



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

15 West Yakima Avenue, Suite 200 • Yakima, Washington 98902-3452 • (509) 575-2490

June 1, 2004

**CERTIFIED MAIL**

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Gregg Carrington  
Relicensing Project Manager  
Public Utility District No. 1 of Chelan County  
PO Box 1231  
Wenatchee, WA 98807-1231

**RE: Lake Chelan Hydroelectric Project (FERC No. 637)  
401 Certification - Order No. 1233**

Dear Mr. Carrington:

Enclosed is Ecology Administrative Order No. 1233. The purpose of this Order is to amend the 401 certification per Pollution Control Hearings Board (PCHB) Order No. 03-075, dated April 21, 2004, to include the clarifications that the Board directed be added. The 30-day appeal period for the PCHB order ran as of May 21, 2004, so the Board's order is now final. This Ecology order amends the previous Ecology Order No. DE 03WQCR-5420.

This certification is subject to the conditions contained in the enclosed Order. If you have any questions, please contact Pat Irle at (509) 454-7864. Written comments and correspondence relating to this document should be directed to Section Manager, Water Quality Program, Department of Ecology, Central Regional Office, 15 W. Yakima Avenue, Suite 200, Yakima, WA 98902.

Because this order merely transmits without change the clarifications required by the PCHB, no new appeal period is triggered.

Sincerely,

G. Thomas Tebb, L.E.G.  
Section Manager  
Water Quality Program  
GTT:vv

Enclosure

cc: Secretary, FERC  
Rod Woodin, WDFW  
Steve Lewis, USFWS  
Rich Domingue, NOAA Fisheries

Alan Quan, USDA-FS  
Bill Paleck, NPS  
Brett Swift, American Rivers  
Bob Heinith, CRITFC

Carl Merkle, Umatilla Tribe  
John Gangemi, American Whitewater  
Bob Rose, Yakama Nation



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

<b>IN THE MATTER OF GRANTING A</b>	)	ORDER NO. 1233 (Amended
<b>WATER QUALITY CERTIFICATION TO:</b>	)	Order No. DE 03WQCR-5420)
Lake Chelan Hydroelectric Project	)	Licensing of the Lake Chelan
in accordance with 33 U.S.C. 1341	)	Hydroelectric Project (FERC #637)
FWPCA § 401, RCW 90.48.260	)	Chelan County, Washington
and Chapter 173-201A WAC	)	

**TO: Mr. Gregg Carrington  
Relicensing Project Manager  
Public Utility District No. 1 of Chelan County  
P.O. Box 1231  
Wenatchee, WA 98807-1231**

On March 27, 2002, the Public Utility District No. 1 of Chelan County (Chelan PUD) filed an application with the State of Washington Department of Ecology (Ecology) requesting issuance of a certification under the provisions of 33 USC 1341 (FWPCA § 401) for their application for a license to the Federal Energy Regulatory Commission for the Lake Chelan Hydroelectric Project certifying that the project will comply with applicable provisions of 33 USC 1311, 1312, 1313, 1316, 1317 and with any other appropriate requirement of state law. Ecology subsequently issued a 401 certification for the project; that certification was amended and re-issued on April 21, 2003. The certification was appealed to the state Pollution Control Hearings Board. The Board issued Order No. 03-075 on April 21, 2004, upholding the 401 certification, with nine (9) specific clarifications. This amended 401 certification and amended Order consist of the appealed 401 certification with the nine clarifications included as Section X of the 401 Certification.

**NATURE OF PROJECT:**

The Chelan Dam Hydroelectric Project generates 48 megawatts of hydropower. The project includes a diversion dam at the head of the Chelan River, at the southeast end of Lake Chelan, near the city of Chelan. The diversion dam is 40 feet high and 490 feet long. The dam controls the elevation of Lake Chelan, a 55-mile long natural lake. The dam also controls the flow to the Chelan River, which is 4.1 miles long and empties into the Columbia River. Water for hydropower is conveyed from the intake at the dam to the powerhouse through a 14-foot diameter, 2.2-mile-long power tunnel which transitions to 12 feet in diameter prior to bifurcating to form two penstocks, 90 feet in length. The penstock empties into a tailrace, about 1,700 feet from the Columbia River, just south of the mouth of the Chelan River.

