material presented in the Re-Certification Application Package is true and complete.

Date: 9/14/15

Name: Robert W. Goodinger
Please print

Signature: 



August 26, 2015

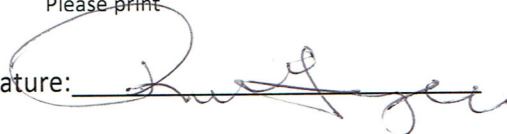
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Statement

“The primary goal of the Low Impact Hydropower Institute’s Certification Program is public benefit. The Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions. The undersigned applicant agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications or on any other action pursuant to the Low Impact Hydropower Institute’s Certification Program.”

Date: 9/11/15

Name: Robert W. Guidinger
Please print

Signature: 

Low Impact Hydropower Institute
34 Providence Street
Portland, ME 04103
Tel. (207) 773-8190 • Fax (206) 984-3086
LOW IMPACT HYDROPOWER QUESTIONNAIRE
-Recertification Questionnaire-

This is the format used for the original application which includes all of the original information with some edits and includes new information and updates. Little has changed so it is much the same as the original. The uniqueness of this hydro project makes this report style questionnaire more effective.

E. LOW IMPACT HYDROPOWER QUESTIONNAIRE –(for recertification)

Background Information

1. Name of the *Facility*

Northern Wasco County PUD Hydroelectric Plant

2. *Applicant's name, contact information*

**Robert Guidinger, Hydro Plant Manager
2345 River Road
The Dalles, Oregon 97058
541-296-2226**

3. *Location of Facility by river and state.*

River mile 192, Columbia River, Dallesport, Washington

4) *Installed capacity.*

5 MW

5) *Average annual generation.*

39K HWH

6) *Regulatory status.*

FERC license

7) *Reservoir volume and surface area measured at the high water mark in an average water year.*

The PUD facility does not create a reservoir.

8) *Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).*

Project related facilities consist of the dewatering structure and the powerhouse. Total surface area occupied by these two structures is less than 20,000 square feet. The photographs below show the area pre and post construction, from different angles.

Photo 1. Pre-construction view of the area.

Photo 2. Current view of the area.



In photo 1, the approximate locations of the intake structure and powerhouse are indicated. The auxiliary water for the fish ladder entrance flowed through a rock channel and plunged into a pool that was connected to the auxiliary water system.

Photo 2 is a current aerial view of the same area looking slightly toward the north, so the perspective is reversed. In this picture you can see the dewatering structure, the powerhouse roof, the intake area, and the old channel now mostly encased in concrete except for the plunge pool adjacent to the fish ladder.

9) Number of acres inundated by the Facility.

Zero, The Dalles Dam, built in 1957, created the reservoir behind it.

10) Number of acres contained in a 200-foot zone extending around entire impoundment.

