



# Member's Guide to Interconnection

Revised 10-2009

**PRE-APPROVAL FROM OPALCO IS REQUIRED FOR INTERCONNECTION.**  
Please study and complete the interconnect packet before installing your system.

ONE

Go to [www.opalco.com](http://www.opalco.com) and download the **INTERCONNECT PACKET** that includes:

- ❶ Member's Guide to Interconnection
- ❷ Member Service Policy #14: Interconnection of Member-Owned, Grid-Connected, Alternative-Electric Generating Facilities (Energized After December 17, 2003)
- ❸ Interconnection Standards
- ❹ Interconnection Agreement
- ❺ Interconnection Application
- ❻ Request for Interconnection Incentive

TWO

During this phase you will research, design, purchase and install your system.

- ❶ Review Interconnection materials with Energy Services Specialist.
- ❷ Return completed and signed Agreement, Application, and Request for Incentive to Energy Services Specialist along with \$100 review and inspection fee.
- ❸ After system has been inspected and approved by the Washington State electrical inspector, contact the Energy Services Specialist to verify Permit number and provide approval date.
- ❹ Application is forwarded to Engineering Department for inspection and scheduling.
- ❺ If member plans to participate in the Washington State Renewable Energy System Cost Recovery Program and install a production meter, member should apply to the State for certification. The form can be downloaded from the following address:  
<http://dor.wa.gov/content/Search/Default.aspx?search=renewables+certification+form>
- ❻ Engineering inspects site and generating facility; signs off on application.
- ❼ Once the OPALCO inspection is complete, OPALCO will schedule a meter exchange for member's distribution meter which collects Buy/Sell kilowatt hour readings.

THREE

The final steps are to be completed by the Energy Services Office:

- ❶ Review file to ensure that all paperwork has been received, signed and completed.
- ❷ Complete final inspection of member's renewable generating facility under operation.
- ❸ Photograph member's renewable generating facility for OPALCO archives.
- ❹ Approve and submit request to accounting for incentive check to be issued to member.
- ❺ Once OPALCO has received your State Certification, OPALCO will read your production meter annually and send you the WA Renewable Energy System Annual Incentive Payment Application to sign and complete every year.

## **ORCAS POWER & LIGHT COOPERATIVE**

### **MEMBER SERVICE POLICY 14**

#### **INTERCONNECTION OF MEMBER OWNED, GRID CONNECTED, ALTERNATE-ELECTRIC GENERATING FACILITIES ENERGIZED AFTER DECEMBER 17, 2003**

##### **14.1 AVAILABILITY**

Available to qualifying facilities within San Juan County subject to the limitations below:

14.1.1 Energy must be generated from small scale renewable resources such as solar, wind, micro-hydro and electric cars.

14.1.2 Applies to all new renewable services energized after December 17, 2003.

14.1.3 Non-firm power.

14.1.4 Facilities with nameplate capability no greater than 200 kilowatts.

14.1.5 Any member owned generating facility (MOGF) energized prior to December 17, 2003 will be covered under Member Service Policy 13.

14.1.6 Net Metering or Buy-Sell is available to eligible member-generators on a first-come, first-served basis until the cumulative generating capacity of net metering systems equals 0.50 percent of OPALCO's peak demand during 1996. Not less than one-half of OPALCO's 1996 peak demand available for net metering systems shall be reserved for the cumulative generating capacity attributable to net metering systems that generate renewable energy.

14.1.7 OPALCO must pre-approve the installation of the member's parallel generation system prior to construction. OPALCO will designate the metering type and location, and the method of interconnection between the member's system and OPALCO system. The member shall be required to pay a contribution in aid of construction for all equipment and conductor upgrades required by OPALCO to accommodate the member's MOGF.

##### **14.2 CHARACTER OF SERVICE**

14.2.1 Service where the member has elected to operate their MOGF in parallel with OPALCO's distribution facilities. The MOGF may be used to offset part of the member's own electrical requirements or to generate power for sale to OPALCO.

