

DEPARTMENT OF
ECOLOGY
State of Washington

401 Certification-Order

**Non-Capacity Third Powerhouse on the
North Fork of the Skokomish River At
Cushman No. 2 Dam
Owned and Operated by Tacoma Power**

*Certification-Order No. 7158
FERC License No. 460*

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Water Quality Program Staff
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April 2010

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Acronyms

401 Refers to section 401 of the Clean Water Act	NRC National Response Center
BMP Best Management Practice	NTU Nephelometric Turbidity Unit
BOD Biochemical Oxygen Demand	PCB Polychlorinated Biphenyls
BPA Bonneville Power Administration	PHABSIM Physical Habitat simulation model
CE-QUAL-W2 Water quality and hydrodynamic model	PM&E Protection, Mitigation and Enhancement
CFR Code of Federal Regulation	QAPP Quality Assurance Project Plan
cfs Cubic feet per second	RCW Revised Code of Washington
CWA Clean Water Act	RM River Mile
DO Dissolved Oxygen	SDCC Spill Deterrent Control & Countermeasure Plan
Ecology Refers to the Washington State Department of Ecology	SPCC Spill Prevention Control & Countermeasure Plan
EIS Environmental Impact Statement	SWPPP Stormwater Pollution Prevention Plan
EMD Emergency Management Division	TDG Total Dissolved Gas
ESHB Engrossed Substitute House Bill	TMDL Total Maximum Daily Load
FEIS Final Environmental Impact Statement	USGS United States Geological Service
FERC Federal Energy Regulatory Commission	WAC Washington Administrative Code
FWPCA Federal Water Pollution Control Act	WDFW Washington Department of Fish and Wildlife
HED Hydroelectric Development	WDOE Washington Department of Ecology
HPA Hydrologic Project Approval	WQAP Water Quality Attainment Plan
IWWPP In Water Work Pollutant Plan	WQPP Water Quality Protection Plan
Licensee Tacoma Power	WRIA Water Resource Inventory Area
NPDES National Pollution Discharge Elimination System	

DEPARTMENT OF ECOLOGY

IN THE MATTER OF GRANTING A)	CERTIFICATION-ORDER
WATER QUALITY CERTIFICATION TO:)	NO. 7158
Tacoma Power)	Licensing of the Cushman Non-
In accordance with 33 U.S.C. § 1341)	Capacity Amendment for the North
FWPCA § 401, RCW 90.48.120, RCW 90.48.260)	Fork Powerhouse
and WAC 173-201A ; and RCW 90.54)	Hydroelectric Project (FERC No. 460),
)	Mason County, Washington

TO: Patrick D. McCarty, Cushman Project Generation Manager, Tacoma Power

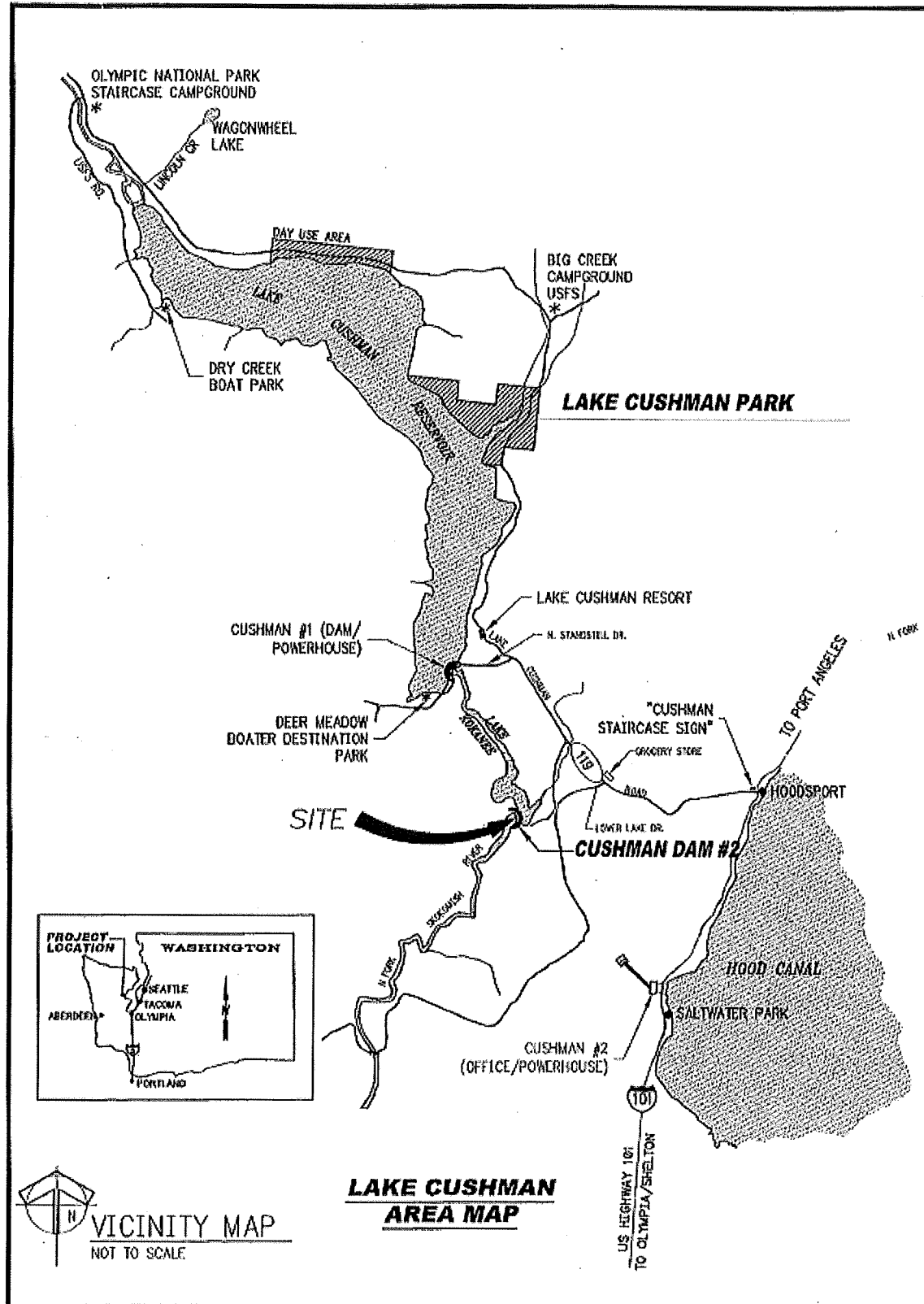
On September 23, 2009, the Department of Ecology (Ecology) received an application for a Clean Water Act (CWA) Section 401 certification, 33 U.S.C. § 1341, from the City of Tacoma, Department of Public Utilities, Light Division, doing business as Tacoma Power (Licensee), for the Cushman North Fork Powerhouse (NF Powerhouse) hydropower project, non-capacity amendment, Federal Energy Regulatory Commission (FERC) License No. 460. Cushman Dam No. 2 began commercial operation in 1930. The Licensee requested an amendment to License No. 460 for a new powerhouse (the NF Powerhouse).

