**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | **Rock Island Hydroelectric Project** | WREGIS GU ID: | Listed below |
|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| [X] | The fuel source for the facility is identified in RCW 19.285.030 as renewable energy: | | | |
| | [ ] | Wind | [ ] | Wave, ocean, or tidal power |
| | [ ] | Solar energy | [ ] | Gas from sewage treatment facilities |
| | [ ] | Geothermal energy | [ ] | Biodiesel fuel |
| | [ ] | Landfill gas | [ ] | Biomass energy |
| | [X] | Water (incremental efficiency hydro) | [ ] | Water (pipe or canal) |
| [X] | The efficiency improvements were completed after March 31, 1999, as required by RCW 19.285.030. | | | |
| [X] | The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030. | | | |

Additional Provisions:
Applicable WREGIS GU IDs: W5329, W5330, W5331, W5332, W5333, W5334, W5335, W5336, W5337, W5338, W5339, W5340, W5341, W5342

Eligible resource is **9.67 percent** of total generation.

Washington Certification Number: WA2017-001

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee

3/27/2017
Date

STATE OF WASHINGTON
DEPARTMENT OF COMMERCE
1011 Plum Street SE • *PO Box 42525 • Olympia, Washington 98504-2525 • (360) 725-4000*
*www.commerce.wa.gov*

March 20, 2017

To: Michael Furze, Assistant Director, Energy Division

From: Glenn Blackmon, Senior Energy Policy Specialist

RE: Decision Memo – Advisory Opinions 2017-001 (Rock Island Hydroelectric Project)

---

**Recommendation**

Issue an advisory opinion concluding that the incremental generation due to efficiency improvements at the Rock Island project (the "Project") qualifies as an eligible renewable resource for purposes of the Energy Independence Act, Chapter 19.285 RCW.

Approve an incremental generation percentage of 9.67 percent for the Project.

**Background**

The Energy Independence Act ("EIA," also known as I-937) requires that qualifying electric utilities use renewable resources to meet a specified portion of customers' energy requirements and establishes eligibility standards for renewable resources used to meet this requirement.

The EIA defines hydropower as a renewable resource, but it limits the eligibility of this resource to the incremental electricity produced as a result of efficiency improvements completed after March 31, 1999. Further, the generation project must be owned by a qualifying utility and must be located in the Pacific Northwest, and the additional generation must not result in new water diversions or impoundments.[1]

RCW 19.285.045 allows utilities and project owners to obtain an advisory opinion from Commerce regarding the eligibility of resources to meet a target under RCW 19.285.040. In this case, the advisory opinion from Commerce provides a basis to register the hydroelectric projects in the Western Renewable Energy Generation Information System, identifying the portion of the Project's output that is eligible in Washington.

**Procedural History**

On February 10, 2017, Chelan County Public Utility District, a qualifying utility under the EIA, requested an advisory opinion concerning the eligibility of incremental generation from efficiency improvements to the Project. The application included a report describing the Project,

[1] RCW 19.285.030(12)(b).

the timing and nature of the efficiency improvements to the Project, and a summary of the engineering analysis used to determine the amount of additional generation resulting from the improvements.[2] Commerce determined on February 13, 2017, that the application was complete and posted it for public comment on the web page[3] that it maintains for advisory opinions. Commerce received no public comments on the applications.

**Analysis – Eligibility of the Incremental Generation**

Chelan PUD's application identifies two sources of incremental generation from the Project:

(1) Upgrades and replacements of the Project's generator and turbine equipment.[4] The new turbines and generators result in more hydroelectric generation from the same quantity of water passing through the Project.
(2) Operational efficiency improvements resulting from implementation of the Project's habitat conservation plan (HCP).[5] Implementation of the HCP allowed the utility to avoid spill of water during certain months that would otherwise have been required to comply with environmental requirements. The water that otherwise would have been spilled became available for hydroelectric generation.

As discussed below, the Project's efficiency improvements meet each of the elements of the eligibility requirements in RCW 19.285.030(12)(b):

- *The incremental generation must result from efficiency improvements.* The Energy Independence Act does not restrict eligible efficiency improvements to changes in equipment. Commerce has interpreted efficiency improvements to include any change by a project owner that results in greater generation from the same quantity of water available to the Project. The turbine and generator modifications are clearly efficiency improvements, in that they result in greater hydroelectric output for any given quantity of water passing directly through the turbines.

  The eligibility of operational improvements is perhaps less obvious, since in some cases these changes result in additional water passing through the turbines due to reduced or avoided spill and in other cases may be the result of changes in operational practices rather than equipment changes. Commerce concluded in Advisory Opinion 2013-011, dated September 4, 2014, that incremental generation resulting from the Rocky Reach

[2] *Renewable Incremental Hydro Engineering Report, Rocky Reach and Rock Island Hydroelectric Projects* (the "Engineering Report"), Chelan PUD, December 2016. The report is stamped by Brett M. Bickford, Professional Engineer.
[3] http://www.commerce.wa.gov/growing-the-economy/energy/energy-independence-act/eia-advisory-opinions/
[4] Engineering Report, pp. 7-8.
[5] *Anadromous Fish Agreement and Habitat Conservation Plan, Rock Island Hydroelectric Project, FERC License No. 943,* March 26, 2002. Available at https://www.chelanpud.org/environment/habitat-conservation-plans.

project's HCP implementation was an eligible renewable resource.[6] The factual situation for Rock Island is similar but not identical. The two projects, along with the Wells project, were part of the same federal licensing proceeding. The same spill alternative was identified for both Rocky Reach and Rock Island, and Chelan PUD successfully proposed implementation of HCPs for both Rocky Reach and Rock Island.[7]

The facts differ regarding the elements of the HCPs. In particular, Chelan PUD installed a fish bypass facility at the Rocky Reach project and did not include such a facility in the Rock Island HCP. We conclude that this difference is not relevant in determining whether the incremental generation at Rock Island is eligible. The two projects present different barriers to fish passage and survival, and both HCPs include a combination of measures and practices that, taken together, must achieve specified results. The relevant fact is that the operational changes in the Rock Island HCP allowed Chelan PUD to avoid the imposition of spill requirements in the federal relicensing process. Incremental generation from Rock Island should be considered eligible for the same reasons that Commerce relied on in its Rocky Reach opinion.

- *The efficiency improvements must be completed after March 31, 1999.* Chelan PUD's application shows that it completed the efficiency improvements, including the turbine and generation upgrades and the implementation of the HCP, after the statutory date. The Engineering Report identifies turbine improvements occurring after this date.[8]

- *A qualifying utility must own the hydroelectric generation project.* Chelan PUD is a qualifying utility and owns the Project.

- *The hydroelectric generation projects must be located in the Pacific Northwest.* The Project is located in the state of Washington, which is within the Pacific Northwest as defined by the EIA.

- *The additional generation must not result in new water diversions or impoundments.* Chelan PUD has made no changes to the amount of water available to or impounded by the Project, so the additional generation did not result in new water diversions or impoundments.

**Analysis – Amount of Incremental Generation**

[6] Advisory opinions are available at http://www.commerce.wa.gov/growing-the-economy/energy/energy-independence-act/eia-advisory-opinions/.
[7] *Anadromous Fish Agreements and Habitat Conservation Plans, Final Environmental Impact Statement for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects Volume I*, National Marine Fisheries Service, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, December 2002. The avoided spill requirements are identified in Alternative 2 (Hydropower Conservation Measures to Protect Anadromous Fish).
[8] Engineering Report, p. 8.

The second question presented by Chelan PUD's applications is how much of the generation from the Project is an eligible renewable resource. The incremental generation is not directly measured and must be calculated by modeling the amount of generation that would occur with and without the efficiency improvements. The Engineering Report submitted by Chelan PUD concludes that eligible incremental generation from the Project is 9.67 percent of total generation.[9] Chelan PUD used "Method 2" in determining the amount of eligible generation.[10] This method determines the average incremental generation, as a percentage of total generation, over representative historical stream flow conditions.

The quantity or percentage question is one not normally addressed in an advisory opinion. The advisory opinion provides advice regarding whether a resource is eligible, not how much energy from a project is eligible.[11] However, in the case of incremental hydro projects, the procedures of the regional tracking system, the Western Renewable Energy Generation Information System (WREGIS) require the identification by the state of the eligible portion of a resource being registered.

The Engineering Report supporting Chelan PUD's incremental generation models the amount of electricity that would be generated by the Project with and without the improvements. The analysis separately models the effects of turbine-generator upgrades and operational efficiencies. It uses a hydro operations optimization model to calculate the efficiency gains. Chelan PUD has used this model in determining incremental generation amounts for the Project in prior years, and these results were accepted by the State Auditor in determining Chelan PUD's compliance with the renewable requirements of the EIA.

The incremental hydro rule, WAC 194-37-130, requires that incremental generation be quantified using a historical study period reasonably representative of the stream flows that would have been available to the hydroelectric project over the period of time for which stream flow records are readily available. Chelan PUD satisfied this requirement by developing a measure of average stream flows using historical data from a 79-year period ending in 2007 for Columbia River flows as well as the best historical information available for upstream flows that affect the output of the Projects.[12]

We conclude that the hydro optimization model and the stream flow data used in Chelan PUD's analysis support the proposed calculation of the additional generation that results from the improvements to the Projects.

**Conclusion**

Incremental generation from the Project is an eligible renewable resource under the Energy Independence Act. Chelan PUD's engineering analysis supports the specific percentage amount

[9] Engineering Report, p. 9.
[10] WAC 194-37-130(3)(c)(ii).
[11] RCW 19.285.045.
[12] Engineering Report, p. 10.

of generation identified by the utility, and it is therefore reasonable to use this percentage amount in registering the generating units in WREGIS.