14.2.2 Single or three phase service, 60 Hz, at OPALCO voltages of 240/120, 480/277, 208/120 are available. Since many areas of San Juan County are served by single phase lines, only single phase power will be purchased or sold in these areas unless the MOGF requests three phase service in accordance with OPALCO's line extension policy.

14.2.3 Electric Cars – Members requesting net metering or buy/sell option for electric cars shall be required to go on a time-of-use tariff.

### **14.3 COMPENSATION FOR NET ENERGY**

The member shall pay for energy consumed, based on actual meter readings, under the appropriate tariff including OPALCO's base charge and any fixed fees that apply. For compensation of net energy, the member may choose, subject to limitations of General Provisions, Section 14.4.2.3, either Net Metering or Buy/Sell as follows:

#### **14.3.1 Net Metering**

14.3.1.1 In the event the energy generated by the facility exceeds the energy consumed on the member's premises, the excess may be distributed to OPALCO's grid through OPALCO's meter, causing the member's meter to run backward.

14.3.1.2 In no case will a credit be issued for negative usage. Instead, a bill for zero usage will be issued and negative kWhs will be "banked" for usage by the member in a subsequent month. Any banked kWhs remaining on April 30th of each calendar year shall be donated to OPALCO.

14.3.1.3 The Net Metering Program billing adjustment only applies to charges for energy. A member participating in the Net Metering Program is subject to all other charges, rates, terms and conditions, including any minimum/basic charges and any fixed fees that apply, of the OPALCO tariff under which the member receives service.

14.3.1.4 OPALCO shall provide meter aggregation for members who are participating under the Net Metering section of this policy. If member's interconnection that is under Net Metering is known to produce more energy than the member's premise can consume on a yearly basis, then OPALCO shall allow the member to apply the excess energy to other accounts that are under the same name as the member's interconnected facility. The member shall provide OPALCO with the account information for which they wish meter aggregation at the time the interconnection to the OPALCO system is made. Members can change the accounts which are being aggregated one time each year, in writing, on or before April 30<sup>th</sup> of that year. The change shall take effect in the next billing period.

#### **14.3.2 Buy/Sell**

14.3.2.1 OPALCO will install, and equally share cost with member, a meter to register the energy flow into and out of the member's facility. The member shall purchase energy flowing into their facility under the appropriate tariff. The member may elect to sell to OPALCO the entire output of their system or a portion that is in excess of their needs.

14.3.2.2 The established rate at which OPALCO will purchase all energy flowing out of MOGF and delivered to OPALCO's distribution grid for non-firm power shall be based on OPALCO's yearly average from BPA's wholesale power

rates, plus any green power premium. The yearly average shall be set each year on March 1<sup>st</sup> using OPALCO's year end Form 7, Part K, section (e), Average Cost. The green power premium shall be set each year using OPALCO's March power bill. Any changes in the rate shall take effect in the next billing period.

14.3.2.3 OPALCO reserves the right to limit purchases that exceed OPALCO's ability to resell the power to its members.

14.3.3 OPALCO shall reserve the right to apply a fixed fee for the administrative costs and operational management of the Net Metering and Buy/Sell programs. OPALCO shall give the member reasonable notice before applying fixed fees.

## 14.4 GENERAL PROVISIONS

### 14.4.1 Design Requirements

14.4.1.1 The MOGF shall be built and operated to comply with *Interconnection Standards for Member Owned, Grid Connected Alternate-Electric Generating Facilities with nameplate capability no greater than 200kW*.

### 14.4.2 Interruption or Reduction of Deliveries

14.4.2.1 OPALCO shall not be obligated to accept deliveries of excess energy and may require member to interrupt or reduce such deliveries:

14.4.2.1.1 When necessary in order to construct, install, maintain, repair, replace, remove, investigate or inspect any of its equipment or part of its system; or

14.4.2.1.2 If it determines that curtailment, interruption or reduction is necessary because of emergencies, forced outages, or compliance with prudent electrical practices.

14.4.2.2 Whenever possible, OPALCO shall give the member reasonable notice of the possibility that interruption or reduction of deliveries may be required.