**AUTHORITIES:**

In exercising authority under 33 U.S.C. 1341 and RCW 90.48.260, Ecology has investigated this application pursuant to the following:

1. Conformance with all applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. Sections 1311, 1312, 1313, 1316, and 1317 (FWPCA Sections 301, 302, 303, 306, and 307);
2. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC authorized by 33 U.S.C. 1313 and by Chapter 90.48 RCW, and with other appropriate requirements of state law; and,

3. Conformance with any and all applicable provisions of Chapter 90.48 RCW and of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

**CERTIFICATION:**


In view of the foregoing and in accordance with 33 USC 1341, RCW 90.48.260 and Chapter 173-201A WAC, it is ordered that:

1. Subject to the attached conditions, certification under the provisions of 33 USC 1341 is granted to Chelan PUD for the Lake Chelan Hydroelectric Project.
2. This certification does not exempt compliance with the state's Shorelines Management Act.
3. This certification does not exempt compliance with other statutes and codes administered by federal, state and local agencies.
4. This certification will cease to be valid if the project is constructed and operated in a manner not consistent with the application for certification, or the attached conditions of the certification.
5. This certification will cease to be valid and the applicant must reapply with an updated application if five or more years elapse between the date of the issuance of this certification and receipt of federal license.
6. This certification will cease to be valid and the applicant must reapply with an updated application if the information contained in the application is voided by subsequent submittals to the federal agency.
7. The conditions of this certification may be modified by Ecology or the certification will cease to be valid, as determined by Ecology, if there is a change in the terms of the Settlement Agreement, or of any of its components, particularly the Comprehensive Plan, Chapter 7, "Chelan River Biological Evaluation and Implementation Plan" (CRBEIP) (revised April 18, 2003 and included as an attachment), after this 401 certification has been issued. Ecology also reserves authority to modify this certification pursuant to the attached conditions.

Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars for each day of continuing noncompliance.

This Order may not be appealed.

June 1, 2004 at Yakima, Washington

  
G. Thomas Tebb, L.E.C.  
Water Quality Section Manager  
Central Regional Office  
Department of Ecology  
State of Washington

Attachment: Chelan River Biological Evaluation and Implementation Plan (CRBEIP)

## **ORDER NO. 1233**

### 401 CERTIFICATION CONDITIONS FOR THE LAKE CHELAN HYDROELECTRIC PROJECT (FERC No. 637)

#### I. General Requirements

- A. All water quality criteria as specified in Chapter 173-201A WAC apply to the various waters affected by this project and the Chelan PUD shall comply with those criteria. Nothing in this order shall be construed to allow the Chelan PUD to violate Washington's water quality standards, with the sole exception of such non-compliance associated with the ten year compliance schedule set forth herein.
- B. The Chelan PUD shall implement the measures identified herein and in the Chelan River Biological Evaluation and Implementation Plan (CRBEIP revised April 18, 2003)<sup>1</sup> under the schedule agreed to within the Settlement Agreement. The Settlement Agreement provides for ten years or less to achieve the biological objectives.
- C. In the event of changes or amendments to the state water quality standards (Chapter 173-201A WAC), or changes in or amendments to the state Water Pollution Control Act (RCW 90.48), or changes in or amendments to the Federal Clean Water Act, such provisions, standards, criteria or requirements shall also apply to this project and any attendant agreements, orders or permits.
- D. Discharge of any solid or liquid waste to the waters of the state of Washington without approval from Ecology is prohibited.
- E. The PUD shall allow Ecology such access as necessary to inspect the project operations, project area and project records required by this certification in order to monitor compliance with the conditions of this order.
- F. Ecology retains the right to require additional monitoring or studies if necessary to provide reasonable assurance of compliance with water quality standards.
- G. Copies of this order and associated permits, licenses, approvals and other documents shall be kept on site and made readily available for reference by PUD staff, its contractors and consultants, and by Ecology.