Department of Commerce
Innovation is in our nature.

commerce.wa.gov/eia

# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5329**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

| | |
|---|---|
| Applicant Contact: **Melissa Lyons** | Title: **Trader/Analyst** |
| Applicant Phone: **509.661.4369** | |
| Applicant E-mail: **melissa.lyons@chelanpud.org** | |
| Applicant Company Name: **Public Utility District No. 1 of Chelan County** | |
| Company Address: **327 N. Wenatchee Avenue** | |
| City: **Wenatchee** | State/Province: **WA** |
| Zip Code: **98801** | Country: **USA** |

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B5**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

| | | |
|---|---|---|
| City: **Malaga** | County: **Chelan** | |
| State/Province: **WA** | Zip: **98828** | Country: **USA** |

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5329** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **09** / **01** / **1952**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 

Date Signed: **2/8/17**

Authorized Officer/Agent: **Gregg Carrington**

Officer Title and Company: **Managing Director- Energy Resources**

Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.

Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

Department of Commerce
Innovation is in our nature.

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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5330**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B6**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5330** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **10** / **01** / **1952**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
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**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

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## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 

Date Signed: **2/8/17**

Authorized Officer/Agent: **Gregg Carrington**

Officer Title and Company: **Managing Director- Energy Resources**

Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# Department of Commerce

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## Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5331**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

### Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

### Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

### Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B7**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5331** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **11** / **01** / **1952**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# Department of Commerce

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## Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5332**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

### Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

### Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

### Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B8**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5332** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **01** / **01** / **1953**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 

Date Signed: **2/8/17**

Authorized Officer/Agent: **Gregg Carrington**

Officer Title and Company: **Managing Director- Energy Resources**

Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5333**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B9**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5333** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **03** / **01** / **1953**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002; 5/1/2012** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

Department of Commerce
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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5334**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **B10**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5334** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **22.5**

If this value will change, please explain:

Commercial Operation Date (COD): **04** / **01** / **1953**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002; 5/16/2008** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (<u>to be completed by Commerce</u>)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# Department of Commerce

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## Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5335**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

### Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

### Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

### Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U1**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5335** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **08** / **01** / **1979**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5336**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U2**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5336** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **06** / **01** / **1979**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 

Date Signed: **2/8/17**

Authorized Officer/Agent: **Gregg Carrington**

Officer Title and Company: **Managing Director- Energy Resources**

Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.

Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

Department of Commerce
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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5337**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U3**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5337** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **04** / **01** / **1979**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# Department of Commerce

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## Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5338**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

### Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

### Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

### Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U4**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5338** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **02** / **01** / **1979**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

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## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 

Date Signed: **2/8/17**

Authorized Officer/Agent: **Gregg Carrington**

Officer Title and Company: **Managing Director- Energy Resources**

Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.

Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

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Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

Department of Commerce
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# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5340**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U6**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5340** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **10** / **01** / **1978**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

## Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# Department of Commerce

Innovation is in our nature.

commerce.wa.gov/eia

## Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5341**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

### Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

### Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

### Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:

**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U7**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):

**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5341** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **08** / **01** / **1978**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
| | ☐ | Incremental generation is modeled as a fixed generation amount.<br>Fixed amount: megawatt-hours |
| | Note: If any box but the first is checked, the facility must register in WREGIS as a multi-fuel facility. Non-incremental generation will be classified as Large Hydro (LHN) and excluded from certificate creation. | |
| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

The Washington Department of Commerce makes a determination of resource eligibility under the Washington Energy Independence Act based on the information provided by the applicant and does not independently verify that information. An applicant must promptly notify Commerce of any changes to the information submitted for certification that may affect the facility's eligibility. Commerce reserves the right to modify or withdraw a designation if it determines that the information supplied by the applicant was incomplete or inaccurate.

## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

Department of Commerce
Innovation is in our nature.

commerce.wa.gov/eia

# Washington State Energy Independence Act

## Application for Advisory Opinion and Renewable Energy Facility (WREGIS) Certification

***All information provided in this application or any supplemental or additional materials is subject to public disclosure.***

FACILITY NAME: **Rock Island Hydroelectric Project**
WREGIS Generating Unit ID (if already registered): **W5342**

A separate Washington application is required for each generating unit with a separate WREGIS GU ID. Applicant must select Washington in WREGIS generating unit registration.

## Section 1: Agency Action Requested

☒ Advisory Opinion and WREGIS Certification ☐ Advisory Opinion Only

## Section 2: Applicant Information

Applicant Contact: **Melissa Lyons** Title: **Trader/Analyst**

Applicant Phone: **509.661.4369**

Applicant E-mail: **melissa.lyons@chelanpud.org**

Applicant Company Name: **Public Utility District No. 1 of Chelan County**

Company Address: **327 N. Wenatchee Avenue**

City: **Wenatchee** State/Province: **WA**

Zip Code: **98801** Country: **USA**

## Section 3: Facility Information

**Facility Owner**

Name of Facility Owner:
**OR** ☒ The Facility Owner is the same as the Applicant.

Address:

City/State/ZIP:

Contact Name, Phone, and Email:

**Facility Identification and Location**

Unit Name: **U8**

Facility Name: **Rock Island Hydroelectric Project**

Unit location (street address, legal description, or GPS coordinates):
**1476 Rock Island Dam Road**

City: **Malaga** County: **Chelan**

State/Province: **WA** Zip: **98828** Country: **USA**

Provide a description of the facility.

**Rock Island is a reinforced concrete structure anchored to solid basaltic bedrock. A 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates.**

**Facility Identification Numbers**

WREGIS Generating Unit ID: **W5342** Other External ID:

EIA Utility Code: **3413** EIA Plant Code: **6200**

## Section 4: Facility Eligibility

### A. Facility Profile

Nameplate Capacity (MW): **51.3**

If this value will change, please explain:

Commercial Operation Date (COD): **07** / **01** / **1978**

Is your facility considered repowered by WREGIS? ☐ Yes ☒ No

If yes, please explain:

### B. Facility Fuel

Indicate each energy source used by the facility. For definitions, refer to RCW 19.285.030. For multi-fuel generating facilities indicate all fuels used.

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave power |
| ☐ | Solar energy | ☐ | Ocean power |
| ☐ | Geothermal energy | ☐ | Tidal power |
| ☐ | Landfill gas | ☐ | Gas from sewage treatment facility |
| ☐ | Biomass energy (must complete Section 5) | ☐ | Biodiesel fuel (must complete Section 6) |
| ☒ | Water (must complete Section 7) | ☐ | Other (please specify): |

Will the facility use any fossil fuel or other non-qualifying fuel? ☐ Yes ☒ No

- Type of fossil fuel or other non-qualifying fuel:
- Average annual amount of non-qualifying fuel used (percent of net heat input):

## Section 5: Biomass Energy Supplement (complete only if "biomass energy" is checked in Section 4)

**Allowed Fuel Sources.** Indicate each source of biomass energy used by the facility.

| | | | |
|---|---|---|---|
| ☐ | Organic by-products of pulping and the wood manufacturing process | ☐ | Food waste and food processing residuals |
| ☐ | Animal manure | ☐ | Liquors derived from algae |
| ☐ | Solid organic fuels from wood | ☐ | Dedicated energy crops |
| ☐ | Forest or field residues | ☐ | Yard waste |
| ☐ | Untreated wooden demolition or construction debris | | |

**Prohibited Fuel Sources.** The following materials will NOT be used as a source of biomass energy by the facility.

| | | | |
|---|---|---|---|
| ☐ | Wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic | ☐ | Wood from old growth forests |
| | | ☐ | Municipal solid waste |

**Legacy Biomass.** The Washington Energy Independence Act allows a biomass energy facility commencing operation before March 31, 1999 to qualify as an eligible renewable resource in certain circumstances. Contact Commerce to obtain application requirements.

**Section 6: Biodiesel Fuel Supplement** (complete only if "biodiesel fuel" is checked in Section 4)

The biodiesel fuel used by the facility meets each of the identified conditions:

| | |
|---|---|
| ☐ | The fuel (a) is a mono alkyl ester of long chain fatty acids derived from vegetable oils or animal fats for use in compression-ignition engines and (b) meets the requirements of the American society of testing and materials specification D 6751 in effect as of January 1, 2003. |
| ☐ | The fuel is NOT from crops raised on land cleared from old growth or first-growth forests where the clearing occurred after December 7, 2006. |

**Section 7: Water/Hydroelectric Power** (complete only if "water" is checked in Section 4)

The facility uses water as a fuel in the following manner:

| | | |
|---|---|---|
| ☒ | **Incremental Hydro.** Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility and located in the Pacific Northwest where the additional generation does not result in new water diversions or impoundments. | |
| | Date efficiency improvement completed: **4/1/2002** | |
| | Method of measuring incremental generation: | |
| | ☐ | Incremental generation is separately metered or measured. |
| | ☐ | Incremental generation is modeled each year based on actual stream flows. |
| | ☒ | Incremental generation is modeled as a fixed percentage of total generation.<br>Fixed percentage: **9.67**% |
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| ☐ | **Canal or pipe.** Hydroelectric generation from a project completed after March 31, 1999, where the generation facility is located in irrigation pipes, irrigation canals, water pipes whose primary purpose is for conveyance of water for municipal use, and wastewater pipes located in Washington where the generation does not result in new water diversions or impoundments. | |

**Section 8: Eligibility for Washington Multipliers (Optional)**

The facility qualifies for the following multipliers under the Washington Energy Independence Act:

| | |
|---|---|
| ☐ | **Distributed Generation.** The facility has a generating capacity of 5 MW or less and is not part of any integrated cluster of facilities with an aggregate generating capacity of 5 MW or more. |
| ☐ | **Apprentice Labor.** The facility commenced operation after December 31, 2005 and in construction used an apprenticeship program approved by the Washington State Apprenticeship and Training Council. |

**NOTE:** Commerce requests optional multiplier eligibility from facility owners for informational purposes only. Owners seeking certification of a facility as eligible for a multiplier should contact Commerce for application requirements.

**Section 9: Reservation**

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## Section 10: Attestation

I declare that the information provided in this application and any supplemental forms and attachments are true and correct to the best of my knowledge, that the information contained in this submission is consistent with information on file with WREGIS unless otherwise indicated, that no information materially affecting the facility's eligibility has been withheld, and that I am authorized to file this submission on the facility owner's behalf.