14.4.2.3 Notwithstanding any other provision of this policy, if, at any time OPALCO determines that either (1) the facility may endanger OPALCO personnel or (2) the continued operation of member's facility may endanger the integrity of OPALCO's electrical system, OPALCO shall have the right to disconnect MOGF from OPALCO's electric system. The MOGF shall remain disconnected until such time as OPALCO is satisfied that the condition which necessitated the disconnection has been corrected.

### 14.4.3 Conditions of Interconnection

14.4.3.1 OPALCO shall allow interconnection between its facilities and MOGF on a continuing basis as long as the parallel operation of the MOGF does not degrade, in any way, the quality of the electrical service provided to OPALCO's other members. The member shall ensure to OPALCO's satisfaction that its MOGF in no way creates unsafe conditions either at its

facility or on OPALCO's facilities. Member shall provide, for approval by OPALCO engineering, a detailed interconnection diagram showing protective disconnecting device(s) and over/under voltage and current devices. MOGF may be required to install additional protective equipment as requested by OPALCO.

- 14.4.3.2 The member/owner of the MOGF shall complete, sign and submit an *Interconnection Application* and an *Agreement for Interconnection of Member Owned, Grid Connected, Alternate-Electric Generating Facilities* prior to beginning construction.
- 14.4.3.3 The MOGF shall comply with all requirements and standards of the National Electric Code (NEC), National Electrical Safety Code (NESC), American National Standards Institute (ANSI), Institute of Electrical and Electronic Engineers (IEEE), American Society of Mechanical Engineers (ASME), Western Electricity Coordinating Council (WECC), Underwriters Laboratories (UL), North American Electric Reliability Corporation (NERC) the National Electric Code General Order 95, and all local, state, and federal rules and regulations or codes which may be applicable.
- 14.4.3.4 All safety and operation procedures for MOGF must comply with the Occupational Safety Health Administration (OSHA) standards, the NEC, Washington Administrative Code (WAC) rules, Washington Industrial Safety and health Administration (WISHA) standards, and equipment manufacturers safety and operation manuals.
- 14.4.3.5 The member/owner may disconnect the MOGF at any time providing reasonable advance notice to OPALCO. Reasonable advanced notice is defined as 30 calendar days.
- 14.4.3.6 The member/owner must provide a notice of sale or transfer of the MOGF, or the premises upon which the facility is located within 30 calendar days. To continue interconnection service to a new member, OPALCO requires a new interconnection agreement signed by the new member/owner within 30 calendar days.

#### 14.4.4 Interconnection

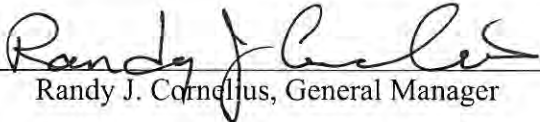
- 14.4.4.1 Member shall deliver the excess energy to OPALCO at OPALCO's meter.
- 14.4.4.2 Member shall pay for designing, installing, operating and maintaining the MOGF in accordance with all applicable laws and regulations and shall comply with OPALCO's *Agreement for Interconnection of Member Owned, Grid Connected, Alternate-Electric Generating Facilities* and *Interconnection Standards for Installation of Member Owned, Grid Connected, Alternate-Electric Generating Facilities*, which may be amended from time to time.

