Y-W ELECTRIC ASSOCIATION, INC.
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Your Touchstone Energy® Cooperative

This institution is an equal opportunity provider and employer.

INTERCONNECTION MANUAL AND APPLICATION FORMS

Special Excerpted Edition for 10 kW Inverter-Based Interconnections

Including

Application Instructions and Requirements
Y-WEA Net Metering Rules and Regulations
Pre-Application Interconnection Data Request Form
10 kW Inverter-Process Short Form Application and Agreement

Last Reviewed: November 6, 2020
Last Updated: November 6, 2020

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ATTACHMENT 2:

APPLICABILITY OF REQUIREMENTS AND GENERATOR INTERCONNECTION PROCEDURE

Last Reviewed: September 19, 2017
Last Updated: September 19, 2017

Generator Interconnection Procedure – Inverter Fast-Track Interconnection Requests

for Inverter-based Generators up to 10 kW in Capacity

Procedures for Requesting and Arranging Interconnection Services

Customers desiring interconnection service should contact the following at Y-WEA and request such services or information.

Contact Person:
Director of Member Services
Y-W Electric Association, Inc.
26862 US Hwy 34
P.O. Box Y
Akron, CO 80720
Office: (970) 345-2291
Fax: (970) 345-2154

Submit Applications to:
System Engineer
Y-W Electric Association, Inc.
26862 US Hwy 34
P.O. Box Y
Akron, CO 80720
Office: (970) 345-2291
Fax: (970) 345-2154

Recommended for Prospective Net-Metering Interconnections

Prior to entering into any agreement for generating system design and/or installation, Y-WEA *recommends* that the prospective interconnection customer submit the Pre-Application Interconnection Data Form (Attachment TBD) so that Y-WEA personnel can accurately and efficiently guide the interconnection customer through the application process. There is also an option to submit a $100 processing fee with this data form in order to receive basic engineering data on Y-WEA's system at the proposed interconnection location. This data can prove to be useful for distributed generation system designers in determining what type and size of equipment can be installed at the proposed location. This data will not be provided without the $100 processing fee. If the interconnection customer elects to pay this fee with the data form, the deposit required with the Interconnection Application (should the customer proceed through the process) will be reduced by $100.

Requirements for ALL Interconnection Applications

To initiate any interconnection request under Y-WEA's GIP, the interconnection customer *must* submit either personally or via U.S. Mail or another delivery service all required materials for the interconnection request to Y-WEA in a sealed envelope or box with "Interconnection Application" prominently marked in red on the outside of the package so that the interconnection request can be readily identified and expediently handled according to the time frames outlined in this GIP. *Electronic submittals of the initial application will not be accepted.* Electronic submittals (either by fax or by email) will accordingly be rejected. Once the initial application has been received in hardcopy form, follow-up submissions may be requested and accepted electronically on an individual basis, depending on the type of submission required. If any such supporting documentation, data, or certifications are necessary, the interconnection applicant will be notified of the need for such additional submissions and the acceptable submission format, whether electronic or original hardcopy. Failure to comply with these requirements will result in processing delays for which Y-WEA will not be held responsible.

Basics of Interconnection Service

1. Interconnection Application

2. Feasibility Study
3. System Impact Study
4. Facilities Study
5. Generation Interconnection Agreement (GIA)

Inverter Fast-Track Interconnection Request

To initiate an interconnection request for a generator up to 10 kW that is connected to the electric system through an inverter under the PUC Level 1 Ten kW Inverter Process (referred to as the Inverter Fast-Track process here), the interconnection customer must submit all of the following: (i) $700 deposit; and (ii) a completed application in the form supplied by Y-WEA in Attachment 17: Short-Form Interconnection Application for Inverter up to 10 kW, including all generator data, certification information, and insurance documentation. This application, together with all supporting documentation such as manufacturer's certifications, data sheets, design drawings, and any other information submitted, must be submitted in accordance with the instructions contained in the "Requirements for ALL Interconnection Applications" section above. If the interconnection customer provided a Pre-Application Interconnection Data Form with a $100 processing fee to receive basic system data, the deposit required with the Short-Form Interconnection Application is reduced to $600. Y-WEA will provide written acknowledgement within three days of the receipt of the application package and will provide notification either that the package is complete or of what information is missing within ten days of Y-WEA's receipt of the application package. Once the original hardcopy interconnection application is submitted, much of the follow-up communication may be carried out electronically, especially in cases where the interconnection applicant has a consultant or manufacturer's representative working on the project, so that communications may be handled between many parties in a more effective manner.