The NF Powerhouse will extract the energy from water diverted out of Lake Cushman to supplement flows in the North Fork Skokomish River below the project. The flows that will be diverted to the proposed NF Powerhouse are part of a Settlement Agreement that will allow upstream fish passage around both Dams No. 2 and No. 1. Because the NF Powerhouse will result in a discharge into navigable waters, CWA Section 401 requires the Licensee to obtain a certification from Ecology before FERC can issue the amended license. The Licensee published notices of the application in the Shelton Mason County Journal and the Tacoma Daily Index Inc. for two weeks commencing on October 15, 2009, and ending on October 22, 2009.

Ecology previously issued a Section 401 Certification for the Cushman Dam No. 1 and No. 2 and the associated powerhouses on April 30, 1985. The Section 401 Certification was amended on December 30, 1987, and FERC issued a license on July 30, 1998. The license was appealed and remanded to FERC by the D.C. Circuit Court of Appeals. The Licensee, the Skokomish Tribe, and several other groups, including Ecology, participated in settlement negotiations, which were completed on January 12, 2009. Part of that settlement mandated upstream fish passage around the projects and augmentation of flows to the North Fork Skokomish River below Cushman Dam No. 2. The flows, the fish collector for upstream passage, and the NF Powerhouse were part of the final Settlement Agreement and were not part of the original 401 Certification or the original FERC license.

This certification and administrative order (Order), therefore, covers only the flows, the fish collector, and the construction and operation of the NF Powerhouse.

Figure 1: Location and Project Area Map



1.0 Nature of the Project

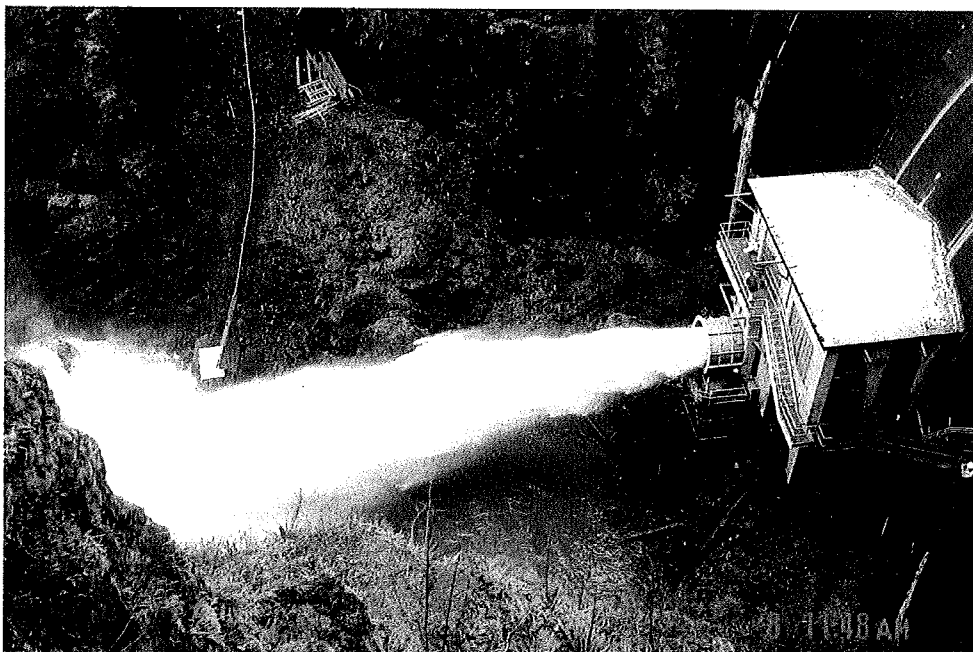
The Cushman Project, which operates under a license issued by FERC as Project Number 460, is owned and managed by the Licensee. This Order covers only the construction and operation of the NF Powerhouse, fish collector, and instream flows below Cushman Dam No. 2.

The NF Powerhouse project consists of a two-story concrete structure approximately 46 feet by 20 feet. The NF Powerhouse penstock will tap off of one of the existing 78-inch outlet valves at the base of the dam. The NF Powerhouse will contain two Francis turbine-generator units, each with a 1.8 megawatt (MW) capacity and rated at 2,700 horsepower. The best gate position for the turbine will use approximately 240 cfs and generate 3.0 MW, with a peak capacity of up to 320 cfs and up to 3.9 MW. The new units are expected to annually generate up to approximately 23,500 megawatt hours (MWh).

The upstream fish collector will be integral to the NF Powerhouse because they will be constructed together. The flow from one of the outlet valves at the base of the dam will be split to flow to the two turbines. The flow from each turbine will be split again to feed both the fish collection facility and an upwelling tailrace diffuser to attract fish in the vicinity of the fish collection facility.

On March 7, 2008, pursuant to the 1998 Project License Article 407, the Licensee began releasing 240 cfs or inflow, whichever is less, to the lower Skokomish River through a flow release valve installed in Cushman No. 2 Dam. Proposed License Article 407 uses a water budget of 160,000 acre-feet to support a flow regime designed to mimic the timing, duration and frequency of annual flow events. (Monthly minimum flows are described in more detail later in this Order). To date, this flow has been released through a jet-valve at the base of the dam (see Figure 2 below for flow from jet valve). The water supplying the turbines and the fish collector will come from a second butterfly valve next to the jet valve. The jet valve will then be used only to manage high flows. The turbines will dissipate the energy of the added 240 cfs flow in order to attract fish into the fish collector.

Figure 2: North Fork Skokomish with 240 cfs from existing jet-valve, at the base of Cushman No. 2.



1.1 Cushman, powerhouses, and reservoir description

The Cushman No. 1 Dam/Powerhouse, consists of a 260-foot high concrete arch dam (which impounds Lake Cushman), a powerhouse and penstocks. Lake Cushman has a surface area of 4,058 acres and a storage capacity of 453,350 acre-feet at full pool. The No. 1 Powerhouse has two Francis turbines with a hydraulic capacity of 2,800 cfs and a total generating capacity of 50 MW. The water from Lake Cushman passes through the No. 1 Powerhouse and supplies Lake Kokanee and Cushman No. 2 Dam.

Cushman No. 2 Dam/Powerhouse consists of a 230-foot high concrete arch dam, which impounds Lake Kokanee, a powerhouse at Potlatch on Hood Canal and penstocks. Lake Kokanee has a surface area of 128 acres and a gross storage capacity of 7,300 acre-feet. The No. 2 Powerhouse at Potlatch has three turbine-generator units with a hydraulic capacity of 3,000 cfs and a total installed capacity of 81 MW.

The water quality concerns of Cushman Dams No. 1 and No. 2 and their associated Powerhouses were covered under the existing April 30, 1985, water quality certification and any subsequent amendments. This Order does not address the Cushman Dam No. 1 or its Powerhouse. However, supplemental minimum flows, augmentation flows, Cushman Dam No. 2 ramping rates and operations, and the NF Powerhouse were not covered in the original Section 401 Certification. These elements were addressed through the Settlement Agreement and are now included in this Order.

2.0 Authorities

In exercising authority under Section 401 of the Clean Water Act (33 USC § 1341) and Revised Code of Washington (RCW) 90.48.120 and 90.48.260, Ecology investigated this proposal for:

- A. Conformance with all applicable water quality based, technology based, toxic or pretreatment effluent limitations as provided under the Federal Water Pollution Control Act Sections 301, 302, 303, 306 and 307 and 33 USC §§ 1311, 1312, 1313, 1316, and 1317.
- B. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC and by Chapter 90.48 RCW, and with other appropriate requirements of state law; and conformance with all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.
- C. Conformance with RCW 90.22 and 90.54 which direct establishment of instream flows.
- D. Conformance with RCW 90.56 which prohibits discharge of oil, fuel or chemicals into state waters or onto land where such contaminants could potentially drain into state waters.