- 14.4.4.3 With the exception of cost sharing of the meter to register delivered and received energy, the member shall pay standard connection/application fees.
  - 14.4.4.4 Member shall not commence parallel operation of the MOGF until OPALCO has been advised of the proposed start up and parallel operation time for such facilities. OPALCO shall have the right to have representatives present at the initial testing of member's protective apparatus.
  - 14.4.4.5 The owner of the MOGF shall install, at no cost to OPALCO, a manually operated, accessible, visible, lockable disconnect device that shall be for the exclusive use of OPALCO. This protective switching equipment may be operated without notice or liability by OPALCO or an OPALCO representative if, in the opinion of OPALCO or its representatives, continued operation of the MOGF in connection with OPALCO's system may create or contribute to a system emergency or safety hazard. OPALCO shall endeavor to minimize any adverse effects of such operation on the MOGF.
  - 14.4.4.6 Metering equipment for power sales to OPALCO and purchase from OPALCO shall consist of the appropriate kilowatt-hour meters, current and voltage transformers, and all necessary installation equipment. OPALCO shall own and maintain all necessary meters and associated equipment utilized for billing and monitoring the member's load.
- 14.4.5 Maintenance and Permits
- 14.4.5.1 Member shall maintain the MOGF in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, OPALCO's *Interconnection Standards for Installation of Member Owned, Grid Connected, Alternate-Electric Generating Facilities*.
  - 14.4.5.2 Member shall obtain any governmental authorizations and permits required for the construction and operation of the MOGF. Member shall reimburse OPALCO for any and all losses, damages, claims, penalties or liability it incurs as a result of member's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of MOGF or failure to properly maintain member's facility.
- 14.4.6 Access to Premises
- OPALCO may enter member's premises or property:
- 14.4.6.1 To inspect the member's protective devices with prior notice during reasonable hours.
  - 14.4.6.2 To disconnect at OPALCO's meter or transformer, without notice, the MOGF (or the entire service if the MOGF cannot be disconnected at or near the meter) if, in OPALCO's opinion, a hazardous condition exists and such immediate action is necessary to protect persons, OPALCO's

facilities, or property of others from damage or interference caused by MOGF, or lack of properly operating protective devices or inability to inspect the same.

14.4.7 Indemnity and Liability

Member shall save harmless and indemnify OPALCO, its other members and its agents, from any loss, claim or expense arising out of member's actions or inaction in implementing this policy. OPALCO shall save harmless and indemnify member for any loss, claim or expense arising out of the actions or inaction of OPALCO or its agents in implementing this policy. This section shall not relieve any insurer of its obligation to pay claims in accordance with the provisions of any valid insurance policy.

  
Randy J. Cornelius, General Manager

August 20, 2009  
Effective Date

**Orcas Power and Light Cooperative**  
**INTERCONNECTION STANDARDS**  
**of Member Owned, Grid Connected,**  
**Alternate-Electric Generating Facilities**

- A. General** - This “Interconnection Standard for Member Owned, Grid Connected, Alternate-Electric Facilities” sets forth the requirements and conditions for interconnected non-utility-owned electric generation where such generation may be connected for parallel operation with the electrical system of Orcas Power and Light Cooperative (hereinafter referred to as OPALCO). Generating systems will be permitted to interconnect to OPALCO’s electric distribution system (12kV and below) only after a determination by OPALCO that such interconnection will not interfere with the operation of the distribution circuit.
- B. Interconnection Requirements**
1. Member shall comply with all the latest applicable National Electric Code (NEC) requirements [NEC Articles 690 and 705], and building codes, and shall obtain electrical permit(s) for the equipment installation.
  2. Member shall provide space for metering equipment, appropriate disconnect switch and meter base as per OPALCO requirements. The location of this equipment must be approved by OPALCO and meet all code requirements.
  3. Member’s over-current device at the service panel shall be marked to indicate power source and connection to OPALCO’s distribution system.
  4. The Member shall assume the full responsibility and keeping of records for all maintenance of the generator, relays, locks, seals, breakers, automatic synchronizers and protective equipment. Maintenance records shall be available to OPALCO for inspection at all times.
  5. Member’s power production control system shall comply with NEC Articles 690 and 705 and applicable and current Institute of Electrical and Electronics Engineers (IEEE) Standards 929 for parallel operation with OPALCO, in particular the:
    - a. Power output control system shall automatically disconnect from OPALCO power source upon loss of OPALCO voltage and not reconnect until OPALCO’s voltage has been restored for at least five (5) minutes continuously.
    - b. Power output control system shall automatically initiate a disconnect from OPALCO’s system within ten (10) seconds if the voltage rises above 132 Volts rms phase to ground or falls below 108 Volts rms phase to ground (nominal 120 V rms base) on any phase.
  6. Member shall pay all costs associated with the design, installation, operation, and maintenance of the generation equipment on the Member’s side of the meter.
  7. Member shall deliver the excess energy to OPALCO at the Member’s premises. OPALCO will install and maintain a revenue meter capable of registering the bi-directional flow of electricity at the Member’s premises at a level of accuracy that meets all applicable standards, regulations and statutes. At the option of OPALCO, a separate meter may be installed to measure production of the renewable generation source. Member shall pay for any non-standard meter electrical hook-up requested by the Member.

