



*Under Oregon Public Records Law, all information provided in this application or any supplemental or additional materials may be subject to public disclosure.*

*Applicants' signed attestation provided on the Oregon RPS Standard Application applies to the information herein.*

**Section I: Applicant Information**

Name of Applicant:

Applicant Phone:

Applicant Email:

Name of Company:

**Section II: Facility Information**

Unit Name:

Facility Name:

Facility Location (street address, legal description, or GPS coordinates):

City:

County:

State/Province:

Zip:

Country:

**Facility Eligibility**

**Facility Fuel**

Indicate each energy source used by the facility. For multi-fuel generating facilities indicate all fuels used.

<input type="checkbox"/>	Hydroelectric	<input type="checkbox"/>	Biomass
<input type="checkbox"/>	Efficiency Upgrade	<input type="checkbox"/>	Municipal Solid Waste
<input type="checkbox"/>	Low Impact Hydroelectric	<input type="checkbox"/>	Biomass Type:
<input type="checkbox"/>	Large Hydroelectric Non-Eligible (LHN)	<input type="checkbox"/>	Biomass Type:
<input type="checkbox"/>	Other (please specify):	<input type="checkbox"/>	Biomass Type:

**Pre-Upgrade Facility Description**

2. Affected power generation equipment:

3. Make and model:

4. Year of installation:

**Post-Upgrade Facility Description**

5. Reason for upgrade (check all that apply)

<input type="checkbox"/>	Power demand	<input type="checkbox"/>	Scheduled maintenance
<input type="checkbox"/>	Environmental impact	<input type="checkbox"/>	New permit/license
<input type="checkbox"/>	Failed equipment	<input type="checkbox"/>	Other (specify):

6. Make and model:

7. Date of installation:		
<b>Post-Upgrade Facility Description</b>		
8. Estimated attribution to efficiency upgrade	Annual % of total production:	Annual MWh:
9. Is this unit individually metered at WREGIS? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, please explain why and what other generators are included in the meter:		
10. Does this project result in an increase in capacity? If yes, please provide the increase.	Generating capacity:	If a hydroelectric generator, hydraulic capacity:

## Instructions

In order to certify an efficiency upgrade as eligible for the Renewable Portfolio Standard, an applicant must provide the following:

- 1) A complete set of Oregon Department of Energy (Department) forms;
- 2) A complete WREGIS Incremental Resources Process and Intake Form in order to adjust the generator's settings to a multi-fuel facility in WREGIS; and
- 3) A report, stamped by a professional engineer, that describes the completed equipment upgrade, including the previous equipment and the newly installed equipment, the unit's operating position within the facility, and the facility in general. The report should statistically justify a single incremental percentage to be assigned as Oregon eligible in WREGIS.

These requirements are appropriate for any multi-fuel generators with variable fuel input.

### Analytical Framework

An analysis to support an increment of eligible renewable generation should indicate incremental production, expressed as a percentage of the expected production, due specifically to the completed upgrade.

A standard analytical framework for efficiency upgrades is a reference period to compare directly to expected or observed production after the efficiency upgrade under analogous unit conditions based on design parameters.<sup>1</sup> The report should explain why the reference is a statistically valid sample and use the same analysis for pre- and post-upgrade data. The report should explain significant variation or the presence of extreme values.

The analysis should consider:

- Performance characteristics of existing and improved generating equipment based on the manufacturer's guarantees or, if available, field testing.
- Overall plant efficiency.
- Changed operations and new plant requirements.
- Interoperability. Typically, an individual generating unit (GU) will seek certification rather than the entire facility, and this unit will be individually metered.<sup>2</sup>

### Hydropower Efficiency

By rule, hydropower efficiency upgrades are upgrades to generators, turbines, and other Department-approved power equipment changes. Increased impoundment, appropriations, or diversions of water are not eligible as efficiency upgrades. Only operational changes that are directly associated with upgrades to generators, turbines, and approved equipment changes are eligible to qualify toward compliance. Capacity upgrades to a hydroelectric project are not eligible for the Oregon RPS. Capacity

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<sup>1</sup> If the facility is operating differently after installation of the upgrade (e.g. new flow regime), the analysis should adjust and fashion an alternate appropriate reference.

<sup>2</sup> If the unit is not individually metered, the report should provide an explanation of the interoperability between multiple units and a proposal to account for loading between these units.

upgrades to a hydroelectric project include any increase in generating capacity other than an increase from an efficiency upgrade.<sup>3</sup>

Efficiency analysis for hydropower facilities may use the analytical framework described above for all efficiency upgrades. If the supporting analysis uses flows,<sup>4</sup> it should incorporate best available inflow data and reservoir management requirements as parameters. The baseline should be weighted to actual generation over a statistically valid historic range that contains the most relevant records to the post-upgrade performance records or estimates.

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<sup>3</sup> These rules are listed under 330-160-0050, Hydroelectric Facility Upgrades.

[http://arcweb.sos.state.or.us/pages/rules/oars\\_300/oar\\_330/330\\_160.html](http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_330/330_160.html)

<sup>4</sup> Flows have limitations as a determinant. Flows may not have a direct relationship to power production due to operational, physical and environmental guidelines and hydraulic capacity constraints. Therefore the data sample to establish a baseline should be normalized and weighted toward comparable post-upgrade conditions in order to draw statistically valid results.