3.0 General Conditions

Through issuance of this Order, Ecology certifies that it has reasonable assurance that the activity as proposed and conditioned will be conducted in a manner that will comply with applicable water quality standards and other appropriate requirements of state law. In view of the foregoing and in accordance with 33 U.S.C. §1341, RCW 90.48.120, RCW 90.48.260, Chapter 173-200 WAC and Chapter 173-201A WAC, including WAC 173-201A-300 through

WAC 173-201A- 330, water quality certification is granted to the Licensee for construction and operation of the NF Powerhouse subject to the conditions within this Order.

- A. Certification of this proposal does not authorize the Licensee to exceed applicable state water quality standards approved by the Environmental Protection Agency (currently codified in Chapter 173-201A WAC), ground water quality standards (currently codified in Chapter 173-200 WAC) and sediment quality standards (currently codified in Chapter 173-204 WAC), and other appropriate requirements of state law. Furthermore, nothing in this Order absolves the Licensee from liability for contamination and any subsequent cleanup of surface waters, ground waters, or sediments occurring as a result of activities associated with Project operations and FERC license conditions.
- B. In the event of changes or amendments to the state water quality, ground water quality, or sediment standards, or changes in or amendments to the state Water Pollution Control Act (RCW 90.48), or changes in or amendments to the Clean Water Act, such provisions, standards, criteria, or requirements shall apply to this project and any attendant agreements, orders, or permits. Ecology will notify the Licensee through an Administrative Order of any such changes or amendments applicable to its project.
- C. Discharge of any solid or liquid waste to the waters of the state of Washington without prior approval from Ecology is prohibited.
- D. The Licensee shall obtain Ecology review and approval before undertaking any change to the project or project operations that might violate water quality or affect compliance with any applicable water quality standard (including designated uses) or other appropriate requirement of state law.
- E. This Order does not exempt the Licensee from compliance with other statutes and codes administered by other federal, state, and local agencies.
- F. Nothing in this Order waives Ecology's authority to issue additional orders if Ecology determines that further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project operation are identified (e.g., violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect water quality.
- G. The conditions of this Order shall not be construed to prevent or prohibit the Licensee from either voluntarily or in response to legal requirements imposed by a court, the FERC, or any other body with competent jurisdiction, taking actions which will provide a greater level of protection, mitigation, or enhancement of water quality or of existing or designated uses.
- H. Copies of this Order and associated permits, licenses, approvals, and other documents shall be kept on the Project site and made readily available for reference by the Licensee, its employees, contractors and consultants, and by Ecology.
- I. The Licensee shall allow Ecology access to inspect the Project and Project records required by this Order for the purpose of monitoring compliance with its conditions. Access shall occur after reasonable notice, except in emergency circumstances.
- J. The Licensee shall, upon request by Ecology, fully respond to requests for materials to assist Ecology in making determinations under this Order and any resulting rulemaking or other process.

- K. Any work that is out of compliance with the provisions of this Order; or conditions that result in distressed, dying, or dead fish; or any discharge of oil, fuel, or chemicals into state waters or onto land with a potential for entry into state waters; or violation of turbidity criteria is prohibited. If these conditions occur, Licensee shall immediately take the following actions:
1. Cease operations at the location of the violation to the extent such operations may reasonably be causing or contributing to the problem.
 2. Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
 3. Notify Ecology of the failure to comply with water quality standards. Oil or chemical spill events must be reported immediately within one hour to the Division of Emergency Management (EMD) at 800-258-5990. Other non-compliance events must be reported to Ecology's Federal Permit Manager at 800- 424-8802.
 4. Submit a detailed written report to Ecology within five (5) days describing the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.
 5. Observed violations at the project must be highlighted in the annual monitoring report.
- L. Failure of any person or entity to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

Compliance with these requirements does not relieve Licensee from responsibility to maintain continuous compliance with the terms and conditions of this Order or the resulting liability from failure to comply.

4.0 Specific Conditions

4.1 Compliance with standards

The Licensee shall comply with all applicable water quality standards. Waters of the state are assigned designated uses under WAC 173-201A. Designated uses for this section of the North Fork Skokomish River and tributary streams include, but are not limited to, the uses described in Table 4-1 below.

For aquatic life uses, it is also required that all indigenous fish and non-fish aquatic species be protected in waters of the state in addition to the key species described below (WAC 173-201A-200(1)).

Table 4-1 Designated Uses

River Reach Description	Designated Uses
North Fork Skokomish and tributaries	<p>Aquatic Life Uses – Core summer salmonid habitat. The key identifying characteristics of this use are summer (June 15 – September 15) salmonid spawning or emergence, or adult holding; use as important summer rearing habitat by one or more salmonids; or foraging by adult and sub-adult native char.</p> <p>Other common characteristic aquatic life uses for waters in this category include spawning outside of summer season, rearing, and migration by salmonids.</p> <p>Recreation – Extraordinary primary contact.</p> <p>Water Supply – Wildlife Habitat, Harvesting, Commerce and Navigation, boating and Aesthetics.</p>

Numeric criteria that help protect the designated uses are found in WAC 173-201A-200. These include criteria for TDG, pH, dissolved oxygen (DO), fecal coliform, turbidity and temperature. Criteria for these parameters specific to the North Fork Skokomish may be found in Table 4-2 below.

Table 4-2 Criteria for North Fork Skokomish

Temperature	<p>A. 16°C year round immediately below the dam.</p> <p>B. The next point of compliance is approximately five miles below dam at Lat. 47.36574, Long. -123.22985. The following criteria for Spawning/Incubation apply: 13° from September 15- July 1; 16° from July 2-September 14</p>
Dissolved Oxygen	9.5 mg/L Lowest 1-Day minimum
Turbidity	Shall not exceed 5 NTU over background when the background is 50 NTU or less; or a 10 percent increase in turbidity when the background turbidity is more than 50 NTU
Total Dissolved Gas (TDG)	Shall not exceed 110 percent of saturation at any point of sample collection
pH	Within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units.

Other numeric criteria or narrative standards may apply to the North Fork Skokomish River in addition to the criteria listed in Table 4-2.

4.2 Flows

The Licensee shall manage flows in the North Fork Skokomish River as described in the January 12, 2009, Settlement Agreement, in Articles 406, 407, and 411. The Licensee shall also comply with the ramping rates set forth in Article 411: *Ramping Rate Conditions of the Settlement Agreement*. These Articles are found in Appendix A.

4.3 Total dissolved gas (TDG)

A. General Conditions

The project must not cause any exceedance of the TDG water quality criteria as specified in WAC 173-201A-200 (1)(f). The Licensee shall manage spill and power production to limit TDG production to 110% or less saturation.

The Licensee shall implement Amended Licensee Article 410. A copy of Amended License Article 410 is attached in Appendix A. Ecology requires that the Article 410 water quality enhancement plan include the provision provided in Section 4.3.B and Section 4.3.C of this Order and requires that the plan be implemented consistent with the schedule provided in those Sections.