8. Member shall not commence parallel operation of the generation equipment until inspection and written approval of the interconnection facilities has been provided by OPALCO. Such approval shall not be unreasonably withheld. OPALCO shall have the right to have representatives present at the initial testing of the Member's protective apparatus, and shall retain the right to periodically inspect the facility to ensure that appropriate safety standards continue to be met.
9. Once in operation, Member shall make no changes or modifications in the equipment, wiring, or the mode of operation without the prior approval of OPALCO.
10. **Solar Photovoltaic Equipment** shall be in compliance with Underwriters Laboratories (UL) 1741, *Standard for Static Inverters and Charge Controllers for Use in Photovoltaic Systems*; UL 1703, *Standard for Safety: Flat-Plate Photovoltaic Modules and Panels*; and IEEE 1262-1995, *Recommended Practice for Qualification of Photovoltaic (PV) Modules*; and the solar system shall be installed in compliance with IEEE Standard 929-2000, *Recommended Practice for Utility Interface of Photovoltaic Systems*.
11. **Metering –**
  - a. OPALCO will provide an invoice (hereinafter called contribution in aid of construction), equal to the estimated cost of the electronic meter and/or any other OPALCO provided facilities, and the labor to install said meter and/or facilities. Contribution in aid of construction must be paid in full prior to installation of said facilities.
  - b. Said electronic meter will be capable of measuring energy flow in two directions: the energy delivered by OPALCO to the Member and the energy received by OPALCO from the Member. Said meter may measure such parameters as time of delivery, power factor, voltage, and such other parameters as OPALCO shall specify.
  - c. The Member shall provide space for metering equipment as specified by OPALCO with the location of the meter(s) approved by OPALCO.
  - d. It will be the Member's responsibility to provide the current transformer enclosure, meter sockets, and junction box after the Member has submitted their drawings and equipment specifications for approval to OPALCO.
12. **Visible, Lockable Disconnect Switch** - An accessible, visible, lockable disconnect switch is to be provided by the Member in an appropriate circuit which is lockable in the open position only. Typically such a device will be an air switch or fused cutouts located near the point of interconnection. Said switch, when locked in the open position for any of the following conditions, may be unlocked only by OPALCO operating personnel:
  - a. If it is necessary for the protection of line crew personnel when working on de-energized circuits during a system emergency.
  - b. If inspection of the Member's generating facility reveals a hazardous condition or a lack of proper maintenance.
  - c. If the Member owned generating facility interferes with other Members, or utilities, or with the operation of OPALCO's distribution system.
  - d. For general maintenance of OPALCO's distribution system. OPALCO would provide reasonable notice before locking the switch open.
13. Any future modification or expansion of the Member owned generating facility will require an engineering review and approval by OPALCO.

#### 14. **Protective Relaying** –

- a. All generating units over 25kW must be equipped with short circuit interrupting devices consisting of thermal-magnetic over-current devices on each phase as well as under-voltage release and solenoid tripping accessories.
- b. Over and under voltage and frequency protection shall be provided to effectively isolate the facility from OPALCO's system should its power output not be within OPALCO's normal operating tolerances. The normal tolerances for under and over voltage are 90% to 110% with ten second time delay and/or 80% to 120% with one second time delay. Frequency relays are not required for solid state inverters which are line commutated.
- c. For generating facilities providing primary voltage, ground fault sensing equipment shall be required to isolate the generating facility from OPALCO's system.