Signature: 
Date Signed: **2/8/17**
Authorized Officer/Agent: **Gregg Carrington**
Officer Title and Company: **Managing Director- Energy Resources**
Name of Facility: **Rock Island Hydroelectric Facility**

### Application Checklist for Submission

Applicants must select the Washington program administrator in the generating unit's WREGIS static data.
Applicants should ensure that the following documents are provided:

1. Electronic copy of entire application, including a signed attestation page.
2. WREGIS "static data" if the facility is already registered in WREGIS. A printout of your generator account profile screen in WREGIS.
3. Optional project background documentation. Background documentation can be submitted or published in regulatory settings (FERC or state commission filings) or informal forums (websites, articles or factsheets).
4. Payment of advisory opinion fee of **$1,250**. A separate application and application fee are required for each generating unit. However, if a facility owner has multiple WREGIS generating unit IDs for a single facility and all the static characteristics of the facility (other than the generating capacity) are identical, it may request that Commerce treat the combined generating units as a single application. The owner must document at the time of application that all GU IDs are part of a single facility in a single location. If GU IDs are added later, a separate application will be required.

To submit your facility for certification, e-mail the application and any supplemental materials listed above to (wregis@commerce.wa.gov). Submit payment of the advisory opinion fee to:

Department of Commerce
Attn: State Energy Office
P.O. Box 42525
Olympia, WA 98504-2525

Commerce will post each application on its website. Applications are subject to a public comment period.

**Advisory Opinion and WREGIS Certification (to be completed by Commerce)**

It is the opinion of the Washington Department of Commerce that the facility identified in this application meets the statutory legal standard for an eligible renewable resource as defined in RCW 19.285.030, based on the factors set out below The facility will be designated in WREGIS as an eligible renewable resource under the Washington Energy Independence Act:

| Facility Name: | | WREGIS GU ID: | |
|---|---|---|---|

☐ The fuel source for the facility is identified in RCW 19.285.030 as renewable energy:

| | | | |
|---|---|---|---|
| ☐ | Wind | ☐ | Wave, ocean, or tidal power |
| ☐ | Solar energy | ☐ | Gas from sewage treatment facilities |
| ☐ | Geothermal energy | ☐ | Biodiesel fuel |
| ☐ | Landfill gas | ☐ | Biomass energy |
| ☐ | Water (incremental efficiency hydro) | ☐ | Water (pipe or canal) |

☐ The facility commenced operation after March 31, 1999, as required by RCW 19.285.030.

☐ The facility is located in the Pacific Northwest, or the electricity from the facility is delivered into Washington state on a real-time basis without shaping, storage, or integration services, as required by RCW 19.285.030.

Additional Provisions:

Washington Certification Number:

**WASHINGTON DEPARTMENT OF COMMERCE**

Director or Designee Date

# WREGIS
## Incremental Resources Process & Intake Form

An Incremental Resource is one where generating facility upgrades or other improvements, including expansions, produce electricity that qualifies for a compliance or voluntary renewable energy program even when the full output of the facility does not qualify. This is most often the result of project phases which cross program facility eligibility dates.

As the GU owner (or representative), you need to complete the form on the last page of this document and submit an electronic copy to WREGIS. An example of a completed form is on the next page for reference.

This information allows Renewable Portfolio Standard and voluntary Program Administrators (PA) to make an initial review of your facility. Any PA that finds an element in your facility that may be eligible for their program will be invited to work towards issuing appropriate WREGIS program certifications for your facility. The group will seek to develop a repeatable, durable analysis tool that calculates output attributed to each relevant project component. This analysis tool is likely to be a spreadsheet with a fixed number of inputs.

You may want to contact the appropriate PA for any program you believe your facility to be eligible for. Additional information may be needed for an initial review. Active WREGIS PA contact information is available from the Public Reports section by accessing “WREGIS Active Account Holders” located on your Account Holders page.

Submit your completed form to the WREGIS Administrator at wregisadmin@wecc.biz. If you have questions about in this form, please contact the WREGIS Help Desk at wregishelp@wecc.biz, or by calling 1-888-225-4213.

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5329 | W5329 | W5329 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B5 | B5 | B5 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 9/1952 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 68,199 | 434 | 6,868 | | 75,502 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 49,002 | 312 | 4,935 | | 54,248 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071370 | 90071370 | 90071370 | | 90071370 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

[1] Show as mm-dd-yyyy; [2] Show, if applicable, as mm-dd-yyyy.

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5330 | W5330 | W5330 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B6 | B6 | B6 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 10/1952 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 64,034 | 408 | 6,449 | | 70,890 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 46,404 | 295 | 4,673 | | 51,373 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071373 | 90071373 | 90071373 | | 90071373 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5331 | W5331 | W5331 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B7 | B7 | B7 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 11/1952 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 92,058 | 586 | 9,271 | | 101,915 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 59,104 | 376 | 5,952 | | 65,432 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071369 | 90071369 | 90071369 | | 90071369 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5332 | W5332 | W5332 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B8 | B8 | B8 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 1/1953 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 83,990 | 535 | 8,459 | | 92,983 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 67,421 | 429 | 6,790 | | 74,640 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071367 | 90071367 | 90071367 | | 90071367 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5333 | W5333 | W5333 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B9 | B9 | B9 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 3/1953 | 5/1/2012 | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 128,417 | 818 | 12,933 | | 142,168 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 112,523 | 716 | 11,332 | | 124,572 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071366 | 90071366 | 90071366 | | 90071366 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5334 | W5334 | W5334 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | B10 | B10 | B10 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 4/1953 | 5/16/2008 | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 22.5 | n/a | n/a | | 22.5 |
| 6a | Max. Annual Generation of component (MWh/yr) | 133,921 | 853 | 13,487 | | 148,261 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 110,023 | 700 | 11,080 | | 121,804 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071365 | 90071365 | 90071365 | | 90071365 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5335 | W5335 | W5335 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U1 | U1 | U1 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 8/1979 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 283,952 | 1,808 | 28,597 | | 314,356 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 236,512 | 1,506 | 23,819 | | 261,837 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041167 | 95041167 | 95041167 | | 95041167 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5336 | W5336 | W5336 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U2 | U2 | U2 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 06/1979 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 286,782 | 1,826 | 28,882 | | 317,490 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 255,728 | 1,628 | 25,754 | | 283,110 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 90071326 | 90071326 | 90071326 | | 90071326 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5337 | W5337 | W5337 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U3 | U3 | U3 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 4/1979 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 265,838 | 1,692 | 26,773 | | 294,303 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 230,781 | 1,469 | 23,242 | | 255,492 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041173 | 95041173 | 95041173 | | 95041173 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5338 | W5338 | W5338 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U4 | U4 | U4 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 2/1979 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 278,211 | 1,771 | 28,019 | | 308,001 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 239,089 | 1,522 | 24,079 | | 264,690 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041168 | 95041168 | 95041168 | | 95041168 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5339 | W5339 | W5339 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U5 | U5 | U5 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 12/1978 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 278,388 | 1,772 | 28,037 | | 308,197 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 234,293 | 1,492 | 23,596 | | 259,380 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041171 | 95041171 | 95041171 | | 95041171 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5340 | W5340 | W5340 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U6 | U6 | U6 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 10/1978 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 279,055 | 1,777 | 28,104 | | 308,935 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 246,411 | 1,569 | 24,816 | | 272,796 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041172 | 95041172 | 95041172 | | 95041172 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5341 | W5341 | W5341 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U7 | U7 | U7 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 8/1978 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 289,274 | 1,842 | 29,133 | | 320,249 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 237,148 | 1,510 | 23,883 | | 262,541 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041174 | 95041174 | 95041174 | | 95041174 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

WREGIS
Incremental Resources Process & Intake Form

| Incremental Resource GU Summary Data | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | | **Base Plant** | **Increment 1** | **Increment 2** | **Increment 3** | **Total** |
| 1a | GU ID | W5342 | W5342 | W5342 | | n/a |
| 1b | External Unit ID (EIA Plant Code) | 6200 | 6200 | 6200 | | n/a |
| 2a | Generating Unit Name | U8 | U8 | U8 | | n/a |
| 2b | Description of component or upgrade | Hydro | Generator & Turbine Upgrade | Operational Efficiency Gain | | n/a |
| 3 | Facility Owner Name | Chelan PUD | Chelan PUD | Chelan PUD | | n/a |
| 4 | Commenced Operation Date [1] | 7/1978 | | 4/1/2002 | | n/a |
| 5 | Nameplate Capacity of Component (MW) | 51.3 | n/a | n/a | | 51.3 |
| 6a | Max. Annual Generation of component (MWh/yr) | 279,793 | 1,781 | 28,178 | | 309,753 |
| 6b | Typ. Annual Generation of component (MWh/yr) | 234,497 | 1,493 | 23,616 | | 259,606 |
| 6c | Typ. Annual Generation Share of component | 90.328% | 0.575% | 9.097% | | 100.00% |
| 7 | Repower Date [2] | n/a | n/a | n/a | | n/a |
| 8 | PURPA QF | n/a | n/a | n/a | | n/a |
| 9 | Generation Technology / Prime Mover | Hydro | Incremental Hydro | Incremental Hydro | | n/a |
| 10 | Fuel Type / Energy Source (Primary) | Water | Water | Water | | n/a |
| 11 | Fuel Type / Energy Source (Secondary) | n/a | n/a | n/a | | n/a |
| 12 | Meter ID | 95041169 | 95041169 | 95041169 | | 95041169 |
| 13 | Eligible Program | n/a | Washington & Oregon | Washington | | |

# Renewable Incremental Hydro Engineering Report

# Rocky Reach and Rock Island Hydroelectric Projects

Public Utility District No. 1 of Chelan County

## Turbine-Generator Efficiency Upgrades & Operational Efficiency Gains


P.U.D.
CHELAN COUNTY
POWER

December 2016

Rocky Reach and Rock Island Hydroelectric Projects
PUD No. 1 of Chelan County- December 2016

# Renewable Incremental Hydro Engineering Report

# Rocky Reach and Rock Island Hydroelectric Projects

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## OVERVIEW

Public Utility District No. 1 of Chelan County (District) is providing an engineering review of the incremental energy gains that are generated from turbine-generator efficiency upgrades and operational changes at the Rocky Reach Hydroelectric Project (Rocky Reach) and Rock Island Hydroelectric Project (Rock Island). Certain incremental energy gains are eligible under both the Oregon Renewable Portfolio Standard (Oregon RPS) and Washington Renewable Portfolio Standard (Washington RPS). The following report summarizes the engineering review and the District's analysis.