#### II. Findings

- A. Historically, the Chelan dam has diverted water from most of the 4.1 miles of the Chelan River. This has left the river dry much of the year and hence in some areas eliminated and in others severely limited fish use of the river.
- B. Historically, prior to the project, during most of the summer, temperatures in the Chelan River would have exceeded 18.0° C, which is the target under current Class A standards. Ecology Standards do not allow a human activity to increase a water temperature by greater than 0.3° C when water is above 18.0° C. Studies performed

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<sup>1</sup> Chelan River Biological Evaluation and Implementation Plan, Chelan PUD No. 1, (revised April 18, 2003.)

- for this project predict that the proposed minimum flows for the Chelan River would result at times in temperature more than 0.3 ° C above temperatures that would naturally occur.
- C. Where it is not feasible to fully meet water quality standards Clean Water Act regulations allow Ecology to take action to remove or modify a designated use or to modify the criteria assigned to protect that designated use if other criteria would sufficiently protect that use. The process may involve a use attainable analysis and/or standard modification. However, the Chelan River has been dewatered for over 76 years and it is not currently known what level of support for fish and water temperature for such use can reasonably be achieved in the river. To make that determination, Ecology believes that the best approach is to proceed with a ten year adaptive management plan which will allow a sufficiently lengthy period of time to determine what level of fish support and water temperature is reasonable and feasible to achieve.
- D. Ecology has worked collaboratively for a number of years with a relicensing team that includes the Chelan PUD, federal and state fishery resource agencies, and other stakeholders develop biological objectives to be achieved in the Chelan River. Those objectives identify three key species of fish (westslope cutthroat trout, steelhead trout and fall chinook salmon) for restoration or enhancement. The biological objectives and the initial measures that shall be implemented to attain those objectives are described in the Chelan River Biological Evaluation and Implementation Plan (CRBEIP revised April 18, 2003). Once those initial measures are implemented, regular monitoring and evaluation, as prescribed below, will be undertaken to identify any new measures or modification of the initial measures that may be necessary to achieve the objectives or effectively monitor and evaluate conditions. Changes to the implementation measures will be made in coordination with the Chelan River Fishery Forum (CRFF); however, Ecology retains authority to order additional changes or modifications to the extent necessary.
- E. The adaptive management plan contemplates, at the end of the ten years or sooner, Ecology will determine whether Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve the biological objectives, and if so whether water quality standards have been fully achieved. If Chelan PUD has undertaken such measures and water quality standards have not been fully achieved, Ecology will seek to resolve such non-compliance through a process to make site-specific and/or use-based rule changes to the water quality standards or such other process as may be consistent with state and federal law.
- F. The intent of these actions is to support the goals of the State of Washington to “maintain the highest possible standards to ensure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.” (RCW 90.48.010).

G. The reference herein to the Lake Chelan Comprehensive Plan and specifically the CRBEIP (revised April 18, 2003), should not be construed to adopt or approve all of the opinions and statements of a factual nature that are contained therein.

III. Instream Flows for Fish

A. Minimum Instream Flow Requirements

i) The project shall provide and maintain the minimum instream flows for the Chelan River as described in the CRBEIP (revised April 18, 2003), Table 7-3. These flows are specified below. The definitions of dry, average and wet years are provided in Section 2.6.5 of the CRBEIP (revised April 18, 2003).

Reach	Dates	Dry year (cfs)	Average year (cfs)	Wet year (cfs)
<b>1, 2 &amp; 3<sup>1</sup></b>	July 16- May 14	<b>80</b> all months	<b>80</b>	<b>80</b>
	May 14		ramp up to <b>200</b>	Ramp up to <b>320</b>
	May 15- July 15		<b>200</b>	<b>320</b>
	July 16		ramp down to <b>80</b>	Ramp down to <b>80</b>
<b>4<sup>2</sup> Spawning flow</b>	March 15 - May 15; <i>and</i> Oct. 15 - Nov. 30	80 + 240 pumped <b>(320)</b>	<b>320</b> by combination of spill & pumping  Incubation flow, as needed	<b>320</b> by combination of spill & pumping  Incubation flow, as needed

<sup>1</sup> Flows measured at the dam by calibrated gate rating.

<sup>2</sup> Flows measured at the dam or through calibrated pump discharge curves.