The Washington State water quality criterion for TDG (Chapter 173-201AWAC) applies to the percent saturation of atmospheric gas, instead of a measure of nitrogen which is described in the Settlement Agreement, Article 410. Discharges from the NF Powerhouse Project shall comply with the water quality criterion for TDG as shown below Table 4-3:

Table 4-3 Aquatic Life Total Dissolved Gas Criteria in Fresh Water

Category	Percent Saturation
Char Spawning and Rearing	Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
Core Summer Salmonid Habitat	Same as above
Salmonid Spawning, Rearing, and Migration	Same as above
Salmonid Rearing Migration Only	Same as above
Non-anadromous Interior Redband Trout	Same as above
Indigenous Warm Water Species	Same as above

If there are operational or construction modifications to the dam, the Licensee shall collect TDG data for four (4) years following such modification to evaluate whether or not the modifications have affected prior TDG findings. As provided in Section 3.0(f), the TDG monitoring plan may be amended to address additional data collection.

B. 7Q10 Exceedance Flow

Provided that all reasonable and feasible operational efforts to minimize TDG exceedances are made, compliance with the 110% TDG criterion does not apply when flows exceed the rate equivalent to the 7Q10 flows as defined in WAC 173-201A-200(1)(f)(i). The 7Q10 exceedance flow for the North Fork Skokomish River has not been determined. Ecology set an interim value of 1,907 cfs, above which the 110% TDG criterion does not apply. This value is based on the flow from USGS station 12059500 from 1944 to the present. The Licensee shall accept this value or establish a new 7Q10 value to be measured at this site. If The Licensee establishes a new value, a report shall be submitted for Ecology review and approval within six (6) months of the issuance of this Order. This report shall describe the new value for the 7Q10 and how the new value was determined.

C. Determining Compliance for TDG

Monitoring is required to determine whether or not TDG is generated by the operation of the NF Powerhouse. The Licensee shall provide a TDG Monitoring Plan for Ecology review and

approval within six (6) months of the issuance of this Order. The TDG Monitoring Plan shall include a quality assurance section which includes a description of TDG compliance monitoring locations, proposed analysis of the TDG monitoring results, monitoring data to be provided, a monitoring schedule, and schedule for submittal of analysis and monitoring results to Ecology.

Data shall be collected for ten (10) years or for three (3) qualifying spill events that do not result in TDG standards violations, whichever is sooner, and submitted annually to Ecology's SWRO FERC Coordinator. If no TDG is measured during three (3) qualifying spill events using an Ecology-approved monitoring plan and there are no subsequent operational or construction changes to the dam, no additional monitoring for TDG from qualifying spill events will be required.

Turbine Monitoring: Upon issuance of this Order, the Licensee shall monitor TDG in the forebay, generation plumes during normal operation, ramp up and ramp down, and in the North Fork Skokomish River below the spillway near the end of the aerated zone (the area of bubble entrainment and dissipation) of Cushman Dam No. 2. A TDG monitoring probe must be placed at the compensation depth and in a location where bubbles from the aerated discharge do not form on the probe membrane. Monitoring shall include ramping up and ramping down, operating one and/or both turbines at different flows from zero to maximum through-put, and normal operations. Spill events must also be identified in the monitoring plan.

Spill Events: Higher flows are most likely to create TDG exceedance conditions during spill events. If flows from the NF Powerhouse being built at Cushman Dam No. 2 plus spill from base of the dam exceed 500 cfs at Cushman Dam No. 2, the dam spillway, or 500 cfs at the North Fork Skokomish gage (USGS 1205880)¹, then TDG monitoring is required during the high flow spill events. Monitoring shall include the forebay and immediately below the aerated zone in the tailrace.

Water Quality Attainment Plan: If Cushman No. 2 Powerhouse is creating TDG greater than 110%, the Licensee shall develop a compliance schedule. Within six (6) months of the discovery of any exceedance of the 110% TDG criterion caused by spill, the Licensee shall submit a TDG Water Quality Attainment Plan (TDG WQAP) to Ecology for review and approval that is consistent with WAC 510(5). The TDG WQAP plan shall include:

1. A description of standard Dam operations that minimize TDG associated with spills;
2. A description of how the Licensee will minimize all spills that produce TDG exceedances at the Dam;
3. An evaluation of all reasonable and feasible potential and preferred structural and/or operational improvements to minimize TDG production;
4. A schedule showing when operational adjustments will occur;
5. A schedule for construction, if appropriate; and
6. Monitoring plans to further evaluate TDG production and to test effectiveness of gas abatement controls at the Dam.

¹ If the maximum powerhouse flow is 240 cfs and the flow being spilled from the jet-valve is 260 cfs and there is no flow from the spillway, the flow downstream would be 500 cfs, presuming there is no flow released from the butterfly valve.

The Licensee shall operate the Project according to the approved TDG WQAP with the objective of eliminating TDG exceedances. When the TDG WQAP has been approved, the Licensee shall immediately implement the TDG WQAP to address TDG criteria exceedances.

If monitoring to test the effectiveness of gas abatement controls implemented through the TDG WQAP shows that such efforts are not successful in eliminating exceedances, the Licensee shall propose an alternative action to achieve compliance with the TDG standards and update the WQAP accordingly.

If, at the end of the ten-year compliance period, the TDG abatement measures identified in the WQAP and subsequently employed are not successful in meeting the TDG water quality criteria and the Licensee is unable to meet water quality standards after evaluating all reasonable and feasible alternatives under WAC 173-201A-510(5)(g), the Licensee shall propose an alternative action to achieve compliance with the TDG standards, such as

1. new reasonable and feasible technologies,
2. other options to achieve compliance with the standards,
3. a new compliance schedule, or
4. other alternatives as allowed by WAC 173-201A-510.

4.4 Additional Water Quality Monitoring

The Licensee shall implement the monitoring provisions in Amended License Article 410. A copy of Amended License Article 410 is attached in Appendix A.

In addition to the TDG monitoring requirements in Section 4.3 of this Order, the Licensee shall monitor pH, temperature, dissolved oxygen, and turbidity to determine the project's impacts on water quality. Within six (6) months of the date of this Order the Licensee shall submit a proposed monitoring plan for these parameters to Ecology for review and approval. This monitoring plan may be combined with the TDG Monitoring Plan required by Section 4.3 of this Order.

As provided in Section 3.0(f), the water quality monitoring provisions may be amended to address additional data collection.

4.5 Construction projects, miscellaneous discharges, and habitat modifications

The following conditions apply to all over-water or near-water work related to the Project that can impact surface or ground water quality. This includes, but is not limited to, construction, operation, and maintenance of fish collection structures, generation turbines, penstocks, transportation facilities, portable toilets, boat ramps, transmission corridors, structures, and staging areas. This also includes emergencies for all activities related to Project operation.

- A. A Water Quality Protection Plan (WQPP) shall be prepared and followed for all Project-related work that is in or near water that has the potential to impact surface and/or ground water quality. The WQPP must be submitted to Ecology for review and approval at least three (3) months prior to Project initiation and a copy of the WQPP must be in the possession of the on-site construction manager and available for review by Ecology staff whenever construction work is under way. The WQPP shall include control measures to prevent contaminants from entering surface water and groundwaters, and shall include, but not be limited to, the following elements: (1) procedures for monitoring water quality, (2) actions to implement should water quality exceedances occur, and (3) procedures for reporting any water quality violations to Ecology.

B. The Licensee shall apply for a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activities (Construction Stormwater Permit), if applicable. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared that specifies the Best Management Practices (BMPs) and other control measures to prevent contaminants entering the Project's surface water and groundwaters.