### *Summary of Work*

Oregon RPS

Incremental hydro is qualified under ORS 469A.025 (4)(b), which allows hydroelectric facilities that have installed efficiency upgrades on or after January 1, 1995 to receive RPS eligible credit for the electricity attributable to the efficiency upgrades.

Rocky Reach efficiency gains were approved starting in 2011 (unit C11) and 2013 (units C1-C10) and most recently units C1-C7 were re-certified in January 2016.

The District is submitting this report and supporting documentation in order to revise the efficiency gains at Rocky Reach for units C1-C11 and register efficiency gains at Rock Island. The revised analysis for Rocky Reach will ensure alignment with the Washington RPS analysis.

Washington RPS

Incremental hydro is qualified under RCW 19.285.030(12)(b), which allows incremental electricity produced as a result of efficiency improvements completed after March 31, 1999 to qualify as an eligible renewable resource.

The District is submitting this report and supporting documentation to register the incremental hydro efficiency gains in WREGIS in accordance with both WAC 194-37-130(3)(c)(ii) and WAC 480-109-200(7)(c).

The District performed the following work:

1. Calculated the qualified efficiency upgrades under both the Washington RPS and Oregon RPS at Rocky Reach and Rock Island using the District's Hydro Optimization Model.
2. Prepared a report summarizing the results.

### *Project Owner*

Project owner information for both Rocky Reach and Rock Island is summarized in the following table.

Rocky Reach and Rock Island Hydroelectric Projects
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| | |
|---|---|
| Project Owner: | Public Utility District No. 1 of Chelan County, Washington |
| Street/P.O. Box: | 327 N. Wenatchee Ave. |
| City: | Wenatchee |
| State/Region: | Washington |
| Post/Zip: | 98801 |
| Country: | United States of America |
| Telephone: | (509) 663-8121 |
| Fax: | (509) 661-8155 |
| Website: | www.chelanpud.org |
| Project Representative: | Melissa Lyons |
| Title: | Trader/Analyst |
| Department: | Energy Planning & Trading |
| Mobile Number: | (509) 293-1926 |
| Direct Telephone: | (509) 661-4369 |
| E-mail: | Melissa.lyons@chelanpud.org |

***Site Description***

Rocky Reach

*Project Location*

Rocky Reach is located on the Columbia River in Chelan County, Washington, approximately seven miles upstream of the city of Wenatchee as shown on Figure 1. The dam is 215 river miles below the Canadian border and 474 river miles above the mouth of the Columbia River at Astoria, Oregon.

*Project Description*

Rocky Reach consists of a 130-foot-high concrete gravity dam. The powerhouse is 1,088 feet long, 206 feet wide and 218 feet high, and contains 11 generating units. Seven of the generating units are rated at 114 MW (C1-C7), and four are rated at 125.4 MW (C8-C11). Up until September 2013[1], all 11 units at Rocky Reach were equipped with vertical shaft, adjustable blade turbines. The variable pitch blade design allows the turbines to maintain maximum operating capacity and efficiency despite variations in the river flow and generator output. They are turned by the water flow and connected to the electricity-producing generators by large steel shafts. Power from Rocky Reach flows to a single distribution point: the Rocky Reach Hydroelectric Project switchyard, which is located on the east bank of the Columbia River, opposite the powerhouse.

The crest of the reservoir can be regulated by 12 spillway gates (each 50 feet wide), which open individually and allow water to pass through separate spillway bays. The gates pass water seasonally that is surplus to power generation needs, or as required for assisting fish in their downstream migration. Rocky Reach also has fish passage facilities, including a fish ladder that is adjacent to the

[1] A summary of the large unit modifications is provided in the Rocky Reach Eligibility section.

west bank and a juvenile salmon surface collection system near the forebay wall.

With a project nameplate capacity of 1,299.6 MW, Rocky Reach produces an average of about 6.1 million megawatt-hours (MWh) of electric energy per year. The project's current FERC license was issued in February 2009 and expires in February 2052.

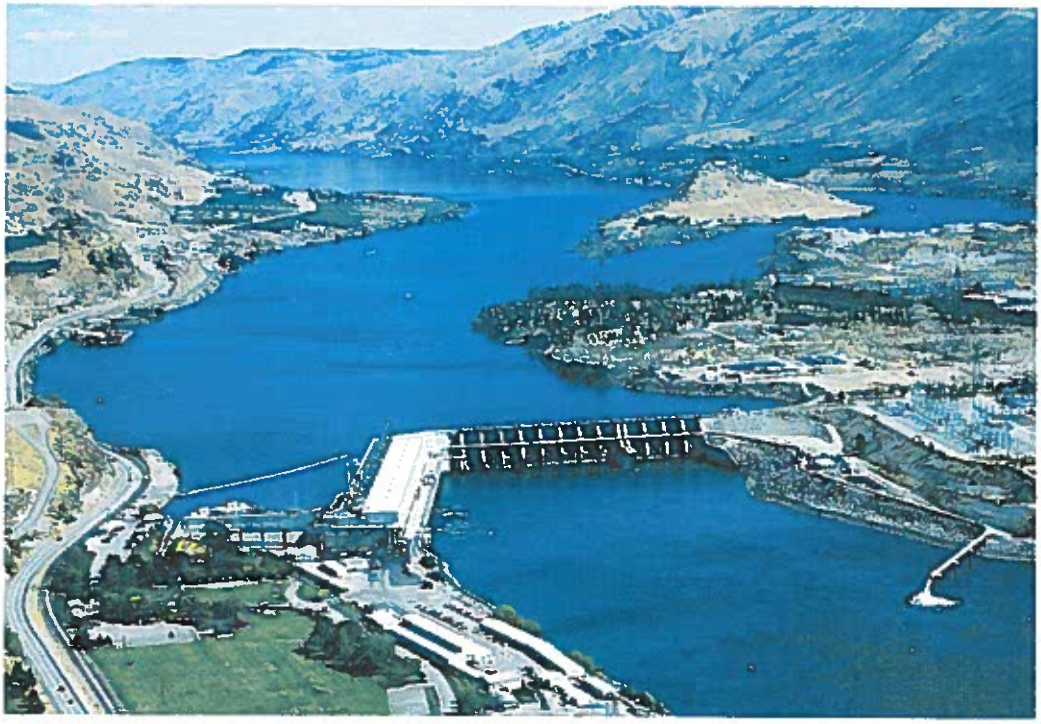

**Photo 1: Rocky Reach Dam**

Rock Island

*Project Location*

Rock Island is located near the geographical center of Washington State, on the Columbia River about 12 miles downstream from the city of Wenatchee. By river, the dam is 235 miles below the Canadian border and 453 miles above the mouth of the river at Astoria, Oregon.

*Project Description*

Rock Island is a reinforced concrete structure. The base of the project is anchored to solid basaltic bedrock. Looking from the Douglas County side, a 590-foot-long gravity dam section rises above and in front of the left bank fishway. Attached to this wall is the 870-foot-long headworks which includes the first powerhouse. The spillway is divided by the center fishway and has a total length of 1,424 feet. The east spillway contains a total of 14 gates. The west spillway has 17 gates. The second powerhouse is 470 feet wide. The remaining length of the dam is taken up by the right bank fish facilities and assembly area.

In Powerhouse 1, the four original 1930's generator stators have been replaced and have a nameplate rating of 20.7 MW. The six 1950's generators are each rated at 22.5 MW. Powerhouse 2 contains eight horizontal bulb turbine generators. Each generator has a nameplate rating of 51.3 MW, bringing the nameplate capacity of the eight units to 410.4 MW.

Although the turbines are classified as hydraulic turbines, the prime movers are immense water wheels closely resembling a ship propeller. There are 11 of these vertical shaft impellers in Powerhouse 1. There are eight horizontal shaft turbines in the Powerhouse 2.

The crest of the reservoir can be regulated by spillway gates, which open individually and allow water to pass through. The gates pass water seasonally that is surplus to power generation requirements or as required for downstream fish passage. There are 31 crest gates.

With a project nameplate capacity of 628.9 MW, Rock Island produces an average of about 2.8 million megawatt-hours (MWh) of electric energy per year. The project's current FERC license was issued in January 1989 and expires in December 2028.

**Photo 2: Rock Island Dam**

Rocky Reach and Rock Island Hydroelectric Projects
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## ENGINEERING REVIEW

An engineering review of the revised data and incremental energy calculations is required under the Oregon RPS to modify the Rocky Reach unit efficiency gains and certify the Rock Island unit efficiency gains. The Washington RPS does not require an engineering review, however the District included those efficiency gains in this review as the analyses are related and performed at the same time. Melissa Lyons, Trader/Originator, collected the data and performed the calculations which were reviewed by Professional Engineer, Brett Bickford. Melissa Lyons has over ten years of power management experience and has worked on incremental hydro analyses for other renewable and carbon programs. Brett Bickford has over 20 years experience in hydro unit rehabilitation including model testing, design, construction, absolute flow measurement and index testing. Brett has also been involved with development and installation of real time unit dispatch optimization programs in hydro power plants.