- ii) Minimum flows shall be provided by Chelan PUD as soon as the structures needed to provide such flows are constructed, which shall occur no later than two years after the effective date of the license. The structures to be constructed are a new flow release structure at the dam and modification to the channel in Reach 4.
- iii) Instream flows shall be maintained in the bypassed reach of the Chelan River and in the tailrace, sufficient to meet water quality goals and standards for the waterway, as provided in Chapters 173-201A, 173-500 WAC, 90.48 and 90.54 RCW and meeting the biological objectives identified in section 4 of the CRBEIP (revised April 18, 2003).
- iv) Prior to the date such structures are completed, Chelan PUD shall make good faith effort to provide flows that agencies may request for the purpose of testing designs or structures or of gathering other data, including any water quality data.
- v) The minimum instream flow requirements set forth in this certification are considered minimum values and do not preclude other agencies with authority to require minimum instream flows higher than these.

- vi) Higher flows may also be determined to be needed by the CRFF or by Ecology, as a result of studies performed as part of the CRBEIP (revised April 18, 2003).
- vii) In order to assure continuing compliance with Chapter 173-201A WAC, Ecology retains the right to amend the instream flow requirements specified in this certification to provide adequate habitat and to meet the biological objectives for cutthroat in Reaches 1, 2 and 3 of the Chelan River, or for fall Chinook or steelhead in Reach 4 of the Chelan River, or any species included in the future on a state or federal listing of endangered or threatened species.
- viii) This is a non-severable requirement of Ecology's certification. If it is rejected, in whole or part by the Federal Energy Regulatory Commission (FERC), Ecology's water quality certification for the Lake Chelan Project shall be deemed denied.

B. Ramping Rates

- i) The project shall not exceed the following ramping rate for the purpose of preventing stranding of fish in the Chelan River, of two inches per hour, to be modified in consultation with the CRFF, as described in Section 3.2, table 7-6 of the CRBEIP (revised April 18, 2003).

C. Flow Security Criteria for Tailrace

- i) The project shall adhere to the flow security criteria for the tailrace as described in Section 4.1.3, table 7-9, 7-10 and Sections 3.6, 4.1.3 and 5.5.1 of the CRBEIP (revised April 18, 2003). This condition is to prevent damage to salmon redds that may occur as a result of a powerhouse shutdown.

IV. Habitat Modifications and Biological Evaluation

- A. Improvement of Habitat in Reach 4 and the Tailrace: No later than two years after the effective date of the license, Chelan PUD shall complete modifications to improve habitat in Reach 4 and the tailrace, as set forth in Section 3.1 and 3.2 respectively of the CRBEIP (revised April 18, 2003). The Chelan PUD shall use standard river habitat restoration techniques to accomplish the goals of providing and maintaining gravel areas for spawning, boulder placements for cover and pool formation, and increased structural roughness to moderate velocities and provide additional area and habitat diversity, as described in detail in Section 3.1, figures 7 through 9, and Section 3.2, figures 7 through 10 of the CRBEIP (revised April 18, 2003).
- B. "As-Built" Plan: An "As-Built" plan shall be prepared by Chelan PUD after construction and/or modifications to improve habitat in Reach 4 and the Tailrace as set forth in Section 3 of the CRBEIP (revised April 18, 2003). The plan shall be of sufficient detail as necessary to support achievement of the biological objectives identified in Section 4 of the CRBEIP (revised April 18, 2003). The "As-Built" plan shall be included in the first Biological Objectives Status Report, submitted in year four.

- C. Biological Objectives: The objective of the implementation measures is to meet the biological objectives identified in Section 4, Table 7-9 and 7-10 of the CRBEIP (revised April 18, 2003). The Chelan PUD shall make such adaptive measures as discussed in the CRBEIP (revised April 18, 2003) or as agreed during negotiations of the CRFF.