C. Best Management Practices

1. Work in or near Lake Kokanee, water within the intake structure, the North Fork Skokomish River, the NF Powerhouse, the tailrace, or any wetlands shall be conducted to include all reasonable measures to minimize the impacts of construction activity on waters of the State. Water quality constituents of particular concern are turbidity, suspended sediment, settleable solids, oil and grease, and pH. These measures include use of BMPs to control erosion and sedimentation, proper use of chemicals, oil and chemical spill prevention and control, and clean up of surplus construction supplies and other solid wastes.
2. During construction, all necessary measures shall be taken to minimize the disturbance of existing riparian, wetland, or upland vegetation.
3. All construction debris shall be properly disposed of on land so that the debris cannot enter a waterway or cause water quality degradation to waters of the State. Retention areas or swales shall be used to prevent discharging of water from construction placement areas.
4. The Licensee shall ensure that any fill materials that are placed for the proposed habitat improvements in any waters of the State do not contain toxic materials in toxic amounts.
5. The casting of concrete in water can greatly increase pH. The Licensee shall install a temporary fabric dam to dewater the area of construction. In order to ensure that the pH water quality standard is not violated, concrete used in construction of the concrete powerhouse and the grouting of the powerhouse into the rock below the powerhouse at the face of the dam shall cure for a minimum of seven (7) days prior to contact with water. The Licensee shall monitor the tailwater to ensure that the turbidity and pH standards are not violated.

Alternatively, the Licensee may propose an alternative plan to protect water quality during construction. Such plans are subject to review and approval by Ecology and must be submitted for review 60 days prior to the start date of construction.

D. Maintaining Turbidity Standards During In-water Work

Certification of this Project does not authorize Licensee to exceed the turbidity standard beyond the area of mixing described below.

The turbidity criteria established under WAC 173-201A-210 (1)(e) shall be modified, without specific written authorization from Ecology, to allow a temporary area of mixing during and immediately after necessary in-water construction activities that result in the disturbance of in-place sediments. This temporary area of mixing is subject to the

constraints of WAC 173-201A-400 (4) and (6) and can occur only after the activity has received all other necessary local and state permits and approvals, and after the implementation of appropriate best management practices to avoid or minimize disturbance of in-place sediments and exceedances of the turbidity criteria. A temporary area of mixing shall be as follows:

1. For waters up to 10 cfs flow at the time of construction, the point of compliance must be limited to 100 feet downstream from the activity causing the turbidity exceedance.
2. For waters above 10 cfs to 100 cfs flow at the time of construction, the point of compliance must be limited to 200 feet downstream from the activity causing the turbidity exceedance.
3. For waters above 100 cfs flow at the time of construction, the point of compliance must be limited to 300 feet downstream from the activity causing the turbidity exceedance.
4. For projects in and around Lake Kokanee and Cushman Dam No. 2 and associated wetlands, the point of compliance must be limited to a radius of one hundred fifty feet from the activity causing the turbidity exceedance.

4.6. Spills

A. General Oil Spill Prevention & Control Conditions

1. The Licensee shall not discharge oil, fuel or chemicals into waters of the State, or onto land with a potential for entry into waters of the State as prohibited by Chapter 90.56 RCW and Chapter 90.48 RCW.
2. The Licensee shall contain wash water with oils, grease or other hazardous materials resulting from wash down of equipment or working areas for proper disposal, and shall not discharge these contaminated waters into waters of the State.
3. Any visible floating oils released from Project operation, maintenance activities or construction shall be contained and removed from the water.
4. The Licensee shall immediately begin and complete containment and clean-up efforts in the event of a discharge of oil, fuel or chemicals in waters of the State, or onto land with a potential for entry into waters of the State. Cleanup work shall take precedence over normal work and shall include proper disposal of any spilled material and used clean-up materials.
5. Spills into waters of the State and spills onto land with a potential for entry into waters of the State, or other significant water quality impacts, must be reported immediately (within one hour) to the Department of Ecology, Southwest Regional Office at 360-407-6300 (24-hour phone number).
6. The Licensee shall participate in the Incident Command System (ICS) whenever a Unified Command is established in response to a spill incident that involves or potentially impacts one or more Projects.
7. The Licensee shall not use emulsifiers or dispersants in waters of the State including water contained in sumps or other areas that discharge to sumps, the intake structure, the North Fork Skokomish or the tail waters.

8. Project Operators shall be familiar with and trained on use of oil spill cleanup materials. In the event of a spill, properly dispose of used/contaminated materials and oil, and as soon as possible restock new supplies. Include records of proper disposal in the oil consumption records and keep copies of disposal records of contaminated cleanup supplies on-site and available for inspection by Ecology.
9. The Licensee shall install, or have on-site to deploy, staircases, ladders, harnesses, etc., which will allow oil spill response personnel to safely reach areas that could, in the event of an oil spill, need to be accessed to deploy sorbent pads, boom material or other cleanup equipment.
10. Following all spills into water of the State, or onto land with a potential for discharge to waters of the State, the Licensee shall provide a written follow-up report to Ecology's Southwest Regional Office within 15 days of the incident. The report shall include a completed copy of the Spill Report Form, a description of the incident, response actions taken and any spill prevention measures taken or recommended to prevent similar spills.
11. The Licensee shall identify and map floor drains in the Project. Post these maps at the Project in a conspicuous location for use by Operators and other personnel in the event of a spill. Floor drains that are not needed shall be blocked or sealed.
12. Within 180 days, the Licensee shall provide Ecology with oil inventory lists and diagrams noting location of containers and oil-filled operating equipment holding more than 55-gallons of oil. The Project-specific oil inventories shall include location, type of container, number of containers, volume per container, total shell volume, spill potential, type of oil, PCB content and direction of flow in the event of a spill. Project-specific diagrams should note the location of these containers and oil-filled equipment and general oil spill flow direction;
13. The Licensee shall keep records of the amounts of oil used on-site for all project equipment containing or using oil. These records shall be kept on-site and available for inspection by Ecology;
14. The Licensee shall provide proper containment around each storage container (including transformers) or around a combination of storage containers as appropriate. Proper containment equals the volume of the largest container plus 10 percent;
15. The Licensee shall provide appropriate level markings for all oil gauges (including sight-glass gauges) to ensure Project Operators and maintenance personnel can easily identify an unusual condition;
16. The Licensee shall conducted checks during daily rounds of all fuel and lubrication hoses, oil drums, oil or fuel transfer valves and fittings, etc., for drips and leaks. Maintain and properly store them to prevent spills into state waters;
17. The Licensee shall daily inspect equipment containing oil and view oil-level gauges.

B. Turbine Pits

The Licensee shall make every effort to keep oil and grease from discharging to the turbine pits.

1. Sorbent material deployed in the turbine pits should be removed and properly disposed of whenever oil or grease is observed on the material.
2. Any oil on areas leading directly to the turbine pits shall be removed immediately. Water leaking into the turbine pit areas should be stopped immediately or contained in a manner to prevent it from flushing oil or oil residue into turbine pits.

C. Sumps

1. The Licensee shall visually inspect sumps weekly or immediately if an oil leak is suspected, such as in the event of an oil sump high level alarm or other visual indications that oil could reach the sump. Oil detected in the sumps requires immediate cleanup and Emergency Management Division (EMD) notification. Immediately repair oil leaks that are of sufficient volume to reach the sump and that cannot be contained by placing a container underneath the leak.
2. The Licensee shall provide water-proof lighting in the sump or spotlights adequate to observe oil sheens on the surface of the water in the sumps.
3. The Licensee shall initiate cleaning of the sump to remove all oil and oil residue from walls, piping and other structures in contact with sump water as necessary based on the results of weekly inspections and the volume of effluent in the sump. Oil cleanup and removal of effluent shall follow the procedure defined in the site SPCC.