Because inverter-based generators up to 10 kW that are UL-1741 certified are generally straightforward to integrate into Y-WEA's distribution system, simplifying any studies to determine the impact on Y-WEA's system, and because Y-WEA will net-meter accounts onto which these generators are installed, simplifying arrangements for purchase and transport of the generator's output, the Inverter Fast-Track process essentially combines the typical Feasibility Study, System Impact Study, and Facilities Study that are performed with a standard interconnection request. Therefore, the Inverter Fast-Track process contains a set of "screens" or tests to examine that determine the suitability of Y-WEA's system to handle the generator interconnection. These screens are found in PUC Rule 3667, Section f, part IV. Y-WEA will perform the Inverter Fast-Track analysis within fifteen days of its determination that the application package is complete. Because this process is rather brief and straightforward, a queue of interconnection requests will not generally be applicable here. In the event, however, that a large number of Inverter Fast-Track interconnection requests are received at approximately the same time, they will be handled sequentially in the order in which they were received.

If the proposed interconnection passes all of the screens in this process, Y-WEA will approve the application, execute the self-contained agreement, and notify the interconnection customer of their authorization to proceed with installing the generator. After the interconnection customer installs the equipment and returns the certificate of completion to Y-WEA, Y-WEA may inspect and witness testing of the generator. Once the generator has passed testing, Y-WEA will notify the interconnection customer that they are authorized to interconnect the generator to and operate it in parallel with Y-WEA's distribution system.

Three items here warrant additional discussion. First, the application should be completed and submitted *before* the generating equipment is purchased and installed. The vast majority of Y-WEA's distribution feeders meet the Colorado PUC definition of "Highly Seasonal Circuits" because they serve large amounts of irrigation load which is not running for most of the year, resulting in very low load levels on these circuits during the winter. This means that those feeders have little capacity to accommodate distributed generation without making significant and expensive upgrades to the equipment that operates and protects the feeder. The need for any such changes automatically disqualifies an application from this fast-track process. The interconnection customer assumes significant financial risk by purchasing or installing generating equipment before an

interconnection has been studied and approved. Y-WEA will not take any responsibility for generating equipment purchased or installed at a location that fails the Inverter Fast-Track screens and is determined to be infeasible due to technical limitations at the installation location, or where the installed capacity of distributed generation would require feeder upgrades at a higher cost than the interconnection customer is willing or able to bear. As a result, potential interconnection customers are strongly cautioned against purchasing or installing any equipment before securing a completed and approved interconnection application. Second, either a certificate of insurance meeting the requirements of paragraph VII on page 6 of the short-form application paperwork or a letter from the insurance carrier indicating that they will furnish the same upon installation of the generator must be submitted before the application can be determined to be complete. Failure to submit this documentation *will delay* an application package. Failure to provide the certificate of insurance with the certificate of completion *will delay* the final approval and authorization to operate the interconnected generator. And finally, written documentation on the OSHA-approved Nationally Recognized Testing Laboratory that has certified the proposed interconnection equipment must be provided. Equipment must be certified by an OSHA-approved Nationally Recognized Testing Laboratory, and documentation listing the actual company that performed this certification is required. Unless the proposed equipment has really been listed with Underwriters Laboratories, simply stating that it is UL-1741 listed is *not* sufficient and *will cause a delay or rejection* of an application package.