<b>Goals</b>	<b>Criteria for Success</b>	<b>Evaluation Timeframe</b>
<b>Chinook</b> Adult use of habitat Reach 4/Tailrace	Evidence of adult production from fish produced in Chelan River	Years 1 - 10
<b>Steelhead</b> Outmigrant Success	Evidence of adult production from fish produced in Chelan River – net benefit to the ESU	Years 5 - 10
<b>Cutthroat</b> Habitat Use Reaches 1 -3	200 resident fish	Years 5 - 10

- D. Adaptive Management Options to Meet Biological Objectives: Section 3.6 of the CRBEIP (revised April 18, 2003) sets forth a number of management options Chelan PUD may implement to address how to meet the biological objectives. Such options include pumping tailrace water into Reach 4 for rearing salmonids, and temperature reduction actions for Reaches 1 through 3, including increasing shade, refugia enhancement, and flow increases during hot weather or daytime.
- E. Biological Objectives Status Reports: By no later than April 30, in each of years 4, 6, 8, and 10 following the effective date of the license, Chelan PUD shall provide to Ecology and other members of the CRFF a final Biological Objectives Status Report that (1) summarizes the results of monitoring and evaluation program, and evaluates the need for modification of the program, (2) describes the degree to which the biological objectives have been achieved, and the prospects for achieving those objectives in the next reporting period, (3) reviews management options taken to meet those biological objectives, and (4) recommends any new or modified restoration and/or monitoring and evaluation measures that are needed to meet, to the extent practicable, the biological objectives. Such recommendations shall contain a schedule for timely implementation. No later than February 28 of each year, Chelan PUD shall provide a draft of such final report to the CRFF and consult with its members prior to issuing the final report. If a CRFF member is not in agreement with the draft report or recommendations and has an alternative evaluation or recommendation, Chelan PUD shall include a discussion of that alternative or recommendation in the final report.
- F. Implementation of Measures to Achieve Biological Objectives: If consensus is achieved among (the fish and wildlife agencies) Ecology, and Chelan PUD as to new or modified measures needed to achieve biological objectives and the schedule of implementation thereof, the recommendations shall become part of the plan and implemented in accordance with the schedule or absent an agreed schedule, by August 1 of the reporting year. These new and modified measures are deemed to be



- part of this Order if consensus is achieved by the agencies and Chelan PUD. If however, such measures should require an amendment to the license or Federal Energy Regulatory Commission (FERC) approval, Chelan PUD shall petition FERC to so amend the license.
- G. Resolution of disagreements over new or modified measures: If within sixty (60) days after issuance of each of the final Biological Objectives Status Report, the fish agencies, Ecology and Chelan PUD do not reach consensus as to new or modified measures needed to achieve the biological objectives, including the implementation schedule, or to carry out monitoring and evaluation, the Department of Ecology, in consultation with CRFF members and Chelan PUD as time permits, will make final determination of measures to be implemented. During the pendency of the consultation process, the minimum level of new or modified measures that the agencies and Chelan PUD can agree upon shall be implemented.
- H. Compliance with Biological Objectives and State Water Quality Standards: Chelan PUD shall comply with the implementation schedule as provided in tables 7-9 and 7-10 of the CRBEIP (revised April 18, 2003). No later than ten (10) years after the effective date of the license, Chelan PUD shall provide Ecology with the information necessary to make a determination on whether the biological objectives in the CRBEIP (revised April 18, 2003) and the state water quality standards have been achieved. Ecology agrees that it will confer with the fish agencies and the Chelan PUD prior to making a determination whether and to what extent the biological objectives contained in the CRBEIP (revised April 18, 2003) have been met. If Ecology determines that the biological objectives have been met but non-compliance with water quality standards exists, Ecology intends that it will initiate a process to modify the applicable standards through rulemaking or such alternative process as may otherwise be authorized under applicable state and federal law. If Ecology determines that some or all of the biological objectives have not been met and that Chelan PUD has undertaken all known, reasonable, and feasible measures to achieve those objectives, Ecology intends to initiate a process to modify the applicable water quality standards to the extent necessary to eliminate non-compliance with such standards. Such modifications of state water quality standards shall not release Chelan PUD from compliance with implementation and monitoring measures required by this order. Chelan PUD shall upon request by Ecology, fully respond to all reasonable requests for materials to assist Ecology in making determinations under this order and any resulting rulemaking or other process.
- I. Actions if Biological Objectives are not Achieved: Following the issuance of the final Biological Objectives Status Report in year ten (10), if the Chelan PUD concludes that a biological objective cannot be met in part or whole despite its having undertaken all known, reasonable, and feasible measures to meet that objective, Chelan PUD may petition in writing Ecology, NOAA Fisheries, United States Fish and Wildlife Service (USFW), and the Washington Department of Fish and Wildlife (WDFW) to modify or eliminate a biological objective and/or associated implementation measure. Ecology reserves the authority to make the final decision.

