Forms and Agreements 4: Level 2, Level 3 and Level 4 Interconnection Application

A Customer-Generator applicant ("Applicant") hereby makes application to Madison Electric Works (“Utility” or “T & D Utility”) to install and operate a generating facility interconnected with the _____ utility system. This application will be considered as an application for interconnection of generators under Expedited interconnection review provided the generator is not greater than 2 MW but shall serve as an Application for Standard interconnection review if greater than 2 MW or if Expedited review does not qualify the generator for interconnection.

Written applications should be submitted by mail, e-mail or faxed to Madison Electric Works, as follows:

Madison Electric Works
6 Business Park Drive, Madison, ME 04950
Phone: (207) 696-4401
Fax Number: (207) 696-5627
E-Mail Address: mberry@madelec.net
Contact Name: Marty Berry
Contact Title: Superintendent

An application shall initially be reviewed by the T & D Utility for completeness. A Completed Application shall be determined by the T & D Utility when Applicant has provided all applicable information required below in addition to the required interconnection application fee of $3,000.00. A level 4 interconnection application shall also include charges for actual time spent on the interconnection study. In addition, there shall be a $500 fee for changes to the interconnection application after receipt of notice of completeness under § 12(C) of Chapter 324. The application fee and change fee shall be considered non-refundable and surrendered by the Applicant in the event of application withdrawal by the Applicant or cancellation by the Utility. (Additional information to evaluate a request for interconnection may be required and will be so requested from the Interconnection Applicant by Utility after the application is deemed complete).

Section 1. Applicant Information

Legal Name of Interconnecting Applicant (or, if an Individual, Individual's Name)
Name: _____
Mailing Address: _____
City: _____ State: _____ Zip Code: _____

Facility Location (if different from above):
_____
Telephone (Daytime): _____
Telephone (Evening): _____

Fax Number: _____
E-Mail Address: _____

Site Control: Applicant must demonstrate Site Control of the Facility Location and other property necessary to enable the construction, operation, and maintenance of an Interconnection Customer Generator Facility ("ICGF").

"Site Control" means (1) ownership of, a leasehold interest in, or a right to develop a site by the Applicant for the purpose of constructing an ICGF; (2) an option to purchase or acquire an easement, a license or a leasehold interest in the site for the purpose of constructing the ICGF with an initial term of at least 12 months from the date of the Application submission to the T&D Utility; (3) an exclusivity or other business relationship between the Customer and the entity having the right to sell, lease, or grant the Customer the right to possess or occupy a site for the purpose of constructing the ICGF; or (4) filed applications for required permits to site the Facility on federal or State property. Site Control shall not include letters of intent or, with the exception of (4), other arrangements that are not binding on the entity having the right to sell, lease, or grant the Customer the right to possess or occupy a site for the purpose of constructing the ICGF.)

Madison Electric Works _____
(Existing Account Number, if generator to be interconnected on the Customer side of a utility revenue meter)

Type of Interconnect Service Applied for _____ Network Resource, _____
(choose one)

Energy Only, _____ Load Response (no export) _____ Net metering

Section 2. Generator Qualifications

Data apply only to the Small Generating Facility, not the Interconnection Facilities.
Energy Source: ___ Solar ___ Wind ___ Hydro ___ Hydro Type (e.g. Run-of-River):_____

Diesel ___ Natural Gas ___ Fuel Oil ___ Other (state type)_____

Prime Mover: Fuel Cell ___ Recip. Engine ___ Gas Turb. ___ Steam Turb. ___
Microturbine ___ PV ___ Other _____

Type of Generator: Synchronous ____Induction ____ Inverter ____

Generator Nameplate Rating: _____kW (Typical)

Generator Nameplate kVA: _____

Interconnection Customer or Customer-Site Load: _____kW (if none, so state)

Typical Reactive Load (if known): _____
Maximum Physical Export Capability Requested: _____ kW

List components of the Small Generating Facility Equipment Package that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Is the prime mover compatible with the certified protective relay package?
Yes ____No ____

Generator (or solar collector):

Manufacturer, Model Name & Number: _____

Version Number: _____
Nameplate Output Power Rating in kW: (Summer) _____ (Winter) _____
Nameplate Output Power Rating in kVA: (Summer) _____ (Winter) _____

Individual Generator Power Factor:
Rated Power Factor: Leading: _____ Lagging: _____

Total Number of Generators in wind farm to be interconnected pursuant to this Interconnection Request: _____ Elevation: _____Single-phase _____
Three- phase _____

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

List of adjustable set points for the protective equipment or software: _____
_____

Note: *A completed Power Systems Load Flow data sheet must be supplied with the Interconnection Request*.