## OREGON & WASHINGTON RPS ELIGIBILITY

### *Oregon RPS Summary*

The Oregon RPS requires Oregon utilities to deliver a percentage of their electricity from renewable resources by 2025. For Oregon's three largest utilities, the RPS starts at 5% in 2011, increases to 15% in 2015, 20% in 2020, and 25% in 2025. In 2016, the state standard was expanded and the state's largest utilities will now provide 50% of their electricity through renewable resources by 2040. Smaller utilities have similar but smaller requirements. Eligible resources include biomass, geothermal, hydropower, ocean thermal, solar, tidal, wave, wind, and hydrogen. Biomass and hydropower resources have conditional limitations. Facilities must be located in the Western Electricity Coordination Council (WECC).

#### *Hydro Eligibility*

ORS 469A.025(4)(b) states electricity generated by a hydroelectric facility may be used to comply with the Oregon RPS if the electricity is attributable to efficiency upgrades made to the facility on or after January 1, 1995. OAR 330-160-0050 further clarifies efficiency upgrades are limited to upgrades to existing generators, turbines and other Department-approved equipment changes.

Per OAR 330-160-0020, renewable energy credits (REC) must be tracked through the Western Renewable Energy Generation Information System (WREGIS).

### *Washington RPS Summary*

The Washington RPS establishes renewable energy targets as a percentage of customer load. The targets increase over time, from 3% in 2012, to 9% in 2016, to 15% in 2020. Eligible resources include water, wind, solar energy, geothermal energy, landfill gas, wave, ocean or tidal power, gas for sewage treatment plants and biodiesel fuel and biomass energy. Some of these resources have restricted

eligibilities. Renewable resources must be located in the Pacific Northwest or delivered to Washington on a real-time basis.

*Hydro Eligibility*

RCW 19.285.030(12)(b) states that incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to hydroelectric generation projects owned by a qualifying utility, are an eligible renewable resource. On September 4, 2014, Commerce issued an Advisory Opinion to further clarify that operational efficiency gains (e.g. implementation of Habitat Conservation Plan) are eligible under the Washington RPS.

The use of unbundled freshwater generated RECs cannot be used for Washington RPS compliance per RCW 19.285.020(20), however the Washington Utility Transportation Commission (UTC) requires all eligible renewables be tracked through the WREGIS per WAC 480-109-200(1)(3) and under the Clean Air Rule (CAR) incremental hydro can create RECs per WAC 173-442-020(1)(r).

***Rocky Reach Eligibility***

Rocky Reach has 11 generating units, seven of which were completed in 1961 (C1-C7), and four of which were completed in 1973 and 1974 (C8- C11). Between 1996 and 2003, the C1 to C7 vertical shaft, 6 blade, Kaplan turbines were replaced with new 6 blade Kaplan units. From 1998 to 2002, the C8 to C11 turbines were replaced and changed from vertical shaft, 5 bladed, propeller units (fixed blade) to 5 blade adjustable blade Kaplan units, and the generators were refurbished. Between 2003 and 2006, the C1-C7 generators were replaced, increasing the nameplate rating from 111.15 MW to 114 MW. At the time they were installed, the new turbines used state-of-the-art technology to improve system efficiencies and to improve fish passage survival. The project modernization improved the efficiency and reliability of the hydro plant. The end result is more power generation with the same amount of water.

*Planned work: Rocky Reach Large Unit (C8-C11) Repair*

In March 2013, C10 was taken out of service after the District discovered excess oil around the generator shaft and metal shavings. Further investigation revealed a deep crack in the stainless steel rod that delivers oil to a servo motor. The motor adjusts the angle of the turbine blades. In September 2013, the other three large turbines, C8, C9, and C11 also were taken out of service since they are of the same design. All four units were brought back on-line by April 2014 in a temporary, fixed-blade configuration. Once repaired, each of the units will be returned to variable pitch operation. One unit at a time will be taken out of service for the permanent repair.

The fixed blade configuration is modeled in the Current Case as it dramatically changes the performance characteristics of C8-C11. As the units are restored to variable pitch operation, the model will be updated to reflect these changes.

The below table summarizes the commissioning dates for the new turbines and generating units and applicable modification dates.

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| Rocky Reach Generating Unit | New Turbine Runners | Generator Rehabilitation | Equipment Modifications | OR RPS Eligible | WA RPS Eligible[2] |
|---|---|---|---|---|---|
| C1 | 3/31/2003 | 3/31/2003 | | Yes | Yes |
| C2 | 4/11/1999 | 11/22/2003 | | Yes | Yes |
| C3 | 3/12/1998 | 5/11/2006 | | Yes | Generator only |
| C4 | 5/30/1997 | 11/8/2005 | | Yes | Generator only |
| C5 | 12/20/1996 | 10/30/2006 | | Yes | Generator only |
| C6 | 2/23/1996 | 5/3/2005 | | Yes | Generator only |
| C7 | 7/15/1996 | 11/17/2004 | | Yes | Generator only |
| C8 | 12/31/1999 | 12/31/1999 | Fixed Blade until June 2017[3] | Yes | Yes |
| C9 | 12/4/1998 | 12/4/1998 | Fixed Blade until February 2020[3] | Yes | No |
| C10 | 8/5/2001 | 8/5/2001 | Fixed Blade until April 2021[3] | Yes | Yes |
| C11 | 8/18/2002 | 8/18/2002 | Fixed Blade until December 2018[3] | Yes | Yes |

***Rock Island Eligibility***

Rock Island has 18 generating units. Development of the dam began in January 1930, with Powerhouse 1 and the first four operating units (B1-B4). Work on completion of the dam, powerhouse expansion and installation of six additional units (B5-B10) was completed in April 1953. Powerhouse 2, with its eight turbine generators (U1-U8), was placed in commercial operation in August 1979. The District began the project modernization on Powerhouse 1 in 2006. Turbine and generator replacements were completed for both B9 (May 2012) and B10 (May 2008).

*Planned work: Rock Island Modernization (B1-B4)*

The generator stators were replaced on units B1, B3, and B4 from 2009 to 2011, and B2 was replaced in 2016. However, those units have since been taken out of service due to cracks in their turbine blades. The District plans to rehabilitate all four units by December 2019. Due to the extended outage, the generator efficiency gains were not modeled and will not be registered in WREGIS at this time. As the

[2] In addition to equipment efficiency gains, operational efficiency gains are eligible under the Washington RPS and are generated by all units at the applicable project.
[3] Current outage schedule, subject to change.

units are rehabilitated, the model will be updated to reflect these changes and the units will then be registered.

The below table summarizes the commissioning dates for the eligible new turbines and generating units.

| Rock Island Generating Unit | New Turbine Runners | Generator Rehabilitation | OR RPS & WA RPS Eligible[4] |
|---|---|---|---|
| B1 | | | |
| B2 | | | |
| B3 | | | |
| B4 | | | |
| B5 | | | |
| B6 | | | |
| B7 | | | |
| B8 | | | |
| B9 | 5/1/2012 | 5/1/2012 | Yes |
| B10 | 5/15/2008 | 5/15/2008 | Yes |
| U1 | | | |
| U2 | | | |
| U3 | | | |
| U4 | | | |
| U5 | | | |
| U6 | | | |
| U7 | | | |
| U8 | | | |

## HYDRO OPTIMIZATION MODELING

The District used the RHODOS-Hydro Operations Optimization Model (Model) to calculate the incremental efficiency gain attributable to both Rocky Reach and Rock Island. The Model was developed by John C. Howard and Charles D. D. Howard of CddHoward Consulting Ltd. and is the product of many years of incremental development of computer models for optimizing hydroelectric system operations.

The District ran the Model with average water under several scenarios to determine the Oregon Baseline (as of January 1, 1995), Washington Baseline (as of March 31, 1999), and Current Case generation. The difference between the baseline generation and current generation determines the annual incremental energy gain. This approach complies with both the requirements under OAR 330-

[4] In addition to equipment efficiency gains, operational efficiency gains are eligible under the Washington RPS and are generated by all units at the applicable project.

160-0050(2) and WAC 194-37-130(3)(c)(ii). Appendix A provides a summary of the key inputs and assumptions used in each model run.

***Rocky Reach Results***

The below table summarizes the incremental energy gains for Rocky Reach under both the Oregon and Washington RPS using the hydro optimization model and average water.

| Model Run | Total Rocky Reach Generation (MWh) | Rocky Reach Incremental Generation (MWh) | Energy Gain %[5] |
|---|---|---|---|
| Washington Baseline | 5,502,304 | 950,684 | 14.732% |
| Oregon Baseline | 6,167,036 | 285,952 | 4.431% |
| Current Case | 6,452,988 | | |

***Rock Island Results***

The below table summarizes the incremental energy gains for Rock Island using the hydro optimization model and average water.

| Model Run | Total Rock Island Generation (MWh) | Rock Island Incremental Generation (MWh) | Energy Gain %[5] |
|---|---|---|---|
| Washington Baseline | 2,361,209 | 252,830 | 9.672% |
| Oregon Baseline | 2,599,006 | 15,032 | .575% |
| Current Case | 2,614,039 | | |

**SUMMARY**

Beginning January 1, 2017, the below annual energy gain percentages will be multiplied by the actual monthly unit generation, less station service, to determine the incremental energy gain MWh to be certified as eligible for RPS compliance in both Oregon and Washington.

| WREGIS Category | Rocky Reach Efficiency Gain % | Rock Island Efficiency Gain % |
|---|---|---|
| Washington RPS Only | 13.510% | 9.097% |
| Oregon RPS Only | 3.208% | |
| Washington RPS & Oregon RPS | 1.223% | .575% |

[5] See efficiency gain document for specific calculations.

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## APPENDIX A

The District used the RHODOS-Hydro Operations Optimization Model (Model) to calculate the incremental efficiency gain under average water. The Model globally optimizes all three of the District's hydro projects in each model run, but only Rocky Reach and Rock Island results are being covered in this report. Extensive documentation is provided for all the Model inputs and assumptions.