J. Reservation of Authority: Ecology reserves the authority to issue orders to require new or modified measures beyond those otherwise provided for in this order and the CRBEIP (revised April 18, 2003) as may be reasonable and necessary to meet applicable water quality standards and other appropriate requirements of state law. In exercising such authority, Ecology shall consider any conflicts that arise between designated and/or existing beneficial uses, and reconcile such conflicts in a reasonable manner consistent with applicable state and federal law. Such new or modified measures may include, but are not limited to, changes to minimum flows and ramping rates.

V. Water Quality Monitoring, Modeling and Reporting

A. Immediate Implementation

Immediately upon initiation of minimum flows, which must be accomplished no later than two years after the effective date of the new license, Chelan PUD shall begin water quality measurements for the following parameters, at the identified frequencies and locations:

- i) Flows entering the Chelan River bypassed reach and penstock (powerhouse discharge), measured hourly.
- ii) Water temperature measured hourly, for water entering the Chelan River at the Chelan Dam forebay, at the end of Reaches 1, 3 and 4, and in the tailrace.
- iii) General water quality assessment, at locations specified, in years 3 and 5, following license acceptance, sufficient to demonstrate that the Chelan River meets water quality standards for dissolved oxygen (Reach 4), total dissolved gas (below spillway), turbidity (Reach 4), and pH (Reach 4). The results of the water quality assessment shall be reported no later than February 28 of years 4 and 6, following license acceptance.
- iv) Petroleum products (visible sheen) in the tailrace shall be monitored by visual observation on a weekly basis and reported annually, or in accordance with sections V E (i) and VII C (ii) of this Order as appropriate.

B. Water Quality Monitoring and Modeling Plan

- i) Within one year of the date of this order, Chelan PUD shall prepare a quality assurance project plan (QAPP) for water quality monitoring and temperature modeling as required by this Order, and submit the plan to Ecology for review and written approval.
- ii) The QAPP shall be prepared in accordance with the Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, February 2001, Ecology Publication Number 91-16.
- iii) The QAPP shall describe methods used to sample and monitor the above parameters. The QAPP shall also include proposed methods to assess the data collected. This is likely to include future modeling of temperature using the model SNTEMP.

- iv) In year 6, Chelan PUD shall provide the results of a study to determine the geomorphic influences on water temperatures in the Chelan River in order to address temperature, velocity, depth, and substrate to determine the best methods to achieve the biological objectives for cutthroat trout. The plan and results shall be approvable by Ecology. This study shall be incorporated into the second submittal of the Biological Objectives Status Report.
- v) Chelan PUD shall re-evaluate and propose needed revisions to the QAPP. Changes to the QAPP need written approval by Ecology before taking effect.

C. Monitoring and Modeling Results

- i) Water quality monitoring data for flows and temperature shall be available on a monthly basis from July through September and on a quarterly basis the rest of the year (i.e., Oct-Dec; Jan-March; and April-June). The data shall present any water quality exceedances and measures taken by Chelan PUD in conformance with the CRBEIP (revised April 18, 2003). The data shall be made available no later than the 30th day of the month following the reporting period. The data shall be posted on the Chelan PUD website.
- ii) A summary data report shall be prepared and submitted annually, providing the data assessment described in the QAPP to determine compliance with state water quality standards. The report shall be submitted by February 28th of the year following the collection of the data.
- iii) Data shall be summarized and reported in a format approved by Ecology. Ecology will use the results to determine compliance with state water quality standards.
- iv) Data reports shall be submitted to Department of Ecology, Water Quality Program, Central Regional Office, and to any other party that requests them.

D. Modification to Monitoring

- i) The Chelan PUD may request that all or part of the above sampling described in this section be suspended or modified after a minimum of three (3) years of complete, reliable data collection.
- ii) A more rigorous water quality sampling program for the listed parameters or additional parameters may be required by Ecology if necessary to protect water quality in the future based on monitoring results, regulatory changes, changes in project operations and/or requirements of TMDLs or to otherwise provide reasonable assurance of compliance with state water quality standards.