D. Transformers

1. The Licensee shall verify that transformer containment areas are impervious and fill cracks, caulk pipe penetrations or otherwise ensure that containment areas will contain spills.
2. The Licensee shall inspect the transformer containment areas during routine plant rounds and immediately following large rain events.
3. The Licensee shall obtain prior approval from Ecology before breaching containment areas for reasons other than containment area maintenance.
4. The Licensee shall conform to industry standards, use BMPs or utilize other control measures for protecting water quality and preventing and containing oil spills when conducting in-place maintenance work on transformers, transporting transformers and transferring transformer oil.

E. Stormwater Pollution Prevention and Containment Area Management

1. The Licensee shall use BMPs or other control measures to prevent any oil-contaminated stormwater on the Project site from entering state waters.
2. Stormwater in transformer and oil-filled operating equipment containment areas shall be monitored for the presence of oil. If oil is present, the oil shall be removed and properly disposed of prior to draining the containment area.
3. Discharge of non-contaminated stormwater from containment areas shall be recorded. Records of all stormwater removed or discharged from containment areas shall be kept on-site and available for inspection by Ecology.

4. Snowy or icy conditions require thorough and at least daily inspection of containment areas and containment drains. Remove any observed stormwater pooling in containment areas and dispose of such water appropriately.
- F. Other
1. The Licensee shall maintain site security at the Project to reduce chance of oil spills.
 2. The Licensee shall coordinate spill response planning and response efforts with other oil-handling facilities and spill response agencies on the Skokomish River.
 3. Compliance with these conditions does not relieve the Licensee from responsibility to maintain continuous compliance with terms and conditions of this Order or resulting liability from further failure to comply.

5.0 Appeal Process

You have a right to appeal this Order. To appeal this you must:

1. File your appeal with the Pollution Control Hearings Board within 30 days of the “date of receipt” of this document. Filing means actual receipt by the Board during regular office hours.
2. Serve your appeal on the Department of Ecology within 30 days of the “date of receipt” of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). “Date of receipt” is defined at RCW 43.21B.001(2).

Be sure to do the following:

1. Include a copy of this document that you are appealing with your Notice of Appeal.
2. Serve and file your appeal in paper form; electronic copies are not accepted.

A. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey WA 98503

B. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals & Application for Relief
Coordinator
PO Box 47608
Olympia WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals & Application for Relief
Coordinator
300 Desmond Dr SE
Lacey WA 98503

C. And send a copy of your appeal to:

Deborah Cornett
SWRO Water Quality Program
PO Box 47775
Olympia, WA 98504-7775

*For additional information visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>
To find laws and agency rules visit the Washington State Legislature Website:
<http://www.leg.wa.gov/CodeReviser>*

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Chapter 43.21B RCW.

DATED this 19th day of April, 2010 at Olympia, Washington

A handwritten signature in black ink, appearing to read 'Garin Schrieve', is written over a horizontal line.

Garin Schrieve, P.E.
Water Quality Section Manager
Southwest Regional Office

APPENDIX A

Article 406: Operational and Flow Monitoring Plan

Within 180 days of issuance of the Amended License, the Licensee shall file with the Commission, for approval, a comprehensive Operational and Flow Monitoring Plan (OFM Plan). This OFM Plan will document how the Licensee shall: (1) monitor impoundment water surface elevations, as required by Article 405; (2) monitor stream flows in the Skokomish River downstream from the Project, as required by Article 407; (3) ensure compliance with the minimum instream flow requirements; (4) improve mainstem flow and flood forecasting; and (5) address water use issues, specifically from Lake Cushman, when refill, Project operations, flow releases and Lake Cushman water surface elevations may conflict.

The OFM Plan shall include, but not be limited to: (1) the use of the three existing North Fork Skokomish River U.S. Geological Survey (USGS) streamflow gages (USGS Gage Nos. 12056500, 12058790 and 12059500) and one mainstem gage (12061500); (2) the use of and/or the installation of new staff gages, impoundment water surface level monitoring devices, and flow measurement and recording equipment, as needed, to determine instantaneous water surface elevations, flows in the Skokomish River downstream from Cushman Dam No. 2, and to effectively implement the flow regime in Article 407; (3) a provision that describes the priorities in operating the Project when refill, Project operations, flow releases and Lake Cushman water surface elevations may conflict; (4) the proposed location, design, and calibration (including methods and schedule) of the monitoring equipment; (5) the relative extent of manned versus automatic operation of the monitoring equipment; (6) the methods for recording and maintaining flow data; (7) the methods for recording and maintaining surface impoundment elevation data; (8) the mechanism(s) for providing impoundment elevation data and telemetered real-time flow data to the Fisheries and Habitat Committee, Save the Lakes Coalition, and USGS; and (9) a schedule for: (a) implementation of the OFM Plan, (b) consultation with the appropriate federal and state agencies regarding the monitoring data, and (c) filing the data, agency comments, and the Licensee's response to agency comments with the Commission.

The Licensee shall develop the OFM Plan in consultation with the Fisheries and Habitat Committee and shall seek approval of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs. The Licensee shall involve a representative of Save the Lakes Coalition in development of the OFM Plan provisions that describe the priorities in operating the Project when refill, Project operations, flow releases and Lake Cushman water surface elevations may conflict. The Licensee shall allow a minimum of thirty (30) days for comments and recommendations by Fisheries and Habitat Committee members and Save the Lakes Coalition, before submitting the OFM Plan for approval to USFWS, BIA and NMFS. When filing the Plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members and Save the Lakes Coalition are accommodated by the Licensee's plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based on Project-specific information. If the Licensee files the OFM Plan with the Commission without first obtaining the approval of NMFS, USFWS and BIA, the Licensee shall include specific reasons for doing so. The Commission reserves the right to require changes to the OFM Plan. Changes to Project operations shall not commence until the Licensee is notified by the Commission that the Plan is approved. Upon Commission approval, the Licensee shall implement the Plan.

Article 407: Minimum Flows

The Licensee shall release flows from the Cushman Project into the Lower North Fork of the Skokomish River ("North Fork"), in accordance with all components of the flow regime required by this Article. The purposes of this Article are: 1) to protect, mitigate, and enhance fish and wildlife resources, riparian vegetation, aesthetic resources, and water quality in the North Fork, 2) to provide safe, timely and effective fish passage in the North Fork; and 3) to improve sediment transport in the North Fork and the Mainstem of the Skokomish River (Mainstem). The flow regime required by this Article has three components, described as follows:

1. Component 1: The Licensee shall provide an annual water budget of 160,000 acre-feet for release from the Cushman Project into the Lower North Fork of the Skokomish River. The Licensee shall release 115,835 acre-feet of the annual 160,000 acre-foot water budget as instantaneous minimum flows from the Cushman Project, into the Lower North Fork of the Skokomish River, in accordance with the following schedule:

Month: Instantaneous Minimum Flow Release Schedule:

January: 150 cfs

February: 150 cfs

March: 180 cfs

April: 180 cfs

May: 180 cfs

June: 170 cfs

July: 100 cfs

August: 100 cfs

September: 170 cfs

October: 180 cfs

November: 180 cfs

December: 180 cfs

In addition to the instantaneous minimum flow releases described above, the Licensee shall release the remaining 44,165 acre-feet of the annual 160,000 acre-feet water budget in accordance with a release schedule developed prior to each water budget year (July 1 – June 30) in consultation with the Fisheries and Habitat Committee. By no later than ninety (90) days prior to the beginning of each water budget year, the Licensee shall prepare and distribute to the Fisheries and Habitat Committee a preliminary Flow Report containing a recommended release schedule for the 44,165 acre-feet for the upcoming water budget year. Following consultation with the Fisheries and Habitat Committee, the Licensee shall modify the Flow Report to document the final release schedule determined by the Fisheries and Habitat Committee and shall file the finalized Flow Report with the Commission for informational purposes by no later than fifteen (15) days prior to the beginning of each water budget year. The Fisheries and Habitat Committee may change the above schedule to the USGS water year (October 1 – September 30).