### *Average Water Input*

For average water, the District used the best available flow data to develop a long-term average water year. The historical water data is only available in a month average time step, but the Model requires an hourly time step. In order to convert the monthly data into hourly data, an hourly shape was developed from hourly 2007 flow and discharge data which accounts for current system constraints during a near average water year.

| Average Water Data | Years (consecutive years) | Long-term Average Flow (cfs) | 2007 Hourly Shape Data | 2007 Average Flow (cfs) |
|---|---|---|---|---|
| Re-regulated average monthly Wells outflows | 1929-2007 (79 years) | 111,500 | Wells hourly discharge data | 110,000 |
| Entiat River average monthly flows | 1997-2015 (19 years) | 480 | Entiat daily flows | 560 |
| Lake Chelan average monthly inflow | 1980-2015 (36 years) | 2,040 | Lake Chelan daily inflows | 2,400 |
| Wenatchee River average monthly flows | 1963-2015 (53 years) | 3,200 | Wenatchee River hourly flows | 3,300 |

### *Key Model Constraints- Rocky Reach*

| | Washington Baseline | Oregon Baseline | Current Case | |
|---|---|---|---|---|
| **Forebay Maximum Elevation** | 707 ft. | 707 ft. | 707 ft. | *Set by FERC License* |
| **Forebay Minimum Elevation** | 703 ft. | 703 ft. | 703 ft. | *Set by FERC License* |
| **Gen Project Min Outflow** | 5 KCFS | 24 KCFS, 4/1- 8/31<br>5 KCFS, 9/1-3/31 | 24 KCFS, 4/1-8/31<br>5 KCFS, 9/1- | *Oregon Baseline & Current Case- Higher min. generation target* |

| | | | | |
|---|---|---|---|---|
| | | | 3/31 | *required for C1 & C2 when the juvenile fish bypass is operating 4/1-8/31.* |
| **Project Spill** | 40% of total project discharge, 4/12-9/2 | 9% of total project discharge, 5/30-8/14 | 9% of total project discharge, 5/30-8/14 | *Spill varies between scenarios based on whether or not the HCP was implemented.* |
| **Maximum Spill (Gas Cap)** | 50 KCFS | 50 KCFS | 50 KCFS | *Total dissolved gas limit on spill per the District's Rocky Reach Water Quality Management Plan* |
| **Fish Mode Operations** | Unit loading sequence:<br>ON:<br>1,2,3,4,5,6,7,8,9,10,11<br>OFF: reverse order | Unit loading sequence:<br>ON:<br>1,2,3,4,5,6,7,8,9,10,11<br>OFF: reverse order | Unit loading sequence:<br>ON:<br>1,2,3,4,5,6,7,8,9,10,11<br>OFF: reverse order | *During fish operations, there is a set start/stop sequence for unit dispatch.* |

***Unit Efficiencies- Rocky Reach***

The below table summarizes the unit performance curves used in each model run.

| Unit | Washington Baseline | Oregon Baseline | Current Case |
|---|---|---|---|
| C1 | Old C1-C7 | Old C1-C7 | New C1-C7 |
| C2 | Old C1-C7 | Old C1-C7 | New C1-C7 |
| C3 | New turb/old gen C3-C7 | Old C1-C7 | New C1-C7 |
| C4 | New turb/old gen C3-C7 | Old C1-C7 | New C1-C7 |
| C5 | New turb/old gen C3-C7 | Old C1-C7 | New C1-C7 |
| C6 | New turb/old gen C3-C7 | Old C1-C7 | New C1-C7 |
| C7 | New turb/old gen C3-C7 | Old C1-C7 | New C1-C7 |
| C8 | Old C8-C11 | Old C8-C11 | Temporary Fixed C8-C11 |
| C9 | New C8-C11 | Old C8-C11 | Temporary Fixed C8-C11 |
| C10 | Old C8-C11 | Old C8-C11 | Temporary Fixed C8-C11 |
| C11 | Old C8-C11 | Old C8-C11 | Temporary Fixed C8-C11 |

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Below is a summary of the applicable unit performance curves at the rated gross head.

| Baseline Equipment | | | | |
|---|---|---|---|---|
| MW | C1-C7 (Old Turb/Gen) | C3-C7 (New Turb/Old Gen) | C8-C11 (Old Turb/Gen) | C8-C11 (New Turb/Gen) |
| 35 | 83.13% | 86.80% | | 88.80% |
| 40 | 84.14% | 88.93% | | 90.73% |
| 45 | 84.98% | 90.35% | | 91.99% |
| 50 | 85.96% | 91.33% | 47.39% | 92.83% |
| 55 | 86.70% | 91.99% | 50.72% | 93.37% |
| 60 | 87.24% | 92.41% | 53.89% | 93.67% |
| 65 | 87.46% | 92.61% | 56.79% | 93.78% |
| 70 | 87.65% | 92.69% | 59.61% | 93.77% |
| 75 | 87.63% | 92.66% | 62.29% | 93.68% |
| 80 | 87.51% | 92.56% | 64.87% | 93.51% |
| 85 | 87.40% | 92.41% | 67.26% | 93.29% |
| 90 | 87.34% | 92.21% | 69.61% | 93.05% |
| 95 | 87.33% | 92.00% | 71.84% | 92.78% |
| 100 | 87.26% | 91.77% | 74.04% | 92.51% |
| 105 | 87.24% | 91.53% | 76.08% | 92.22% |
| 110 | 86.98% | 90.92% | 78.02% | 91.58% |
| 115 | 85.48% | 89.32% | 79.88% | 89.94% |
| 120 | 82.13% | | 81.74% | |
| 125 | | | 83.53% | |
| 130 | | | 85.24% | |
| 135 | | | 86.80% | |
| 140 | | | 88.29% | |

| Current Equipment | | |
|---|---|---|
| MW | C1-C7 (New Turb/Gen) | C8-C11 (Fixed Turb/New Gen) |
| 35 | 88.80% | |
| 40 | 90.73% | |
| 45 | 91.99% | |
| 50 | 92.83% | 45.82% |
| 55 | 93.37% | 49.14% |
| 60 | 93.67% | 52.32% |
| 65 | 93.78% | 55.22% |
| 70 | 93.77% | 58.04% |
| 75 | 93.68% | 60.72% |
| 80 | 93.51% | 63.30% |
| 85 | 93.29% | 65.68% |
| 90 | 93.05% | 68.04% |
| 95 | 92.78% | 70.27% |
| 100 | 92.51% | 72.46% |
| 105 | 92.22% | 74.51% |
| 110 | 91.58% | 76.44% |
| 115 | 89.94% | 78.31% |
| 120 | | 80.16% |
| 125 | | 81.89% |
| 130 | | 83.79% |
| 135 | | 85.70% |
| 140 | | 87.47% |

***Key Model Constraints- Rock Island***

| | Washington Baseline | Oregon Baseline | Current Case | |
|---|---|---|---|---|
| **Forebay Maximum Elevation** | 613 ft. | 613 ft. | 613 ft. | *Set by FERC License* |
| **Forebay Minimum Elevation** | 609 ft. | 609 ft. | 609 ft. | *Set by FERC License* |
| **Gen Project Min Outflow** | 6 KCFS | 6 KCFS | 6 KCFS | |
| **Project Spill** | 40% of total project discharge, 4/15-8/29 | 10% of total project discharge 4/16-5/30; 21% of total project discharge 5/31-8/19 | 10% of total project discharge 4/16-5/30; 21% of total project discharge 5/31-8/19 | *Spill varies between scenarios based on whether or not the HCP was implemented.* |
| **Maximum Spill (Gas Cap)** | 55 KCFS | 55 KCFS | 55 KCFS | *Total dissolved gas limit on spill per the District's Rock Island* |

| | | | | |
|---|---|---|---|---|
| | | | | *Water Quality Management Plan* |
| **Fish Mode Operations** | Unit loading sequence:<br>ON: U1-U8, B6-B10, B1 or B2, B4, B3<br>OFF: reverse order | Unit loading sequence:<br>ON: U1-U8, B6-B10, B1 or B2, B4, B3<br>OFF: reverse order | Unit loading sequence:<br>ON: U1-U8, B10 or B9, B8, B1-B4, B5-B7<br>OFF: reverse order | *During fish operations, there is a set start/stop sequence for unit dispatch.* |

***Unit Efficiencies- Rock Island***

The below table summarizes the unit performance curves used in each model run.

| Unit | Washington/Oregon Baseline | Current Case |
|---|---|---|
| B1 | Old B1-B4 | Old B1-B4 |
| B2 | Old B1-B4 | Old B1-B4 |
| B3 | Old B1-B4 | Old B1-B4 |
| B4 | Old B1-B4 | Old B1-B4 |
| B5 | Old B5-B10 | Fixed blade turb B5-B7 |
| B6 | Old B5-B10 | Fixed blade turb B5-B7 |
| B7 | Old B5-B10 | Fixed blade turb B5-B7 |
| B8 | Old B5-B10 | Old B5-B10 |
| B9 | Old B5-B10 | New B9 |
| B10 | Old B5-B10 | New B10 |
| U1 | Old U1-U8 | Old U1-U8 |
| U2 | Old U1-U8 | Old U1-U8 |
| U3 | Old U1-U8 | Old U1-U8 |
| U4 | Old U1-U8 | Old U1-U8 |
| U5 | Old U1-U8 | Old U1-U8 |
| U6 | Old U1-U8 | Old U1-U8 |
| U7 | Old U1-U8 | Old U1-U8 |
| U8 | Old U1-U8 | Old U1-U8 |

## Rocky Reach and Rock Island Hydroelectric Projects
## PUD No. 1 of Chelan County- December 2016

Below is a summary of the applicable unit performance curves at the rated gross head.