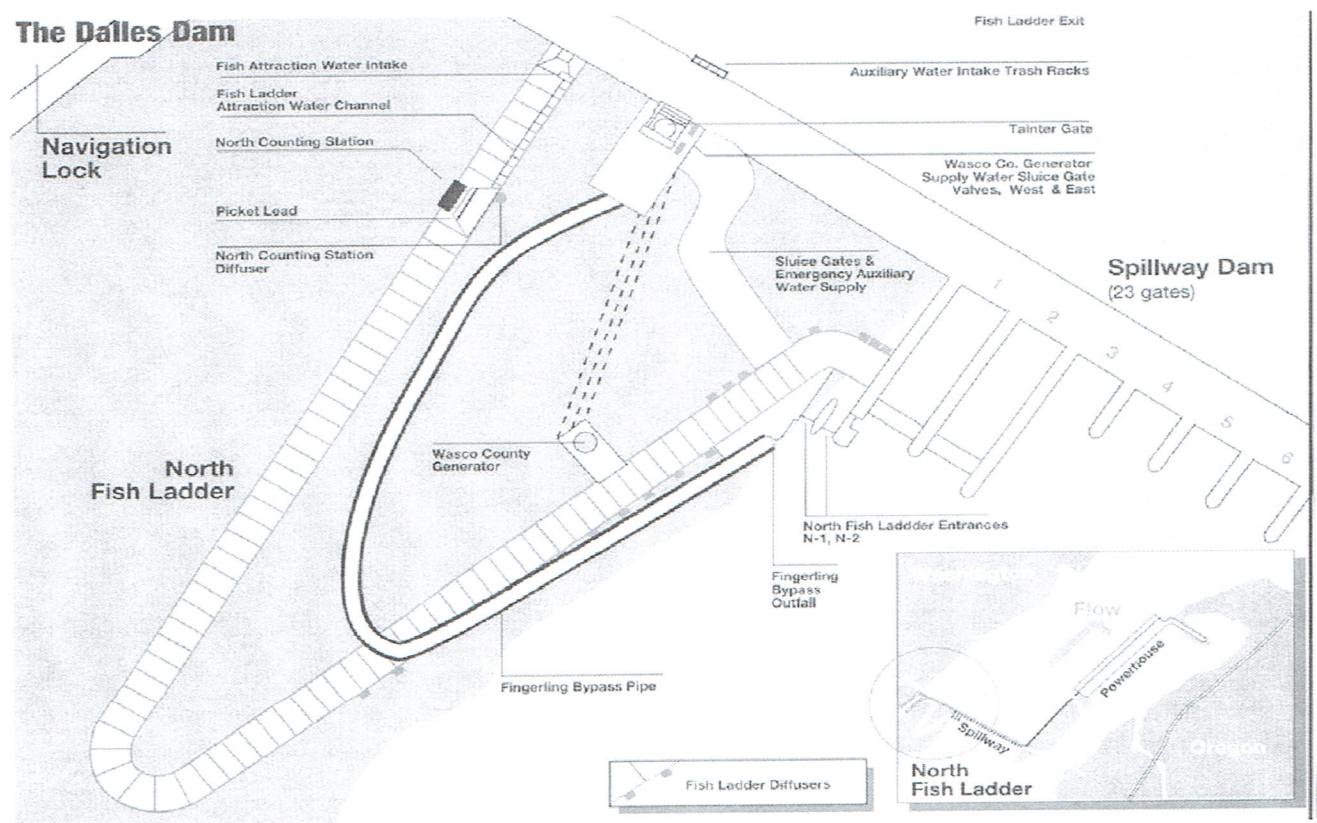
Again, this is zero.

11) Please attach a list of contacts in the relevant Resource Agencies and in non-governmental organizations that have been involved in recommending conditions for your Facility

Gary Fredricks, NMFS 503-231-6855, Gary.fredricks@noaa.gov Erich Gaedeke, FERC, 503-552-2716 Erich.Gaedeke@ferc.gov Tom Lorz, CRITFC, 503-235-4228 lort@critfc.org Bob Cordie, CoE, 541-298-7406 Robert.P.Cordie@usace.army.mil Scott Bettin, BPA, 503-230-4573 swbettin@bpa.gov

12) Please attach a description of the Facility, its mode of operation (i.e., peaking/run of river) and a map of the Facility.

Photo 3. Map of The Dalles Dam with an enlarged view of the PUD area.



There haven't been any material changes in circumstances at our hydro plant since our certification 5 years ago. A description of the plant follows with updates as appropriate.

Northern Wasco County PUD's North Shore Hydroelectric project at The Dalles Dam produced its first commercial power on 28 May, 1991. Through June, 2015, the 5 megawatt generator has produced 959,289 Mwh's of power since it started, which is enough to heat and light about 1000 average homes per year. Current power produced by The Dalles plant is being sold to Portland General Electric in Portland, Oregon, through April of 2017.

The PUD facility is located on the north shore of The Dalles Dam, technically in Washington State. The Dalles Dam is a 22 turbine federally owned "reregulating" hydro electric facility that impounds Lake Celilo, a 25 mile reservoir/lake. It was built in 1957, long before the PUD facility.