15. **Power Factor** – The power output of the generating facility must approach a unity power factor when operated in parallel with OPALCO's system. Equipment shall be installed to correct any deficiencies in power factor by the owner of the generating facility at the owner's expense. Under no condition will the power factor of the generating facility be permitted to drop below 0.8.

16. **Power Quality** - Generation equipment shall comply with the power quality requirements and harmonic limitations in IEEE 519-Recommended Practices and Requirements of Harmonic Control in Electric Power Systems.

**C. Safety** - All Safety and operating procedures for joint use equipment shall be in compliance with the Occupational Safety and Health Administration (OSHA) standard 29 CFR 1910.269, the National Electrical Code (NEC), Washington Administrative Code (WAC) rules, the Washington Industrial Safety and Health Administration (WISHA) standard, OPALCO standards, and equipment manufacturer's safety and operating manuals.

**D. Maintenance and Permits** – Member shall:

1. Maintain the electric generating system and interconnection facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, OPALCO's Interconnection Standards.
2. Obtain any governmental authorizations and permits required for the construction and operation of the electric generating system and interconnection facilities, including electrical permit.
3. Reimburse OPALCO for any and all losses, damages, claims, penalties, or liability it incurs as a result of Member's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Member's generating system or failure to maintain Member's facility as required in this Section.

**E. Access to Premises** - OPALCO may enter Member's premises or property under the following conditions:

1. to inspect with prior notice at all reasonable hours Member's protective devices and to read meter.
2. To disconnect the interconnection facilities at OPALCO's meter or transformer, without notice, if, in OPALCO's opinion, a hazardous condition exists and such immediate action is necessary to protect persons, or OPALCO's facilities, or property of others from damage or

interference caused by Member's electric generating facilities, or lack of properly operating protective devices or inability to inspect the same.

- F. Indemnity and Liability** – Member shall release, defend, indemnify and hold harmless OPALCO, its other members and/or agents from any and all claims, demands, losses and liabilities to or by third parties arising out of the members, and/or his assigned agent(s), actions or inactions in implementing these Interconnection Standards. This release, defense, indemnity and hold harmless extends to and includes reimbursement of any expense(s) incurred by OPALCO for defense of such suits, actions or claims including reasonable attorney's fees. This standard shall not relieve any insurer of its obligations to pay claims in accordance with the provisions of any valid insurance policy.

# Orcas Power and Light Cooperative

## AGREEMENT for INTERCONNECTION OF MEMBER OWNED, GRID CONNECTED, ALTERNATE-ELECTRIC GENERATING FACILITIES

\_\_\_\_\_, member-generator, and Orcas Power and Light Cooperative (OPALCO), referred to collectively as “parties” and individually as “party”, agree as follows:

1. To meet all the terms of Member Service Policy 14 as amended from time to time.
2. The party’s alternate-electric generating facility shall meet all terms of the *Interconnection Standards for Installation of Member Owned, Grid Connected, Alternate-Electric Generating Facilities*.
3. The member-generator has elected to operate their alternate-electric generating facility in parallel with OPALCO’s transmission and distribution facilities. The alternate-electric generating facility may be intended primarily to offset part of the member-generator’s own electrical requirements.
4. The member-generator shall be solely responsible for obtaining and complying with any and all necessary easements, licenses and permits, or exemptions, as may be required by any federal, state or local statutes, regulations, ordinances or other legal mandates. The member-generator shall procure general liability insurance covering the alternate generating facility with limits of not less than \$50,000.00.
5. The member-generator shall submit documentation to OPALCO that the system has been inspected and approved by the local permitting agency regarding electrical code requirements.
6. \$100.00 interconnect application fee is required.
7. The member-generator shall not commence parallel operation of generating system until inspection has been performed and application has been signed off by an OPALCO engineer.

### 8. **Governing Law**

This agreement shall be interpreted, governed and construed under the laws of the State of Washington as if executed and to be performed wholly within the State of Washington. Venue for any action arising under or in connection with this agreement shall be in the Superior Court for San Juan County, Washington.