Operation during Contingency, Disturbances, Major Maintenance or Emergency

Y-WEA, in its sole judgment may interrupt transmission or distribution service during contingencies, system disturbances, or emergency conditions on Y-WEA's transmission and distribution system. Emergency condition means a condition or situation: (1) that in the judgment of Y-WEA is imminently likely to endanger life or property; or (2) that in the case of Y-WEA, is imminently likely to cause a material adverse effect on the security of, or damage to the transmission or distribution system, Y-WEA's interconnection facilities or the transmission systems of others to which the transmission system is directly connected; (3) that, in the case of the interconnection customer, is imminently likely to cause a material adverse effect on the security of, or damage to, the generating facility or the interconnection customer's interconnection facilities. Y-WEA may in its sole judgment during system disturbances and power outages, temporarily reconfigure the transmission or distribution line to restore service to Y-WEA customers. Transmission or distribution service will be restored or reconfigured to a normal operating state as soon as reasonably practicable following removal of contingency, disturbance or emergency condition. Y-WEA will make reasonable efforts to schedule with the interconnection customer for service interruptions required for major system and equipment maintenance. There shall be no liability on the part of Y-WEA to any party for transmission and distribution services so interrupted.

The interconnection customer shall notify Y-WEA promptly when it becomes aware of an emergency condition that may reasonably be expected to affect Y-WEA's transmission or distribution system or any affected systems. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, the expected effect on the operation of both parties' facilities and operations, its anticipated duration, and the necessary corrective action.

Routine Maintenance, Construction, and Repair

Y-WEA may interrupt interconnection service or curtail the output of the generating facility and temporarily disconnect the generating facility from Y-WEA's transmission or distribution system when necessary for routine maintenance, construction, and repairs on Y-WEA's transmission or distribution system. Y-WEA will use reasonable efforts to coordinate such reduction or temporary disconnection with the interconnection customer.

Forced Outages

During any forced outage, Y-WEA may suspend interconnection service to effect immediate repairs on Y-WEA's transmission or distribution system. To the extent Y-WEA receives advance notice, Y-WEA will use reasonable efforts to provide the Interconnection Customer with prior notice.

Adverse Operating Effects

Y-WEA will notify the Interconnection Customer as soon as practicable if, based on good utility practice, operation of the generating facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the generating facility could cause damage to Y-WEA's transmission or distribution system or affected systems. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, Y-WEA may disconnect the generating facility.

Reactive Power

The Interconnection Customer shall design and operate its generating facility to maintain a composite power delivery at continuous rated power output at the point of interconnection at a power factor within the range of 0.95 leading to 0.95 lagging.

Interconnection Standard

The Interconnection Customer shall design and operate its generating facility to comply with the Y-WEA Generation Interconnection Standard – 25 kW or Less Connected at Secondary Voltages, which is included as Attachment 8 of this interconnection manual. This standard specifies the codes that the installation must adhere to as well as any required special equipment, including a manual disconnect switch, that may not be part of a distributed generation manufacturer's typical offering.

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ATTACHMENT 13:

Y-WEA RULES AND REGULATIONS FOR NET METERING AND MEDIUM DISTRIBUTED GENERATION METERING

Last Reviewed: August 19, 2017
Last Updated: February 2, 2009

I. Rules and Regulations
Rules, Regulations or Extension Policy

L. NET METERING:

(1) Availability
Available to Customer-Generators (C-G) that install an eligible energy resource consisting of qualifying recycled or renewable electric energy generation resources and interconnects subject to the Association's tariffs to the Association's electric distribution system. The C-G system's renewable resource may be: solar, wind, geothermal biomass, or hydropower, and much be limited to not more than 10 kilowatts or capacity for residential and 25 kilowatts of capacity for commercial or industrial. The C-G's recycled energy system may be any generation unit that converts the otherwise lost energy from the heat from exhaust stacks or pipes to electricity and that does not combust additional fossil fuel and must be limited to not more than 10 kilowatts of capacity for residential and 25 kilowatts of capacity for commercial or industrial accounts. The C-G system must conform to the Association's standards and tariffs for interconnectivity, safety, quality of service, liability, and indemnification.