Adult fish ladders at these large dams are long and need auxiliary water to maintain adequate attraction flows, especially at the entrances. Prior to the construction of the PUD's hydro plant, the entrance of the north ladder at The Dalles Dam received about 800 cfs of auxiliary water from the forebay, through a rock channel. Water entering the system passed through a set of parallel bars spaced 7/8" apart called the "trash rack". This bar assembly kept adult fish and large debris from entering the auxiliary water system. However, juvenile fish small enough to pass through these bars would end up in the auxiliary water system.

The PUD saw an opportunity to harness the power of this 800 cfs to generate electricity and the salmon managers saw an opportunity to provide protection for fish. So, one of the conditions for construction was a requirement to separate the fish from the water that would power the turbine. Consequently a dewatering structure was designed that consisted of a diagonal wall screen (photo 6) that would separate the fish from most of the water. The fish free water would then power the turbine before supplementing the ladder entrance and the fish would proceed toward the end of the dewatering structure.



Photo 4. South side of the dewatering structure. The roof of the powerhouse is in the lower left corner of the picture.



Photo 5. North side of dewatering structure and the bypass pipe that conveys fish to the tailrace.

At the downstream end of the dewatering structure is an adjustable weir that maintains a depth of one foot at the discharge point (Photo7). The water and the fish plunge into a catch basin at the end of the dewatering structure.

Connected to the catch basin is a 24” diameter pipe that conveys the juvenile fish to the river below the dam. This route is much safer for these active migrants than the previous route.



Photo 6. Interior view of the dewatering structure looking downstream. The diagonal wall screen is on the right.



Photo 7. Weir discharge plunging into concrete basin.

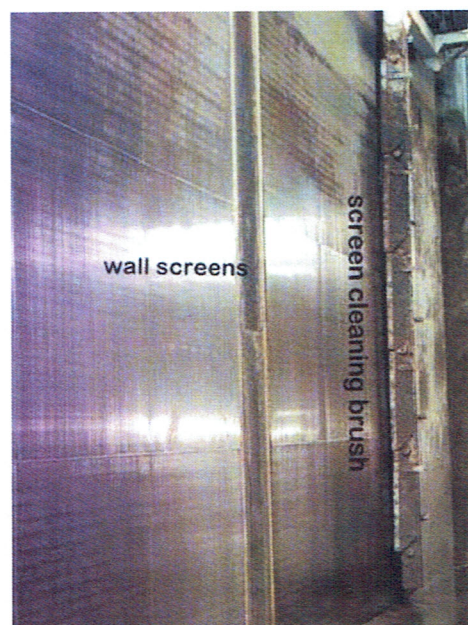


Photo 8. Wall screen and brush.

The PUD’s intake/dewatering structure improves juvenile fish passage condition by diverting them away from the auxiliary water system. Before construction fish would end up under the grating on the floor of the fish ladder. The openings in the grating are about 1” x 3” and water velocities are significant. It is likely that fish would get injured or killed trying to get past this barrier.

Questions for “New” Facilities Only: 13-18 this is not a new facility so these questions were skipped.

A. FLOWS

Is the Facility in Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement?

Considering the small proportion of Columbia River flow that passes through the PUD intake structure, 0.05% or less, it is reasonable to assume that operation of the PUD turbine has a negligible effect on water quality and thus is in compliance with Resource Agency Recommendations regarding flow conditions. The

NOAA Fisheries Biological Opinion issued for the project says as much in paragraph 3.2 on page 45, "Based on information provided in the BA and the analysis of effects in the opinion and the nature of the action area, NMFS concludes that proposed action will not have adverse effects on Essential Fish Habitat designated for Chinook and coho salmon."

B. WATER QUALITY

1) *Is the facility either:*

a) *In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or*

Again, any discussion of the impact of the operation of the PUD turbine on water quality has to begin with the acknowledgement of the small proportion (0.05% or less) of the Columbia River that passes through the turbine. Most violations of the Clean Water Act in the Columbia River are universally recognized as being the result of the mainstem dams, such as The Dalles Dam.

The Environmental Assessment (EA) by the Federal Energy Regulatory Commission, dated November 16, 1987, concluded that "This environmental assessment was prepared in accordance with the National Environmental Policy Act of 1969. On the basis of the record and of the staff's independent environmental analysis, issuance of a license for The Dalles Dam North Fishway Hydroelectric Project would not constitute a major federal action significantly affecting the quality of the human environment."