### 9. **Indemnity and Liability**

Member shall save harmless and indemnify OPALCO, its other members and its agents, from any loss, claim or expense arising out of member’s actions or inaction in implementing this Agreement. OPALCO shall save harmless and indemnify member for any loss, claim or expense arising out of the actions or

inaction of OPALCO or its agents in implementing this Agreement. This section shall not relieve any insurer of its obligation to pay claims in accordance with the provisions of any valid insurance policy.

**10. Amendment, Modifications or Waiver**

Any amendments or modifications to this agreement shall be in writing and agreed to by both parties. The failure of any party at any time or times to require performance of any provision hereof shall in no manner affect the right at a later time to enforce the same. No waiver by any party of the breach of any term or covenant contained in the agreement, whether by conduct or otherwise, shall be deemed to be construed as a further or continuing waiver of any such breach or a waiver of the breach of any other term or covenant unless such waiver is in writing.

**11. NOTICES**

All written notices shall be directed to Orcas Power and Light Cooperative, 183 Mt. Baker Road, Eastsound, WA 98245.

**I agree to the terms outlined in this agreement.**

**I understand that interconnection is subject to the terms described in OPALCO's Member Service Policy 14. I agree to allow a representative of Orcas Power & Light Cooperative to verify and approve system installation and capacity.**

\_\_\_\_\_  
Member Generator Date

\_\_\_\_\_  
OPALCO Representative Date

<i>OPALCO use only</i>	
Physical Location _____	
Serv. Map Location # _____	Member Acct # _____
Existing Meter # _____	New Meter # _____
Interconnection Application fee paid _____	Date _____

# ORCAS POWER & LIGHT COOPERATIVE

## INTERCONNECTION APPLICATION

For Installation of Member Owned, Grid Connected, Alternate-Electric Generating Facilities

### A. Applicant Information

Name: \_\_\_\_\_ OPALCO Account #: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Installation Address (if different than above): \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_ Site Phone #: \_\_\_\_\_

E-mail: \_\_\_\_\_ FAX: \_\_\_\_\_

### B. Alternate Electric Facility Information

1. Type of System:  Photovoltaic (Solar)  Micro Hydro  Wind

2. System Description: \_\_\_\_\_

Manufacturer: \_\_\_\_\_ Type/Style: \_\_\_\_\_

Voltage & Frequency: \_\_\_\_\_ Maximum kW Output: \_\_\_\_\_

If wind generator: Rotor Diameter: \_\_\_\_\_ Tower Height: \_\_\_\_\_

Turbine Manufacturer: \_\_\_\_\_

If micro hydro: Head: \_\_\_\_\_ ft. Flow: \_\_\_\_\_ gal/min Pipe Size: \_\_\_\_\_ Pipe Length: \_\_\_\_\_

Turbine Manufacturer: \_\_\_\_\_

3. Synchronous Inverter/Generator Data

Manufacturer & Model #: \_\_\_\_\_ Serial #: \_\_\_\_\_

Location of Inverter: \_\_\_\_\_

Voltage & Frequency: \_\_\_\_\_ Operating Power Factor: \_\_\_\_\_

### C. System Designer & Installation Contractor Information (if owner/designer please indicate):

1. Design/Installation Contractor: \_\_\_\_\_ Contractor's License #: \_\_\_\_\_

Address: \_\_\_\_\_

Phone #: \_\_\_\_\_ FAX #: \_\_\_\_\_

2. Electrical Contractor: \_\_\_\_\_ Contractor's License #: \_\_\_\_\_

Address: \_\_\_\_\_

Phone #: \_\_\_\_\_ FAX #: \_\_\_\_\_

### D. Washington State Department of Labor and Industries Electrical Work Permit Information

Electrical Work Permit #: \_\_\_\_\_ Date Approved for Service: \_\_\_\_\_

### E. Installation

1. Proposed Installation Date: \_\_\_\_\_

2. **Submit/Attach a one-line electrical diagram for proposed electrical system, including metering points in relation to OPALCO's electrical system and member's generating system location.**

3. **Submit/Attach a site map of system on property and directions to the site.**

4. **Submit/Attach the interconnection application fee of \$100.**

### F. Owner Acknowledgement

*I certify that the above information is correct. I understand that interconnection is subject to the terms described in OPALCO Member Services Policy 14. I will allow a representative of Orcas Power & Light Cooperative to verify and approve system installation and capacity prior to interconnecting the system to the OPALCO electrical distribution grid.*

Signature of Member: \_\_\_\_\_ Date: \_\_\_\_\_

\*This application shall be Appendix A to the executed "Agreement for Interconnection of Member Owned, Grid Connected, Alternate-Electric Generating Facilities" between member and OPALCO.