If, during the course of a water budget year but not more than once every ninety (90) days unless exceptional circumstances exist, the Fisheries and Habitat Committee determines that the release schedule described in the Flow Report requires interim modification consistent with the purposes of this Article, the Licensee shall notify the Commission and implement the revised release schedule within seven (7) days of providing such notice, unless otherwise directed by the Commission. Additionally, during the first three water budget years after license amendment, but not more than once every thirty (30) days, if the Fisheries and Habitat Committee determines that additional interim modifications are

necessary for the purposes of this Article, the Licensee shall notify the Commission and implement the revised schedule within seven (7) days of providing such notice unless otherwise directed by the Commission. In the event that the Fisheries and Habitat Committee is unable to reach consensus regarding the release of the 44,165 acre-feet by fifteen (15) days prior to the beginning of the water budget year, the following flow regime will be implemented beginning the first day of the water budget year:

Month: Default Instantaneous Flow Release Schedule

January: 230 cfs

February: 215 cfs

March: 215 cfs

April: 220 cfs

May: 240 cfs

June: 230 cfs

July: 220 cfs

August: 200 cfs

September: 200 cfs

October: 210 cfs

November: 225 cfs

December: 235 cfs

The Licensee shall discharge water to the North Fork Skokomish River to meet the scheduled flow releases in this Article. Water releases exceeding the planned flows shall not be charged to the water budget.

For compliance purposes, the Licensee is allowed temporary fluctuations of up to five percent (5%) of the scheduled flow release as measured at USGS Gage No. 12058790 to account for monitoring imprecision and release equipment variability.

2. Component 2: In addition to the flow releases required by Component 1 of this Article 407, the Licensee shall increase flow releases from the Cushman Project, into the Lower North Fork of the Skokomish River to: (a) 500 cfs whenever the daily average flow at the North Fork Skokomish River/Staircase Rapids U.S. Geological Survey (USGS) streamflow Gage No. 12056500 ("Staircase Rapids Gage") exceeds 3000 cfs; (b) 750 cfs whenever the daily average flow at the Staircase Rapids Gage exceeds 4000 cfs; and (c) 1000 cfs whenever the daily average flow at the Staircase Rapids Gage exceeds 5000 cfs. Commencing in the sixth year after the issuance of the Amended License, and every five (5) years thereafter, the Licensee shall increase the initial flow releases of 500, 750, and 1000 cfs described herein by five percent (5%) of the previous flow and implement these flows as stated above.

The Licensee shall maintain the flow releases provided for in this component for the same duration of time that the flow at the Staircase Rapids Gage exceeds the applicable trigger of 3000, 4000, or 5000 cfs. The Licensee may delay the commencement of the flow releases required by this component by up to seven (7) days after the initial exceedance at the Staircase Rapids Gage if necessary to avoid flood impacts or to allow time for necessary water release notifications.

3. Component 3: In addition to the flow releases required by Components 1 and 2 of this Article, the Licensee shall increase flow releases from the Cushman Project, into the Lower North Fork of the Skokomish River, up to 2,200 cfs for 48 consecutive hours

whenever the daily average flow at the Skokomish River/Potlatch USGS stream flow Gage No. 12061500 exceeds 9800 cfs, or fifteen percent (15%) above flood stage, whichever is greater, between October 1 and February 15 of each year. The purpose of the flows required in this component is to test whether sediment transport is significantly improved in the Mainstem by extending the duration of the high Mainstem flow events at slightly less than bank-full capacity.

If a flood event triggers the flow releases in this Component within 2 days of the Staircase Rapids Gage exceeding the trigger flows described in Component 2, releases described in this Component will eliminate the requirement for Component 2 flows for that flood event.

The Licensee shall release the flows required by this Component as soon as practicable after the Mainstem drops below flood stage. Once the release has commenced, the Licensee shall continue the flow release for forty-eight (48) consecutive hours. The Licensee shall control the flow release to extend the duration of the high flow event in the Mainstem at or near bank-full capacity in a continuous manner, without exceeding flood stage, until reaching the maximum 2,200 cfs release. If a Component 3 release is triggered during the delay of a required Component 2 release, the Component 2 flow release will be initiated immediately following completion of the Component 3 release. The Licensee shall comply with ramping rates provided for in Article 411 of the Amended License when implementing these flows.

4. Sediment Transport Adaptive Management

Based upon the sediment transport studies provided in Article 413, in year five of this Amended License, and every five (5) years thereafter, the Licensee shall file a Component 3 effectiveness report with the Commission for its approval, after consultation with the Fisheries and Habitat Committee and seeking the approval of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs. The report shall evaluate the effectiveness of the flows provided in Component 3 for the purpose of improving sediment transport in the Mainstem Skokomish River. The report shall discuss whether modifications to the flow trigger, the timing of the flows, and the duration of the flows are necessary to improve sediment transport; however, any modification to the quantity of the flow release provided for in this component shall be limited to no more than a five percent (5%) increase in the total quantity of each Component 3 flow release in each five-year evaluation period beginning in year eleven. The report shall also analyze the impacts to meeting the Article 405 refill requirements and the potential benefit to improving sediment transport in the Mainstem of extending the Component 3 seasonal period through March 31. If the analysis demonstrates that extending the seasonal period will not adversely impact refill and will improve sediment transport, the Fisheries and Habitat Committee may extend the seasonal period through March 31.

5. Component 3 Flow Alternative

5.1 Flood Damage Reduction and Mitigation Plan

If the Fisheries and Habitat Committee determines based on best available information that the flows required by Component 3 are not effective at improving sediment transport in the Mainstem Skokomish River, it may request that the Licensee develop and implement a Flood Damage Reduction and Mitigation Plan (FDRM Plan). If so

requested, the Licensee shall develop this Plan and file it with the Commission within 180 days of receiving notice to do so by the Fisheries and Habitat Committee.

The Licensee shall develop the FDRM Plan in consultation with the Fisheries and Habitat Committee and shall seek approval of NMFS, USFWS, and BIA. The Licensee shall allow a minimum of thirty (30) days for comments and recommendations by Fisheries and Habitat Committee members before submitting the FDRM Plan for approval to the USFWS, BIA and NMFS. When filing the FDRM Plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from Fisheries and Habitat Committee members are accommodated by the Licensee's FDRM Plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based on Project-specific information. If the Licensee files the Flood Damage Reduction and Mitigation Plan with the Commission without first obtaining the approval of NMFS, USFWS and BIA, the Licensee shall include specific reasons for doing so.