There is a potential to release lubricants into the river so the PUD uses an oil separator for the internal drainage, and an oil sensor in the project sump. After passing through the oil separator, the cooling water drains into the project sump. If there is any oil in the water in the sump, operators are alerted by an alarm and could then deploy absorbent pads to remove any remaining oil. From the sump the water is pumped to the tailrace.

Documents related to water quality that were part of the original FERC certification, including the FERC environmental assessment, the CH2M Hill Soil Erosion and Sediment Control Plan, the FERC approval letter, the Washington State Department of Ecology temporary modification of the water quality standards letter, and the Spill Prevention Control and Countermeasure Plan were all submitted with the original application.

b) *Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?*

No. The state identifies The Dalles Dam as the structure responsible for negatively impacting water quality in this section of the Columbia River. The PUD facility is so small in comparison that a reasonable person could only conclude that the PUD's effect on water quality is negligible.

C. FISH PASSAGE AND PROTECTION

1) *Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?*

Yes

Downstream Passage: the PUD maintains a screened bypass system to convey fish safely around the turbine for downstream migrants. The condition of the screened bypass is monitored by sampling fish that have passed through it and evaluating their condition. This is done for one 24 hour period once a week from April through July.

Upstream Passage: The PUD is responsible for maintaining optimum entrance conditions at the north

shore fish ladder because the water that augments that entrance first powers the PUD turbine. The CoE must maintain certain elevations and differentials at this entrance, referred to as criteria, as prescribed by the regional fish managers. Since the PUD took over the management of the auxiliary water and this entrance, criteria violations have decreased.

5) *Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of Riverine Fish?*

Yes.

The bypass system for juveniles passes many “incidental” or riverine fish, such as bass and peamouth. The upstream fish ladder is primarily designed and works best for salmonids but riverine fish routinely use it.

6) *Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?*

The Corps of Engineers is responsible for entrainment protection downstream of their project for all fish.

D. WATERSHED PROTECTION

1) *Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the high water mark in an average water year around 50 - 100% of the impoundment, and for all of the undeveloped shoreline*

Since the PUD is not responsible for any impoundment they are not responsible for maintaining a buffer zone of any kind.

E. THREATENED AND ENDANGERED SPECIES PROTECTION

Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?

YES

2) *If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?*

YES

3) *If the Facility has received authority to incidentally Take a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental Take statement; (ii) Obtaining an incidental Take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authority?*

YES

Through 2006, the PUD secured a Section 10 incidental take permit. The PUD complied with all requirements and successfully renewed the permit on an annual basis.

In 2007, the PUD, in conjunction with FERC, and at the request of NOAA Fisheries, acted as the non federal entity in the preparation of a biological assessment pursuant to the issuance of a Biological Opinion for the annual sampling program. The biological assessment was completed and submitted to NOAA fisheries in October of 2007. In December of 2011, the Biological Opinion was issued and we have been sampling under that since.

4) *If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that? a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or b) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or) The recovery plan under active development will have no material effect on the Facility's operations?*

The biological opinion was issued consistent with the existing recovery plan for the endangered and threatened species present in the Columbia River at The Dalles. A pdf copy of the BiOp will be submitted with this recertification application.

F. CULTURAL RESOURCES PROTECTION

1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?

Yes. The EA looked at cultural resource protection and concluded: "No properties have been identified in the project area as listed on or eligible for listing on the National Register of Historic Places (letter from Robert G. Whitlam, State Archeologist, Office of Archeology and Historic Preservation, Olympia, Washington, December 12, 1983).

G. RECREATION

1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation including recreational flow releases) and facilities conditions in its FERC license or exemption?

There was never any recreational component to the construction area since it is inside the Corps of Engineers property and not accessible to the general public. The intake is in the Boat Restricted Zone in the forebay so there is no access to the water immediately above the intake area. The recreational areas above and below The Dalles dam are not affected by the tiny percentage of flow that passes through the PUD.

H. Facilities Recommended for Removal

1) *Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?*

NO