(2) Applicability
Applicable to all consumers that locate an eligible energy resource on the consumer's property, owned, operated, leased, or otherwise controlled by the C-G. The C-G system must be determined to be capable of being operated safely and reliably in parallel with the Association's electrical distribution system. The C-G system shall offset part or all of the C-G's electric load requirements for electric energy at the same location. The system shall not be used to offset or provide credits for electric consumption at another meter of the C-G or for any other consumer.

(3) Description of Service
The type of service may be single-phase or three-phase 60 hertz at standard secondary voltages. The measurement of the difference between the electricity supplied to the C-G or through the Association at the Association's standard rate for the classification of service, and the electricity that is generated by the C-G and delivered to the Association at the same point of interconnection, shall be metered net of the energy supplied by the Association to the C-G for the same billing period. All costs over and above standard metering costs associated with the net metering system and any modifications required by the Association for purposes of interconnectivity, safety, and reliability shall be prepaid to the Association by the C-G.

(4) Monthly Rate
All electric power and energy delivered by the Association to the C-G shall be received and paid for at the Association's current applicable rate schedule for the Appropriate customer class. The Association shall determine the C-G's Energy consumption under the rate through the use of net metering.

Do Not Write In This Space

I. Rules and Regulations
Rules, Regulations or Extension Policy

Net metering shall be, for billing purposes, the net consumption as measured at the Association's service meter but shall not be less than zero. Any such negative amount shall be carried forward and applied against the subsequent month's billing. At the beginning of the month of April every year, any remaining unused credit balance accumulated during the previous year shall be paid to the C-G.

Within sixty (60) days of each annual period, the Association shall account for any accrued excess energy generation, expressed in kilowatt-hours, for the immediately preceding annual period (April through March) and pay the C-G for such energy at the wholesale energy rate as set by the Association's power supplier for the month in which the excess occurred.

(5) Contract Provisions

The C-G shall agree to the provisions of service stipulated by the Association in a written agreement, and the term of the contract shall be not less than one (1) year. Such contract shall, at a minimum, require the C-G to meet all safety and performance standards established by the most current edition of the *National Electric Code, The Institute of Electrical and Electronic Engineers, Underwriters Laboratories, Inc., the National Electric Safety Code,* and any other regulations or standards determined by the Association to be applicable.

The Association shall not be liable directly or indirectly for permitting or continuing to permit an attachment of a C-G's generation system or net metering system, or for acts or omissions of the C-G or any third party. The C-G shall indemnify and hold harmless the Association for any and all damage to persons or property and any and all damages or losses incurred by third parties, or the successors or assigns of such third parties that result from the installation or operation of the C-G's electric generation system or the net metering system.

The C-G shall, at its own expense, install a lockable isolation device capable of isolating the net-metering system from the Association's distribution system. All such equipment shall be approved by the Association and shall be accessible by the Association at all times.

Do Not Write In This Space

ATTACHMENT 15:

PRE-APPLICATION INTERCONNECTION DATA FORM

SUBMISSION NOTES:

This document may be submitted to Y-WEA either electronically or in original hardcopy format.

If submitted electronically, the signatures in Part 1 and Part 5 *must* be secure and verifiable digital AATL-compliant signatures, traceable back to the signer. Either the digital certificate must include the signer's name and, if signing for an organization, the organization, or a traceability audit report similar to DocuSign's digitally-signed summary file must be included with this PDF form.

If submitted in original hardcopy format, the signatures in Part 1 and Part 5 *must* be original wet-ink signatures. Printouts of digital signatures are not allowable.

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PRE-APPLICATION INTERCONNECTION DATA FORM

When required, this application must be completed and returned to Y-W Electric Association's Engineer as per the requirements in *Attachment 2 – Applicability of Requirements and Generator Interconnection Procedure* in order to begin processing the request. Please refer to the Generator Interconnection Procedure for additional information.

This form is required for any proposed residential installation greater than 10 kW or for any commercial installation greater than 25 kW or for any installation not requesting net metering. This form is optional for any installation below these limits.