The FDRM Plan shall: (1) include the rationale for proposing a cessation of Component 3 flows; (2) identify an initial list of projects in order of priority to be implemented by the Licensee over the first five (5) years of plan implementation either to enhance channel conveyance capacity or reduce or mitigate flood damage in the Skokomish River basin; (3) identify provisions for creating a Flood Damage Reduction and Mitigation Fund to cover the costs of plan implementation, consistent with paragraph 5.2; and (4) include provisions for resuming Component 3 flow releases. The Licensee shall update the list of projects every five (5) years on the anniversary of the Commission's approval, following the same procedures discussed above for consultation with the Fisheries and Habitat Committee, seeking approval by NMFS, USFWS, and BIA, and filing with the Commission.

Any measures identified in the FDRM Plan for implementation in a location that is both: (a) outside the North Fork Skokomish sub-basin and (b) outside of the then existing Project boundary, will be limited to actions that do not result in an expansion of the Project boundary. The Commission reserves the right to require changes to the FDRM Plan and the updated project lists. Component 3 flows shall be provided by the Licensee until the Licensee is notified by the Commission that the FDRM Plan is approved. Upon Commission approval, the Licensee shall discontinue Component 3 flows and implement the FDRM Plan.

5.2 Flood Damage Reduction and Mitigation Fund

The Licensee shall deposit \$150,000 into an interest bearing account within thirty (30) days after Commission approval of the Flood Damage Reduction and Mitigation Plan. In addition, the Licensee shall deposit \$150,000 into an interest bearing account every year thereafter for the term of the Amended License, and \$150,000 for each subsequent annual license, on the anniversary date of the Commission's approval of the Plan. All funds deposited into the Flood Damage Reduction and Mitigation Fund shall be based on 2008 dollars and adjusted annually according to the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton (CPI-U). The Licensee shall use this account to fund projects developed pursuant to this License Article. The Licensee shall not use the funds provided within this paragraph for its administration and oversight of these projects.

The Licensee shall develop a proposed budget for each project. The Licensee shall use the funds provided within this section to implement only those projects specified, budgeted for, and approved by NMFS, BIA, and USFWS after consultation with the Fisheries and Habitat Committee. Use of any funds in excess of amounts budgeted for such activities must be approved by NMFS, BIA, and USFWS after consultation with the Fisheries and Habitat Committee. Provided, however, the funds shall not be used to cover any additional costs incurred by the Licensee in completing the projects developed pursuant to this Article, due to the negligence or other fault of the Licensee or the Licensee's contractor, unless otherwise approved by the Committee.

6. General Provisions

The Licensee shall notify the Skokomish Indian Tribe no less than twenty-four (24) hours in advance of any increased flow releases provided for in Components 2 and 3 of this Article 407. Article 407 flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee. If flows are so modified, the Licensee shall notify the members of the Fisheries and Habitat Committee as soon as possible, but no later than forty-eight (48) hours after each such incident. The Licensee shall notify the Commission no later than ten (10) days after each such incident.

The Licensee shall include, in any report prepared pursuant to this Article 407, documentation of its consultation with the Fisheries and Habitat Committee, copies of the comments and recommendations on the report after it has been prepared and provided to the Fisheries and Habitat Committee, and specific descriptions of how the comments and/or recommendations of the Fisheries and Habitat Committee are accommodated by and incorporated into the report. The Licensee shall allow a minimum of thirty (30) days for the Fisheries and Habitat Committee members to provide comments and recommendations before filing the report with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based on Project-specific information.

Article 410

Within 180 days of issuance of the Amended License, the Licensee shall file with the Commission, for approval, a water quality enhancement plan to protect and enhance water quality, recreation, and aesthetics in the North Fork of the Skokomish River. The plan shall include, but not be limited to the following provisions:

(1) Installing emergency intake shutoff valves on all penstock intakes: The Licensee shall provide design drawings, and describe the guidelines under which the valves will be operated, as well as a schedule for installing the valves.

(2) Improving Staircase Road in a manner consistent with U.S.D.A. Forest Service (USFS) stipulations to protect water quality: The Licensee shall include a mechanism and a schedule for contributing an amount not to exceed \$750,000 as matching dollars for Federal or other grants, if the USFS determines that it will facilitate jurisdiction of Staircase Road (USFS Road No. 24) being assumed by a public road management agency. If jurisdiction is not transferred within three (3) years after issuance of the Amended License and upon the request of the USFS, instead of contributing \$750,000 (2008 dollars), adjusted annually by the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index, All Urban consumers, for Seattle-Tacoma-Bremerton (CPI-U), as matching dollars the Licensee shall apply a double thickness bituminous

surface treatment (BST) - asphalt emulsion and chip rock) and additional aggregate base to accommodate anticipated traffic loading from MP 10.1 to MP 14.08. This initial application shall be supplemented with an additional (third) surface course of asphalt and aggregate to be applied within the first five (5) years of the original placement, the specific timing to be determined by the USFS, to keep the structural integrity of the surface. Subsequent operations, maintenance and treatment activities are to be done pursuant to Article 427.

(3) Monitoring dissolved gases (*e.g.* nitrogen) at all powerhouse outfalls and spillways during spill events: The Licensee shall describe: (a) all the mechanisms and structures used to monitor dissolved gases; (b) the methods for recording and maintaining data on dissolved gases, and providing relevant data to the Commission and the appropriate agencies for review; and (c) the schedule for implementing the monitoring program. The Licensee shall also describe reasonable enhancement measures, developed in consultation with appropriate agencies, to address nitrogen levels that deviate from Washington's standards due to the operation of the Project.

The Licensee shall prepare the water quality enhancement plan after consultation with U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Indian Affairs, National Park Service, USFS, Washington Department of Fish and Wildlife, Washington Department of Ecology, and the Skokomish Indian Tribe. The Licensee shall include with the plan documentation of consultation, and copies of comments and recommendations on the Licensee's proposed plan after it has been prepared and provided to the agencies and the Tribe.

Article 411: Ramping Rate Conditions

The Licensee shall operate the Project within the following ramping rate restrictions as measured at North Fork Skokomish River U.S. Geological Survey (USGS) Streamflow Gage No. 12058790.

1. Downramping Rates

Downramping rate refers to the rate of allowable stage decline. The following rates apply to flows less than the critical flow, which is currently estimated to be 500 cfs.

<i>Time of Year</i>	<i>Daylight Rates</i>	<i>Night Rates</i>
February 16 to June 15	No Ramping	2 inches per hour
June 16 to October 31	1 inch per hour	1 inch per hour
November 1 to February 15	2 inches per hour	2 inches per hour

Daylight is defined as one hour before sunrise to one hour after sunset. Night is defined as one hour after sunset to one hour before sunrise.

At flows greater than the critical flow, currently estimated to be 500 cfs, the Licensee shall attempt to limit the downramping rate to no more than 0.5 feet per hour unless flows are exacerbating downstream flood conditions that would warrant a more rapid reduction of flows.

The Licensee shall modify the critical flow and down ramping rate restrictions upon recommendation of the Fisheries and Habitat Committee, and approval by the Commission.

2. Upramping Rates

Upramping rate refers to the rate of allowable stage increase. The Licensee shall limit the upramping rate to no more than 1 foot per hour unless required by an operating emergency.