

**Delaware Electric Cooperative**  
**Generator Interconnection Application –Long Form**

(For Use with Generators Greater than 25 kW and have Aggregated Meters)

An applicant (Generator Owner) makes application to Delaware Electric Cooperative to install and operate a generating facility greater than 25kW interconnected with the Delaware Electric Cooperative utility system.

**Section 1, Applicant Information Directly Interconnected to the Generating System**

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ ZipCode: \_\_\_\_\_

Facility Location (if different from above): \_\_\_\_\_

Telephone (Daytime): Area Code \_\_\_\_\_ Number \_\_\_\_\_ (Evening) Area Code \_\_\_\_\_ Number \_\_\_\_\_

Delaware Electric Cooperative Account No.: \_\_\_\_\_

Rate Code: \_\_\_\_\_

**Section 2, Aggregated Meter Information**

**The following aggregated accounts shall be ranked according to the order in which credits shall be applied**

1 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

2 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

3 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

4 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

5 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

**Section 2, Aggregated Meter Information (continued)**

6 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

7 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

8 - DEC Member Name \_\_\_\_\_ Rate Code: \_\_\_\_\_

DEC Account No.: \_\_\_\_\_ kWh Credit Amt: \_\_\_\_\_ Capacity (DEC): \_\_\_\_\_

*Any additional meters associated with this aggregated system must be supplied on a separate sheet in the same format.*

**Section 3, Generator Type**

Is Generator powered from a Renewable Energy Source:  Yes  No

Type of Energy Source (if applicable):  Solar  Wind  Hydro

Other generator energy source:  Diesel, Natural Gas  Diesel, Fuel Oil  Other: \_\_\_\_\_

Will excess power be exported to Delaware Electric Cooperative? Yes  No

Total Aggregated Maximum Load: \_\_\_\_\_ kW (Typical) Maximum Export: \_\_\_\_\_ kW

**Section 4, Generator Technical Information**

Type of Generator:  Synchronous  Induction  DC Generator or Solar with Inverter

Generator (or solar collector) Manufacturer, Model Name & Number: \_\_\_\_\_

(A copy of Generator Nameplate and Manufacturer's Specification Sheet may be substituted)

\_\_\_\_\_ Output Power Rating in kW: \_\_\_\_\_

Inverter Manufacturer, Model Name & Number (if used): \_\_\_\_\_

(A copy of Inverter Nameplate and Manufacturer's Specification Sheet may be substituted)

\_\_\_\_\_ Rating in kW: \_\_\_\_\_

Generator Characteristic Data (for rotating machines):

(Not needed if Generator Nameplate and Manufacture's Specification Sheet is provided)

Direct Axis Synchronous Reactance,  $X_d$  : \_\_\_\_\_ P.U. Negative Sequence Reactance: \_\_\_\_\_ P.U.

Ddirect Axis Transient Reactance,  $X'_d$  : \_\_\_\_\_ P.U. Zero Sequence Reactance: \_\_\_\_\_ P.U.

Direct Axis Subtransient Reactance,  $X''_d$  : \_\_\_\_\_ P.U. KVA Base: \_\_\_\_\_

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## Section 5, Interconnecting Equipment Technical Data

Will an interposing transformer be used between the generator and the point of interconnection?  Yes  No

Transformer Data (if applicable, for Customer Owned Transformer):  
(A copy of transformer Nameplate and Manufacturer's Test Report may be substituted)

Size: \_\_\_\_\_ KVA . Transformer Primary : \_\_\_\_\_ Volts  Delta  Wye  Wye Grounded

Transformer Secondary: \_\_\_\_\_ Volts  Delta  Wye  Wye Grounded

Transformer Impedance: \_\_\_\_\_ % on \_\_\_\_\_ KVA Base

Transformer Fuse Data (if applicable, for Customer Owned Fuse):  
(Attach copy of fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Size: \_\_\_\_\_ Speed: \_\_\_\_\_

Interconnecting Circuit Breaker (if applicable):  
(A copy of breaker's Nameplate and Specification Sheet may be substituted)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Load Rating: \_\_\_\_\_ Interrupting Rating: \_\_\_\_\_ Trip Speed: \_\_\_\_\_  
(Amps) (Amps) (Cycles)

Circuit Breaker Protective Relays (if applicable):  
(Enclose copy of any proposed Time-Overcurrent Coordination Curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_

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Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Style/Catalog No.: \_\_\_\_\_ Proposed Setting: \_\_\_\_\_

Current Transformer Data (if applicable):  
(Enclose copy of Manufacturer's Excitation & Ratio Correction Curves)

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_/5

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Accuracy Class: \_\_\_\_\_ Proposed Ratio Connection: \_\_\_\_\_/5

### Generator Disconnect Switch:

A lockable disconnect device shall be installed within 3 feet of the DEC meter and accessible at all times by DEC personnel, by and at the cost of the owner.

Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_ Catalog No.: \_\_\_\_\_ Rated Volts: \_\_\_\_\_ Rated Amps: \_\_\_\_\_

Single or 3 Phase: \_\_\_\_\_ Mounting Location: \_\_\_\_\_

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## Section 6, General Technical Information

Enclose copy of site One-Line Diagram showing configuration and interconnection of all equipment, current and potential circuits and protection and control schemes. Is One-Line Diagram Enclosed?:  Yes

Enclose copy of any site documentation that describes and details the operation of the protection and control schemes. Is Any Available Documentation Enclosed?:  Yes

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits. Are Schematic Drawings Enclosed?:  Yes

## Section 7, PJM Interconnection Queue

The Generator Owner must submit a Generation Interconnection Request directly to PJM if: any Generation is designated in whole or in part as a Capacity Resource to PJM or, if generator intends to sell output to another entity at another electrical location. Generation which is operating "behind the meter" in isolation from the PJM bulk power transmission system and which does not intend to participate in the PJM wholesale energy market may not need to apply to the PJM interconnection queue. PJM has sole discretion on interconnection queue requirements.

**Prior to installation send the completed Pages 1-3 to Delaware Electric Cooperative, Attn: Dave Shapley, Manager of Engineering: Phone: (302) 349-3142 FAX: (302) 349-5891 Email: dshapley@decoop.com or mail to P.O. Box 600 Greenwood, DE 19950**

## Section 8, Preliminary Approval to Proceed with Interconnection

Delaware Electric Cooperative:  Has Approved  Has Not Approved this Preliminary Application.

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

Signature: \_\_\_\_\_

Reason of Not Approving: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Section 9, Installation Details**

Generating System will be installed by:  Owner       State Licensed Electrician

Installing Electrician: \_\_\_\_\_ Firm: \_\_\_\_\_ License No.: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone with Area Code: \_\_\_\_\_

Installation Date: \_\_\_\_\_ Interconnection Date: \_\_\_\_\_

Supply certification that the generating system has been installed and inspected in compliance with the local Building/Electrical code of the municipality of \_\_\_\_\_

Signed (Inspector): \_\_\_\_\_ Date: \_\_\_\_\_  
(In lieu of signature of Inspector, a copy of the final inspection certificate may be attached)

**Section 10, Generator/Equipment Certification**

Generating systems that utilize inverter technology must be compliant with *IEEE 1547* and *Underwriters Lab. UL 1741*. Generating systems must be compliant with Delaware Electric Cooperative's "*Technical Requirements for Parallel Operation of Member Owned Generation*" document. **The Applicant must certify that the installed generating equipment meets the appropriate preceding requirement(s) and can supply documentation that confirms compliance. Generation cannot be turned on until a Delaware Electric Cooperative representative has performed a site visit, installed a warning label near the service meter, and has authorized the system for interconnection.**

**Section 11, Applicant Signature**

**I hereby certify that, to the best of my knowledge, all the information provided in the Interconnection Application is true and correct.**

Name of Applicant (Printed): \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Applicant: \_\_\_\_\_

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**This page for use by Delaware Electric Cooperative Only**

**Section 12, Approval or Non-Approval**

Delaware Electric Cooperative:  Has Approved  Has Not Approved this Interconnection Application.

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

Signature: \_\_\_\_\_

Reason of Not Approving: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Approval to connect to the Company system indicates only that the minimum requirements for a safe proper interconnection have been satisfied. Such approval does not imply that the Generator Owner's facility meets all federal, state and local standards or regulations.**

**Section 13, Internal Checks and Notifications**

- DEC has performed a site visit and approved the system:  Yes
- DEC has installed a Warning Label on or near the service meter:  Yes
- Notify Billing Dept. of Interconnected Generation:  Yes
- Notify Mapping Dept. of Interconnected Generation:  Yes
- Notify Metering Dept. of Interconnected Generation:  Yes
- Notify System Protection of Interconnected Generation:  Yes

**At completion send Pages 5 - 6 to Delaware Electric Cooperative, Attn: Dave Shapley, Manager of Engineering: Phone: (302) 349-3142 FAX: (302) 349-5891 Email: dshapley@decoop.com or mail to P.O. Box 600 Greenwood, DE 19950**