# ORCAS POWER & LIGHT COOPERATIVE

## REQUEST FOR INCENTIVE

### FOR INSTALLATION OF MEMBER OWNED, GRID CONNECTED, ALTERNATE- ELECTRIC GENERATING FACILITY

Name: \_\_\_\_\_

Phone Number (home): \_\_\_\_\_ (alternate): \_\_\_\_\_

Address (mailing): \_\_\_\_\_ (residence): \_\_\_\_\_

1. **Energy Source:**     Photovoltaic (Solar)     Micro Hydro     Wind

2. **Alternate–Electric Generating Facility:**

Location of service (*address to be entered by OPALCO*): \_\_\_\_\_

Transformer size (*to be entered by OPALCO*): \_\_\_\_\_

Physical Address: \_\_\_\_\_

Date facility ready for operation: \_\_\_\_\_

3. **Incentive specifications**

Requirements of the interconnection incentives for all renewable systems include:

- Incentives are available for Solar, Wind and Micro Hydro.
- The maximum incentive amount is \$4,500 per member.

4. **Incentive requirements**

- The inverter must be approved by the manufacturer for interconnection without use of additional protective relaying.
- OPALCO personnel shall conduct an on-site inspection and approve the installation of the renewable system prior to interconnection.
- **An interconnect agreement shall be completed and signed by the member/owner of the system**

**Check all applicable categories:**

Contractor/Installer     Member/Owner of Finished System     Member/Operator of Finished System

**Select Payment Type:**

Buy/Sell             Net Metering    (*as outlined in OPALCO Member Service Policy 14*)

**Permission to release member information:**

- OPALCO may release my name in connection with Green Power promotions and information.
- OPALCO may release my system capacity in connection with Green Power promotions and Information.

**5. Inverter Information**

Manufacturer: \_\_\_\_\_ Model No. \_\_\_\_\_  
Maximum Output: \_\_\_\_\_ Watts Output Voltage: \_\_\_\_\_ Volts  
Installed Battery Capacity: \_\_\_\_\_ amp hours Battery Output Voltage: \_\_\_\_\_ Volts DC  
Estimated annual kWh to be generated: \_\_\_\_\_ kWh  
Inverter has been approved for interconnection without additional protective relaying: Y or N (circle one)

**6. Incentive calculation**

**Solar, Micro Hydro and Wind Generation:** OPALCO will pay members \$1.50 per watt of the nameplate capacity rating. The maximum incentive is not to exceed \$4,500.00 per member.

Connection date \_\_\_\_\_ Estimated incentive amount \_\_\_\_\_ Date paid \_\_\_\_\_

**Solar Generation:**

(Number of Panels \_\_\_\_\_) x (Nameplate Ratings: \_\_\_\_\_ Watts) = System output \_\_\_\_\_ Watts  
Watts X \$1.50 = \_\_\_\_\_

*Solar incentive to be paid within 30 days of final inspection by OPALCO representative.*

- \* I certify that the above information is correct.*
- \* I understand that interconnection is subject to the terms described in OPALCO Member Services Policy 14*
- \* I understand that incentives are based solely on funds available in the established OPALCO Green Power fund.*
- \* I understand that by requesting and receiving an incentive, all green tags or green attributes associated with system belong to Orcas Power and Light Cooperative.*
- \* I will allow a representative of Orcas Power & Light Cooperative and/or a State Electrical Inspector to verify and approve system installation and capacity.*

Signature of Member: \_\_\_\_\_ Date: \_\_\_\_\_