**Baseline Equipment**

| MW | B1 | B2 | B3 | B4 | B5-B10 | MW | U1-U8 |
|---|---|---|---|---|---|---|---|
| 1 | 6 22% | 6 22% | 6 22% | 6 22% | 29 02% | 2 | 26 38% |
| 2 | 12 14% | 12 14% | 12 14% | 12 14% | 46 54% | 4 | 44 24% |
| 3 | 17 77% | 17 77% | 17 77% | 17 77% | 57 81% | 6 | 56 92% |
| 4 | 23 06% | 23 06% | 23 06% | 23 06% | 64 91% | 8 | 65 12% |
| 5 | 28 15% | 28 15% | 28 15% | 28 15% | 69 68% | 10 | 71 49% |
| 6 | 32 94% | 32 94% | 32 32% | 32 94% | 72 54% | 12 | 76 28% |
| 7 | 37 49% | 37 52% | 36 80% | 37 49% | 75 07% | 14 | 79 75% |
| 8 | 42 37% | 41 86% | 40 58% | 41 86% | 76 48% | 16 | 82 05% |
| 9 | 46 54% | 46 00% | 44 61% | 45 77% | 77 62% | 18 | 84 40% |
| 10 | 51 26% | 50 28% | 48 48% | 49 61% | 78 80% | 20 | 86 09% |
| 11 | 55 15% | 53 92% | 52 08% | 53 27% | 79 80% | 22 | 86 82% |
| 12 | 58 87% | 57 43% | 55 56% | 56 70% | 80 65% | 24 | 88 09% |
| 13 | 62 44% | 60 78% | 58 94% | 59 98% | 81 18% | 26 | 88 94% |
| 14 | 65 80% | 63 92% | 62 09% | 63 10% | 81 83% | 28 | 89 46% |
| 15 | 69 08% | 66 86% | 65 15% | 66 08% | 82 03% | 30 | 89 15% |
| 16 | 72 11% | 69 67% | 67 98% | 68 93% | 82 22% | 32 | 89 90% |
| 17 | 74 83% | 72 17% | 70 69% | 71 65% | 82 54% | 34 | 89 69% |
| 18 | 77 35% | 74 44% | 73 17% | 74 14% | 82 52% | 36 | 90 05% |
| 19 | 79 38% | 76 59% | 75 49% | 76 41% | 82 51% | 38 | 89 95% |
| 20 | 80 74% | 78 22% | 77 48% | 78 11% | 82 49% | 40 | 89 69% |
| 21 | 81 67% | 80 10% | 79 25% | 79 20% | 82 22% | 42 | 89 30% |
| 22 | 80 24% | 79 84% | | 79 01% | 81 97% | 44 | 89 32% |
| 23 | | 79 57% | | | 81 27% | 46 | 88 99% |
| 24 | | | | | 80 54% | 48 | 88 02% |
| 25 | | | | | 79 67% | 50 | 88 09% |
| 26 | | | | | 78 49% | 52 | 87 25% |
| 27 | | | | | 76 20% | 54 | 87 05% |
| 28 | | | | | 73 94% | 56 | 86 87% |
| 29 | | | | | 73 36% | 58 | 85 92% |
| | | | | | | 60 | 85 10% |
| | | | | | | 62 | 84 39% |
| | | | | | | 64 | 83 52% |

**Current Equipment**

| MW | B1 | B2 | B3 | B4 | B5-B7 | B8 | B9 | B10 | MW | U1-U8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 22% | 6 22% | 6 22% | 6 22% | 5 12% | 29 02% | 19 81% | 79 22% | 2 | 26 38% |
| 2 | 12 14% | 12 14% | 12 14% | 12 14% | 9 92% | 46 54% | 36 13% | 80 81% | 4 | 44 24% |
| 3 | 17 77% | 17 77% | 17 77% | 17 77% | 14 45% | 57 81% | 49 40% | 82 06% | 6 | 56 92% |
| 4 | 23 06% | 23 06% | 23 06% | 23 06% | 18 74% | 64 91% | 60 06% | 83 23% | 8 | 65 12% |
| 5 | 28 15% | 28 15% | 28 15% | 28 15% | 22 83% | 69 68% | 68 52% | 84 35% | 10 | 71 49% |
| 6 | 32 94% | 32 94% | 32 32% | 32 94% | 26 73% | 72 54% | 75 14% | 85 42% | 12 | 76 28% |
| 7 | 37 49% | 37 49% | 36 80% | 37 49% | 30 47% | 75 07% | 80 25% | 86 44% | 14 | 79 75% |
| 8 | 42 37% | 42 37% | 40 58% | 41 86% | 34 05% | 76 48% | 84 12% | 87 38% | 16 | 82 05% |
| 9 | 46 54% | 46 54% | 44 61% | 45 77% | 37 48% | 77 62% | 86 98% | 88 24% | 18 | 84 40% |
| 10 | 51 26% | 51 26% | 48 48% | 49 61% | 40 78% | 78 80% | 89 00% | 88 99% | 20 | 86 09% |
| 11 | 55 15% | 55 15% | 52 08% | 53 27% | 43 94% | 79 80% | 90 36% | 89 60% | 22 | 86 82% |
| 12 | 58 87% | 58 87% | 55 56% | 56 70% | 46 98% | 80 65% | 91 18% | 90 06% | 24 | 88 09% |
| 13 | 62 44% | 62 44% | 58 94% | 59 98% | 49 89% | 81 18% | 91 55% | 90 35% | 26 | 88 94% |
| 14 | 65 80% | 65 80% | 62 09% | 63 10% | 52 67% | 81 83% | 91 58% | 90 44% | 28 | 89 46% |
| 15 | 69 08% | 69 08% | 65 15% | 66 08% | 55 33% | 82 03% | 91 32% | 90 32% | 30 | 89 15% |
| 16 | 72 11% | 72 11% | 67 98% | 68 93% | 57 85% | 82 22% | 90 84% | 89 97% | 32 | 89 90% |
| 17 | 74 83% | 74 83% | 70 69% | 71 65% | 60 24% | 82 54% | 90 18% | 89 39% | 34 | 89 69% |
| 18 | 77 35% | 77 35% | 73 17% | 74 14% | 62 50% | 82 52% | 89 37% | 88 56% | 36 | 90 05% |
| 19 | 79 38% | 79 38% | 75 49% | 76 41% | 64 62% | 82 51% | 88 46% | 87 48% | 38 | 89 95% |
| 20 | 80 74% | 80 74% | 77 48% | 78 11% | 66 61% | 82 49% | 87 46% | 86 17% | 40 | 89 69% |
| 21 | 81 67% | 81 67% | 79 25% | 79 20% | 68 45% | 82 22% | 86 40% | 84 62% | 42 | 89 30% |
| 22 | 80 24% | 80 24% | | 79 01% | 70 15% | 81 97% | 85 29% | 82 85% | 44 | 89 32% |
| 23 | | | | | 71 70% | 81 27% | 84 15% | 80 87% | 46 | 88 99% |
| 24 | | | | | 73 11% | 80 54% | 82 98% | | 48 | 88 02% |
| 25 | | | | | 74 37% | 79 67% | 81 80% | | 50 | 88 09% |
| 26 | | | | | 75 49% | 78 49% | 80 62% | | 52 | 87 25% |
| 27 | | | | | 76 45% | 76 20% | 79 44% | | 54 | 87 05% |
| 28 | | | | | | 73 94% | 78 26% | | 56 | 86 87% |
| 29 | | | | | | 73 36% | 77 09% | | 58 | 85 92% |
| | | | | | | | | | 60 | 85 10% |
| | | | | | | | | | 62 | 84 39% |
| | | | | | | | | | 64 | 83 52% |

# Memorandum

**To:** I937 Compliance Documentation

**Re:** Fish Spill

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**Background**

Hydroelectric projects are commonly required to "spill" water to help move juvenile fish downstream past a project. In doing so, a hydroelectric project releases a percentage of the river through spillway gates, rather than passing the water through its turbines for power generation. The effectiveness of spill as a method of improving juvenile fish survival varies by dam, since each structure is unique.

To protect fish, Chelan PUD (District) has operated Rocky Reach Hydroelectric Project (Rocky Reach) and the Rock Island Hydroelectric Project (Rock Island) under fish protection agreements (called Interim Stipulation Agreements) dating back to 1979 and 1987, respectively. These agreements required the District to implement different measures every two or three years in an attempt to meet a "fish passage efficiency" (FPE standard) set by NOAA Fisheries. The FPE standard was based only on the percent of fish that passed the dam using a non-turbine route, ignoring the impacts on fish as they migrated through the project reservoir and tailrace, as well the effects of predation by birds and other fish.

When the Upper Columbia steelhead and Upper Columbia spring-run Chinook were listed under the Endangered Species Act (ESA) in the late 1990s, the District was convinced that focusing on fish passage efficiency was not the best way to meet the District's responsibilities under the ESA. In particular, the District decided to focus on achieving the ultimate goal of fish survival, not simply meeting the narrow FPE standard.

To do so, the District approached NOAA Fisheries about developing Habitat Conservation Plans (HCPs) for salmon and steelhead migrating past Rocky Reach and Rock Island. HCPs are authorized under the ESA, but had only been used for terrestrial species. The goal of the plans would be to "make the dams virtually invisible to fish" by obligating the District to a No-Net-Impact (NNI) standard based on a combination of survival, hatchery compensation and tributary conservation and enhancement.

In exchange for the commitment to NNI, the District would be given the flexibility to select the mix of survival improvement tools that would be most effective to meet the survival standard. Examples of these tools might include tailored technological fixes, spill, and predator control. Under NNI, the utilities would accept the responsibility for meeting the standard by a certain date.

The National Marine Fisheries Service conducted an environmental impact statement (EIS) of the District's proposed HCP. The EIS evaluated a proposed action (in this case, the HCP) and compared it with a "no-action" alternative and other alternatives. The spill requirements under these three alternatives are described below.

- Alternative 1 - No Action

This alternative would have continued existing spill operations for both projects until relicensing of the project – through which higher spill levels would most likely be required by federal agencies. The potential spill levels that loomed over the relicensing process are further described in Alternative 2.

- Alternative 2[1] – Other Options Considered
  This option would have entailed maximizing the use of spill for up to 40 percent of the daily average river for up to 99 percent of the juvenile migration season between April and August. (This option was required for the project located immediately downstream of the Rock Island Project)

- Alternative 3 – the HCP
  Under the HCP, a three year evaluation period would be set to determine whether the District was meeting survival standards for different juvenile fish species. Spill levels during the testing period would be calculated pursuant to a formula in the HCP. If survival standards were achieved, the District would have an opportunity to reduce spill levels. This option also allowed the District to meet the fish survival standard using other methods and tools besides spill. These tools, such as predator control and habitat restoration, could increase overall fish survival. The HCP would create a committee structure with federal and state agencies to work with the utility to oversee the mix of "tools" used to achieve the survival standards.