If a processing fee of $100 accompanies this form, the applicable system data shown at the end of the form will be completed for the proposed interconnection location and returned to the applicant in order to assist them in evaluating and/or designing their generation system. If this fee is paid with the pre-application interconnection data form, the application deposit required for an Interconnection Application will be reduced by $100. No Y-WEA system information will be provided to any party for any location until this form is completed and submitted. For requests where this form is required, Part 4 must be completed *in its entirety* for Y-WEA system data to be provided to the applicant.

PART 1 - INTERCONNECTION CUSTOMER DATA

If this is a Net Metering or self-generation installation, this section must contain the information for Y-WEA's Member. If this is an interconnection for the purposes of selling the generated energy to another party, this section must contain the information for the primary or principal owner of the generating facility.

Interconnection Customer Name:	Best Phone Number:		
Mailing Address:	City:	State:	ZIP Code:
Email Address:	Contact Person (if the customer is a company):		

By signing and submitting this Pre-Interconnection Data Form for a net metering installation, or for another self-generation arrangement where a generating facility is proposed to serve some or all of a load normally served by Y-W Electric Association, Inc. (the "Cooperative") distribution facilities, the Cooperative member listed above indicates that they have knowledge of this proposed installation and that they approve of the engineer's or installer's, as applicable, request for preliminary system data in support of the proposed interconnection. Whether signing and submitting this form for a net metering or self-generation installation, or for an energy-exporting proposed interconnection installation, the customer authorizes the Cooperative to share this data with and communicate with the Engineering Firm and/or the Installer listed below regarding this project. The customer further acknowledges that the data provided is subject to change without notice. These values are valid with the existing facilities to the point noted by the Cooperative's engineer below and under the normal operating conditions for both Cooperative's and its power supplier's system as of the date on this letter. The Cooperative will not inform the customer or any of the customer's representatives of any transformer or system changes, either temporary or permanent, that may affect the provided fault current or distributed energy resource interconnection capacity data. By providing the information in this form, the Cooperative does not assume responsibility for any damage to any of customer's, or customer's agents', successors' and assigns', property, and as consideration for Cooperative providing this information, **customer hereby releases Cooperative from any and all claims that may be legally released arising out of or relating to the furnishing of information in this Form.** Finally, the Cooperative member, by signing here, is authorizing the Cooperative's employees and/or agents to enter the member's property at the Cooperative's convenience for the purpose of accessing the Cooperative's equipment in order to acquire all necessary system information required to provide any data requested in Part 5 of this document and, in signing this document, the member certifies that they have the authority to permit the Cooperative's employees' and/or agents' access.

Y-WEA Member's/Interconnection Customer's Signature:	**Date:**

PART 2 – ENGINEERING FIRM DATA

This section must be filled out if an Engineering Firm is being retained for this project and will need to receive communication on behalf of the Interconnection Customer relating to this proposed project. The primary contact listed below may also designate additional personnel from the same firm to participate in communications regarding this project.

Engineering Firm Name:		Best Phone Number:	
Mailing Address:	City:	State:	ZIP Code:
Email Address:	Primary Contact Person:		

PART 3 – INSTALLER DATA

This section must be filled out if an Installer is being retained for this project and will need to receive communication on behalf of the Interconnection Customer relating to this proposed project. The primary contact listed below may also designate additional personnel from the same company to participate in communications regarding this project.

Installer Name:		Best Phone Number:	
Mailing Address:	City:	State:	ZIP Code:
Email Address:	Primary Contact Person:		

PART 4 – GENERATOR PROJECT INFORMATION

List all owners of the generating facility, if different from Part 1, including percent ownership by each owner:

Account or Service Location Number (if known) for the generator:	If Account or Service Location Number is not known, provide a detailed description of the location for fault current analysis. This request cannot be acted upon without adequate information to determine the exact service location.
Detailed Description of Generator Location:	

Is this a net metering installation? Check One: ☑ Yes ☐ No

Please note that net metering only applies to residential generators up to 10 kW or commercial generators up to 25 kW. Larger generators are not eligible for net metering.