E. Water Quality Violations

- i) Any observed values in violation of Class A water quality standards in the bypassed reach of the Chelan River for any of the parameters listed below shall be reported to Washington Department of Ecology, Central Regional Office immediately upon observation or no later than 48 hours with explanation for cause and notification of the course of action taken. The parameters include temperature (above modeled natural temperatures), pH, dissolved oxygen, total

dissolved gas, turbidity, sheen observed from petroleum products, and fish dying.

VI. In-Stream Work/Construction of Habitat

A. Pollution Prevention

- i) Work in or near the waterway shall be done so as to minimize turbidity and other water quality impacts.
- ii) The work shall 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 Best Management Practices (BMP's) 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.
- iii) During clearing and grading at the various project sites, Chelan PUD shall take all necessary measures to minimize the alteration or disturbance of existing riparian, wetland or upland vegetation.
- iv) All construction debris shall be properly disposed of on land so that it cannot enter a waterway or cause water quality degradation to state waters. Retention areas or swales shall be used to prevent discharging of water from construction placement areas.
- v) Chelan PUD shall ensure that any fill materials that are placed for the proposed improvements to habitat in the Chelan River and the tailrace do not contain toxic materials in toxic amounts.
- vi) Coverage under an NPDES Aquatic Pesticides Permit for the Project shall be obtained prior to the use of any herbicides, pesticides, algicides that may be used in or adjacent to waters of the state, and any other applicable state requirement such as SEPA.

B. Turbidity Standards

- i) Certification of this project does not authorize the applicant to exceed the turbidity standard for Class A waters beyond the mixing zone described below. Turbidity in Class A waters shall not exceed 5 NTU over background turbidity when turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
- ii) Consistent with WAC 173-201A-100(7) and -110(3), a mixing zone is established within which the turbidity standard is waived. The mixing zone is established to allow only temporary exceedances of the turbidity criteria during and immediately after project construction. The temporary turbidity mixing zone shall be as follows:

- a. For waters up to 10 cfs flow at the time of construction, the point of compliance shall be 100 feet downstream from activity causing the turbidity exceedence.
- b. For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be 200 feet downstream from activity causing the turbidity exceedence.
- c. For waters above 100 cfs flow at the time of construction, the point of compliance shall be 300 feet downstream from activity causing the turbidity exceedence.

C. Construction Water Quality Protection Plan (WQPP)

- i) A water quality protection plan (WQPP) shall be prepared, submitted to Ecology for approval, and implemented for all in-water construction work related to the project. The plan shall include 1) the necessary water quality protection requirements consistent with a Hydraulic Project Approval (HPA) for the project, 2) a description of all applicable Best Management Practices (BMPs) for in and near-water work, 3) a plan for sampling and monitoring during construction, 4) a plan for implementing mitigation measures should a water quality exceedance occur, and 5) a plan for reporting any water quality violations to the Department of Ecology.
- ii) The sampling and monitoring plan shall include the performance standards for measuring compliance with turbidity and dissolved oxygen 100 feet upstream of the location where in-water construction is taking place and at the point of compliance during construction. Samples shall be taken of a minimum of once each day during construction in or adjacent to any water bodies within the project area that may be affected by the construction.
- iii) Coverage under an NPDES Construction Stormwater Permit shall be obtained prior to the start of construction activities covering more than one acre and any other applicable state requirement such as SEPA.
- iv) A copy of the water quality protection plan shall be in the possession of the on-site construction manager, and available for review by Department of Ecology staff, whenever construction work is under way.
- v) Chelan PUD shall obtain Ecology review and approval before undertaking Project repair or maintenance activities that might significantly affect water quality (other than repair or maintenance activities required by or considered in this Certification). Ecology may, at Chelan PUD's request, approve specified repair and maintenance activities on a periodic basis.

VII. Oil Spill Prevention and Control

A. Standards

Chapter 90.56 RCW prohibits any discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters.