**HCP Process & Fish Spill Planning**

The District and the resource agencies signed comprehensive HCP agreements for both Rocky Reach and Rock Island in March 2002. The HCPs are designed to allow the District flexibility to test juvenile fish survival under a set of project operations that are specified by the District as long as the HCP Coordinating Committee agrees to the project operations and testing. The project operation includes spill level, fish bypass operation, powerhouse operation, and any other biological tools as outlined in the project's HCP and agreed to by the HCP Coordinating Committee signatory parties.

If a single-year study is successful, and the specified project operation is shown to meet the survival standard during survival testing, then that same operation will be tested for two or more years until a three-year arithmetic mean survival of 93% is achieved for that species (sockeye, Chinook, or steelhead). From that point forward, the District will adopt the project operation that was used to achieve the survival standard. If the specific project operation is tested and fails to meet survival at the project, then the District must work to design, implement, and re-test an alternate operation, which could include increased spill levels, the following year. Any operational changes made at the dam are carefully chosen, and are ones that the District believes will increase survival.

If the District fails to meet the survival standard and runs out of "available tools and time" then the HCP Coordinating Committee can require spill at high enough levels to route fish away from turbines and/or require the build-out of another entrance to the bypass system, screen additional units, etc.

**Rocky Reach**

For Rocky Reach the juvenile fish bypass system (fish bypass) is the main biological tool that helps achieve survival and spill reduction. Rocky Reach also has a turbine operations sequence; active predator fish control and bird predator control each year, and "bird wires" stretched clear across the tail- race to stop gulls and terns from diving into the tailrace; and reduced lighting on the powerhouse deck within vicinity of the surface collector to minimize pikeminnow predator activity at the entrance to the Surface Collector.

[1] See December 2002 FEIS excerpts.

*Juvenile Fish Bypass*

The $112 million fish bypass was constructed in April 2003. The system includes a large surface collector at the powerhouse side of the dam where fish congregate and guides them safely downstream where the fish can be returned to the river in fast currents to help avoid attacks from predatory fish and birds. The bypass system allows more juvenile fish to avoid the turbines without requiring the District to spill as much water.

Pursuant to the HCP, the District operates the juvenile fish bypass system at Rocky Reach between April 1 and August 31 each year. The facility is operational long enough to pass 95 percent of the juvenile migration of a plan species. Spill supplements the bypass system to different degrees for different species covered by the HCP. Since species migrate at different times of the year – and because the behavior of different species makes them more or less dependent on spill versus other passage routes – District spill levels fluctuate within the April to August period.

There are three major components of the juvenile fish bypass system. They include the surface collector, intake screens in units C1 and C2, and the bypass pipe. The surface collector creates 6,000 cfs of attraction flow to draw in migrating juvenile salmon and steelhead and is located in the forebay of the Rocky Reach powerhouse. The attraction flow is created by low head submersible pumps that pump 5,760 cfs back into the forebay (1.5ft head) for use by the generating units. 200-240 cfs from the surface collector passes over adjustable weirs and into the bypass pipe and combines with 120 cfs from the intake screens installed in all three intake bays of units C1 and C2. The intake screens are positioned at about a 45 degree angle and project down 16 ft into the 48 ft high intake area. A total of 320-360 cfs (average) of forebay water is transported to the tailrace by the bypass pipe.

*Fish Spill*

For Rocky Reach, the spill levels early on in 2003-2004 were set by the HCP agreement signed in 2002. Using tagged smolts, the juvenile fish passage and survival were tested for both years through a combination of spill and the bypass system. Following testing, the District calculated the "efficiency" for both routes (for spill, the proportion of tagged fish passing the spillway divided by the spill flow percentage; and for the bypass system, the number of tagged fish passing through the bypass divided by the total number tagged fish passing the dam). After completion of efficiency testing, the bypass system was shown to operate at high enough efficiency (above 47%) that spill flow was not required for steelhead and spring Chinook smolts. However, the District still had to show that this operation (without spill) could meet the survival standards using only the bypass system for fish during three more years of survival testing for each species. The survival standard was reached for steelhead in 2006 and for spring Chinook in 2011 (Table 1).

Sockeye smolts did not initially utilize the bypass system like Chinook and steelhead smolts during the 2003-2004 studies; hence an initial 24% spill (24% of day average flow at the Project) was required in combination with the bypass system at Rocky Reach for sockeye in 2004. Sockeye survival was re-tested from 2005 through 2009 to see if the survival standard could be achieved; the standard was finally achieved for juvenile sockeye in 2010 with no spill, turbine loading modifications, bypass operational changes, and predator control work.

Summer/fall Chinook smolts (summer out migrating smolts) have not yet been tested in the HCP due to lack of adequate acoustic-tag technology (insufficient battery life) that can be used for these smaller smolts that take a much longer duration (compared to spring smolts) to migrate downstream through Rocky

Reach. Hence the 9% summer spill level (June-August) at Rocky Reach is in place until survival for these smolts can be tested and achieved (unknown completion date) with the 9% spill level operation in place.

***Table 1***

| Juvenile fish species | Applicable fish spill time period | Survival standard status | Rocky Reach fish spill operation |
|---|---|---|---|
| Steelhead | Spring | Survival standard achieved (2006) | No spill through 2021 |
| Sockeye | Spring | Survival standard achieved (2010) | No spill through 2021 |
| Spring Chinook | Spring | Survival standard achieved (2011) | No Spill through 2021 |
| Summer Chinook | Summer | Not yet tested | 9% |

**Rock Island**

Rock Island uses spill as its bypass system, and has achieved a 10% spring spill reduction (reduced from 20%), as part of its project operations to meet HCP survival standards. In addition to fish spill, there is a project operation criterion specific to Powerhouse 1 and 2 during juvenile fish passage season which calls for first water, and most water, through Powerhouse 2 (the first 90 kcfs of river flow); active predator fish and predator birds control each year, and bird wires crossing the entire tailrace.

*Fish Spill*

For Rock Island, 20% spill (20% of day average flow at the Project) was initially set by the HCP for the spring and summer until the HCP survival standards were achieved. There is no bypass system at Rock Island and spill is the only non-turbine route. Following achievement of spring species survival standards at 20% spill in 2006, the District was allowed to reduce spill and re-test survival using a 10% spill level. Again the District achieved survival for all three spring migrating species after studies in 2007-2010 (Table 2). The District can now plan on 10% spring spill levels at Rock Island for the next 10 years, through 2020. Summer spill is still at 20% until the summer Chinook smolts (much smaller than the spring smolts) can be tested using acoustic tag technology.

***Table 2***

| Juvenile fish species | Applicable fish spill time period | Survival standard status | Rock Island fish spill operation |
|---|---|---|---|
| Steelhead | Spring | Survival standard achieved (2010) | 10% through 2020 |
| Sockeye | Spring | Survival standard achieved (2009) | 10% through 2020 |
| Spring Chinook | Spring | Survival standard achieved (2010) | 10% through 2020 |
| Summer Chinook | Summer | Not yet tested | 20% |

Rocky Reach & Rock Island Spill Baseline

# Anadromous Fish Agreements and Habitat Conservation Plans

## Final Environmental Impact Statement for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects

## Volume I
## FEIS

December 2002

**U.S. Department of Commerce**
National Oceanic and Atmospheric Administration

National Marine
Fisheries Service

periods, with appropriate reporting and monitoring to ensure compliance.

c. Increase spill as necessary to maximize fish passage efficiencies and survival at the project.

d. Implement measures to ensure that total dissolved gas levels are maintained below 120 percent of saturation under total river flows up to the 7-day 10-year peak flow event. The 120 percent saturation criterion is a special exemption that only applies when the dam is spilling water to aid the downstream migration of fish. At all other times, the criterion is 110 percent of saturation.

e. Implement effective fish and avian predator control measures.

f. Potentially implement additional or alternative juvenile bypass systems, such as a surface bypass sluiceway, to improve fish passage survival.

3. Hatchery Program – The same amount of chinook and steelhead would initially be produced as described under Alternative 1, although production could be reduced at any time because of the potential effects of hatchery fish on natural populations. Hatchery production of non-listed species would not be changed unless the production levels are determined to affect the listed species. In addition, fund the changes in hatchery procedures and evaluations needed to make the hatchery compensation program consistent with recovery of spring-run chinook salmon and steelhead populations.

4. Monitoring and Evaluation – In addition to those measures described under Alternative 1:

a. Cumulative Effects – In conjunction with NMFS, develop methodologies and conduct evaluations to assess the effects of passage through multiple dam systems on the fecundity, spawning success, and survival of adult spring-run chinook salmon and steelhead.

b. Survival – Utilize the best techniques to estimate the survival of salmon and steelhead through the project. Techniques would likely include the use of PIT-tags for juveniles and radio-telemetry methodologies for adults.

c. Total Dissolved Gas Monitoring – Conduct physical monitoring of total dissolved gas levels and temperature within the project area. Conduct biological monitoring to determine the incidence of gas bubble disease symptoms in juvenile steelhead and salmon.

d. Fish Counting – Provide adult fish counts on a 24-hour basis.

e. Evaluate adult fish passage efficiencies through radio-telemetry studies.

f. Install adult PIT-tag detection devices in the adult fishways.

5. Spill Program

a. Maximize use of the spill program for up to 40 percent of the daily average flow for up to 99 percent of the juvenile migration season for each salmonid species to increase juvenile fish passage survival at the project. The timing of spill may therefore range from April through August.

b. Limit spill to ensure compliance with the Ecology total maximum daily load allotment for total dissolved gas, which is up to 120 percent of saturation for the tailrace and 115 percent for the forebay of the project.