Proposed Generator Size: _____kW	AC Volts: _____	*Check One:* ☑ Single Phase ☐ Three Phase

Generator Type *(check one)*: ☑ Solar ☐ Wind ☐ Hydropower ☐ Diesel Fuel
☐ Natural Gas ☐ Fuel Oil ☐ Other: _____

Interconnection Type *(check one)*: ☑ Secondary ☐ 7.2/12.47 kV ☐ 69 kV ☐ 115 kV ☐ 230kV

IF THIS IS NOT A NET METERING OR SELF GENERATION INSTALLATION, COMPLETE THE FOLLOWING:

Anticipated Energy Purchaser: _____

Proposed Energy Delivery Location: _____

PART 5 – SIGN OFF AREA

This section may be completed and signed by the Interconnection Customer, the Engineering Firm, or the Installer.

I hereby *(check one)* ☑ request, or ☐ do not request, the attached basic system data from Y-W Electric Association, Inc. for my proposed interconnection as detailed above. If I am requesting the basic system data, I understand that a processing fee of $100 must accompany this form, and I understand that all data provided including available system capacity is subject to change until such time as I submit an Interconnection Application. I understand that submission of this form does not reserve my proposed project any capacity on Y-W Electric Association's or any transmission provider's system and that submission of this form does not enter me into any interconnection queue.

Authorized Signature:	**Date:**

SUBMISSION INSTRUCTIONS

Please complete as much of this form as possible and mail or deliver, together with the processing fee if basic system data is requested, to:

Y-W Electric Association, Inc.
ATTN: Interconnection Data Requests
26862 US Highway 34
PO Box Y
Akron, CO 80720

This form may also be emailed to **interconnections@ywelectric.coop** except that payment must be received referencing this form in order for any data to be provided in return.

PART 6 – BASIC SYSTEM DATA

This section to be filled out by Y-WEA:

Account Number (if applicable):	Facilities Type: *(check all that apply)* ☐ Primary (7.2/12.47 kV) ☐ Secondary ☐ Single phase ☐ Three phase ☐ Transmission: ☐ 69kV ☐ 115kV ☐ 230kV

If Service Type is Secondary:	Transformer kVA:	Transformer Type ☐ Single phase ☐ Three phase
	Primary Voltage:	Transformer Configuration: ☐ Delta ☐ Wye
	Secondary Voltage:	%Z:

Expected fault current values below given at (check all that apply):
☐ Transmission Level ☐ Primary Voltage (7.2/12.47 kV) ☐ Transformer Secondary Terminal ☐ Meter Point

Max LLL(G):	Max LLG:	Max LL:	Max LG:

If Interconnection Type is Net Metering:	System Element Description	DER Capacity (in kW)	Check line that constrains capacity to proposed location
	Substation: _____		☐
	Feeder: _____		☐
	Downline Recloser:		☐
	Statutory Limit *(check one)* ☐ Residential ☐ Commercial		☐
	Service Location Transformer		☐
	Existing DER Capacity Connected to this Substation		

Part 6 continues on the next page.

PART 6 – BASIC SYSTEM DATA *(continued)*

If Interconnection Type is Net Metering *(continued)*:	Existing DER Capacity Connected to this Feeder		
	Existing DER Capacity Connected to this Line Section		
	Existing DER Capacity Connected to this Transformer		
	DER Applications Queued for this Substation		
	DER Applications Queued for this Feeder		
	DER Applications Queued for this Line Section		
	DER Applications Queued for this Transformer		
	DER Capacity Available at proposed location:		Obtained by subtracting applicable existing and queued DER capacity from constraining system element capacity
Dist from Substation (line mi):	Line Section Peak Load (kW):	Line Section Min. Daytime Load:	Line Sect Absolute Min. Load:
Line Section Off-Season Peak Load:		Peak : Off-Season Peak Ratio:	Circuit is Highly Seasonal: ☐ Yes ☐ No