B. Oil Spill Prevention, Containment, and Countermeasure Plan

- i) An Oil Spill Prevention, Containment, and Countermeasure Plan must be prepared that covers all oil-filled equipment to be used at the site. The plan must include the following Best Management Practices (BMPs), at a minimum. The plan must be kept on site, in the possession of the person in charge of construction oversight, at all times during construction.
- ii) The following minimum BMPs apply:
  - a. Care must be taken to prevent any petroleum products, paint, chemicals, or other harmful materials from entering the water.
  - b. Visible floating oils released from construction or project operation shall be immediately contained and removed from the water.
  - c. All oil, fuel or chemical storage tanks shall be diked and located on impervious surfaces so as to prevent spills from escaping to surface waters or ground waters of the state.
  - d. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. No refueling of equipment shall occur over or within 50 feet of rivers, creeks, wetlands, or other waters of the state. Proper security shall be maintained to prevent vandalism.
  - e. No emulsifiers or dispersants are to be used in waters of the state without prior approval from the Department of Ecology, Central Regional Office.
  - f. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall be contained for proper disposal, and shall not be discharged into state waters.

C. Spill Response

- i) In the event of a discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Clean-up shall include proper disposal of any spilled material and used clean-up materials.
- ii) Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to the Department of Ecology, Central Regional Office at (509) 575-2490 (24-hour phone number).
- iii) Chelan PUD shall submit a detailed written report to Ecology within five (5) days of the spill event that describes the nature of the violation, corrective action, and/or planned steps to be implemented to prevent reoccurrence, results of samples taken, and any other pertinent information.

- iv) Compliance with this condition does not relieve the Chelan PUD from responsibility to maintain continuous compliance with terms and conditions of this order or resulting liability from further failure to comply.

VIII. Project Changes

Chelan PUD shall obtain Ecology review and approval before undertaking any change to the project that might significantly and adversely affect the water quality (other than project changes required or considered by this Order).

IX. Additional Requirements

This certification does not relieve the applicant from the responsibility of meeting applicable regulations of other agencies.

X. Clarifications Required per Pollution Control Hearings Board (PCHB) Order dated April 21, 2004 (Confederated Tribes v. Ecology, PCHB No. 03-075).

- A. With respect to instream flows for spawning in Reach 4, incubation flows are added as needed in all years, including dry years. See Section III. A.i (listing incubation flows).
- B. The monitoring required under the adaptive management plan is not intended to stop at the end of the compliance schedule in year 10, but should continue throughout the life of the new license. At the end of year 10 under the adaptive management plan, Chelan PUD will submit to Ecology for Ecology's approval a new schedule for monitoring of biological objectives and measures implemented — based upon the data and other information acquired during the 10 year period — under the adaptive management plan.
- C. The reference areas selected in the Methow River for salmon and steelhead spawning will be of high-quality habitat, comparable to or better than that of the Chelan River.
- D. An additional study of water temperature at the dam face must be performed by Chelan PUD to determine how best to design the new outlet structure to maximize the potential for cold water withdrawal at the base of the dam.
- E. A riparian feasibility study must be conducted by Chelan PUD to better characterize the opportunities for the establishment of riparian vegetation on the banks of the Chelan River.
- F. To the extent there is any ambiguity between the CRBEIP and this 401 Certification, to change or remove any biological objective — including the objective of 200 westslope cutthroat trout — Chelan PUD must petition Ecology in writing and receive approval in writing. See Section IV. I. Ecology has reserved for itself the authority to make such a decision.
- G. The portion of this 401 Certification detailing Ecology's reservation of authority (Section IV J) includes the provision that Ecology has the authority to require new or modified "requirements," as opposed to merely "measures," and that the term "requirements" includes "new or modified biological objectives;"

- H. The applicable portions of the documents relevant to this 401 Certification (e.g., the Settlement Agreement, including the CRBEIP and Article 7) are specifically incorporated by reference. Thus, Section IV.C (discussing biological objectives) is clarified to provide that all of the biological objectives contained in the CRBEIP are incorporated into this 401 Certification.
- (i) The portions of this 401 Certification referring to the Chelan River Fishery Forum (“CRFF”) specifically incorporate those portions of the Settlement Agreement explaining the role, functions, and procedures of the CRFF. See Sections II.D, III.A.vi, III.B.i, IV.C, IV.E, and IV.G of the 401 Certification.