Small Generating Facility Characteristic Data (for inverter-based machines)

Max design fault contribution current:_____ Instantaneous or RMS?_____
Harmonics Characteristics: _____

_____

Start-up requirements: _____

_____

Small Generating Facility Characteristic Data (for rotating machines)

RPM Frequency: _____
(*) Neutral Grounding Resistor (If Applicable): _____

Synchronous Generators:

Direct Axis Synchronous Reactance, Xd: _____ P.U.
Direct Axis Transient Reactance, X' d: _____ P.U.
Direct Axis Subtransient Reactance, X" d: _____ P.U.
Negative Sequence Reactance, X2 _____ P.U.
Zero Sequence Reactance, X0: _____ P.U.

KVA Base: _____

Field Volts: _____
Field Amperes: _____

Induction Generators:

Motoring Power (kW): _____
I^2t or K (Heating Time Constant):_____
Rotor Resistance, Rr: _____
Stator Resistance, Rs: _____
Stator Reactance, Xs: _____
Rotor Reactance, Xr: _____
Magnetizing Reactance, Xm: _____
Short Circuit Reactance, Xd": _____
Exciting Current: _____
Temperature Rise: _____
Frame Size: _____
Design Letter: _____
Reactive Power Required In Vars (No Load): _____
Reactive Power Required In Vars (Full Load): _____
Total Rotating Inertia, H: _____ Per Unit on kVA Base

Note: *Please contact the T & D Utility prior to submitting the Interconnection Request to determine if the specified information above is required.*

Excitation and Governor System Data for Synchronous Generators Only
Provide appropriate IEEE model block diagram of excitation system, governor system and power system stabilizer (PSS) in accordance with the regional reliability council criteria. A PSS may be determined to be required by applicable studies. A copy of the manufacturer's block diagram may not be substituted.

Section 3. Interconnection Facilities Information

Will a transformer be used between the generator and the Point of Common Coupling? ___Yes ___No

Will the transformer be provided by the Interconnection Customer? ____Yes ____No

Transformer Data (If Applicable, for Interconnection Customer-Owned Transformer):

Is the transformer: Single-phase _____Three phase ____? Size: _____ kVA
Transformer Impedance: _____percent on _____kVA Base

If Three Phase:
Transformer Primary: _____ Volts _____ Delta _____Wye _____ Wye Grounded
Transformer Secondary: _____ Volts _____ Delta _____Wye _____ Wye Grounded
Transformer Tertiary: _____ Volts _____ Delta _____Wye _____ Wye Grounded

Transformer Fuse Data (If Applicable, for Interconnection Customer-Owned Fuse):
(Attach copy of fuse manufacturer's Minimum Melt and Total Clearing Time-Current Curves)

Manufacturer: _____ Type: _____ Size: _____
Speed: _____

Interconnecting Circuit Breaker (if applicable):

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

Interconnection Protective Relays (If Applicable):

If Microprocessor-Controlled:

List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

If Discrete Components:
(Enclose Copy of any Proposed Time-Overcurrent Coordination Curves)

Manufacturer: _____ Type: _____ Style/Catalog No.: _____
Proposed Setting: _____

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Proposed Setting: _____

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Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____
Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____
Proposed Setting: _____

Current Transformer Data (If Applicable):
(Enclose Copy of Manufacturer's Excitation and Ratio Correction Curves)

Manufacturer: _____ Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Potential Transformer Data (If Applicable):

Manufacturer: _____ Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____ Accuracy Class: _____
Proposed Ratio Connection: _____

Section 4. General Information

Enclose copy of site electrical one-line diagram showing the configuration of all Small Generating Facility equipment, current and potential circuits, and protection and control schemes. This one-line diagram must be signed and stamped by a licensed Professional Engineer if the Small Generating Facility is larger than 50 kW.
Is One-Line Diagram enclosed? Yes ____No ____

Enclose copy of any site documentation that indicates the precise physical location of the proposed Small Generating Facility (e.g., USGS topographic map or other diagram or documentation).

Proposed location of protective interface equipment on property (include address if different from the

Interconnection Customer's address):

_____

_____

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

Enclose copies of schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).
Are Schematic Drawings Enclosed? Yes ____No ____

Section 5. Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in the Interconnection Application is true and correct. I also agree to install a Warning Label provided by Utility on or near my service meter location. Generating systems must be compliant with IEEE, NEC, ANSI, and UL standards, where applicable. By signing below, the Applicant also certifies that the installed generating equipment meets the appropriate preceding requirement(s) and can supply documentation that confirms compliance.

Signed:_____Date:_____

Section 6. Information Required Prior to Physical Interconnection
(Not required as part of the application, unless available at time of application.)

Installing Electrician: _____ Firm: _____
License No.: _____

Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Telephone: _____

Installation Date: _____ Interconnection Date: _____

Signed:_____Date:_____
(Inspector - if required)

(In lieu of signature of Inspector, a copy of the final inspection certificate may be attached)