Protective Devices installed upline of point of interconnection:	Device Name:	Current Rating:	Directional Capable?
	Main Feeder Recloser		☐ Yes ☒ No
			☐ Yes ☒ No
			☐ Yes ☒ No
			☐ Yes ☒ No
Voltage Regulating Devices installed upline of point of interconnection:	Device Name:	kVA Rating:	Bidirectional Capable?
	Sub: ☐ LTC ☐ Regulators		☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

Connection characteristic of facilities present at proposed point of interconnection: *(check all that apply)*
☑ Radial Y-WEA Secondary, Distribution, or Transmission ☐ Radial Other Transmission ☐ Networked Other Transmission

List and explain any other capacity-constraining factors present which affect this proposed interconnection:

I hereby certify that this fault current and system analysis was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer in the State of: ☑ Colorado ☐ Nebraska.	(Engineer's Seal)
Engineer's Signature:	
Date:	

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ATTACHMENT 17:

SHORT-FORM INTERCONNECTION APPLICATION AND AGREEMENT FOR INVERTER UP TO 10 kW

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Last Updated: September 19, 2017

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Short-Form Interconnection Application and Agreement for Inverter-based Systems up to 10 kW

This application must be completed and returned to Y-W Electric Association's Engineer as per the requirements in *Attachment 2 – Applicability of Requirements and Generator Interconnection Procedure* in order to begin processing the request. Please refer to the Generator Interconnection Procedure (in particular the sections entitled *Requirements for ALL Interconnection Applications* and *Inverter Fast-Track Interconnection Request*) for additional information. A processing fee of $700 must accompany this application unless a Pre-Application Interconnection Data Form was previously submitted with a payment of $100 to receive Y-WEA system data at the proposed interconnection location, in which case a processing fee of $600 must accompany this application.

INFORMATION: *This application is used by Y-W Electric Association to determine the required equipment configuration for the Customer interface. Every effort should be made to supply as much information as possible.*

PART 1

INTERCONNECTION CUSTOMER

Name:_____

Contact Person:_____

Mailing Address:_____

City:_____County:_____State:_____Zip Code:_____

Phone Number: Day:_____Evening:_____

Fax Number:_____ Email Address:_____

ENGINEERING FIRM (if applicable)

Company:_____

Contact Person:_____

Mailing Address:_____

City:_____State:_____Zip Code:_____

Phone Number:_____

Fax Number:_____ Email Address:_____

CONTACT (if different from Interconnection Customer)

Name:_____

Contact Person:_____

Mailing Address:_____

City:_____State:_____Zip Code:_____

Phone Number: Day:_____Evening:_____

Fax Number:_____ Email Address:_____

OWNER

Owner of the facility, including percent ownership by any electric utility:_____

_____

PART 2
SMALL GENERATING FACILITY INFORMATION

Location (if different from above):_____

Electric Service Company:_____

Account Number:_____

Small Generator 10 kW Inverter Process:_____

Manufacturer:_____Model:_____

Nameplate Rating:_____kW _____kVA _____AC Volts Check One: □ Single Phase □ Three Phase

System Design Capacity:_____kW _____kVA

PRIME MOVER (Check One)

□ Photovoltaic □ Reciprocating Engine □ Fuel Cell □ Turbine

□ Other: _____

ENERGY SOURCE (Check One)

□ Solar □ Wind □ Hydropower □ Diesel Fuel □ Natural Gas

□ Fuel Oil □ Other: _____

EQUIPMENT CERTIFICATIONS

Is the Equipment UL1741 Listed? Check One: □ Yes □ No

If Yes, attach manufacturer's cut-sheet showing UL1741 listing.

Estimated Installation Date:_____ Estimated In-Service Date:_____

The 10 kW Inverter Process is available only for inverter-based Small Generating Facilities no larger than 10 kW that meet the codes, standards, and certification requirements of of paragraphs (h) and (i) of Colorado PUC Rule 3665 (see Attachment 8: Y-WEA Generation Interconnection Standard – Less than 25 kW and Attachment 13: Colorado PUC Rule 3665), or the utility has reviewed the design or tested the proposed Small Generating Facility and is satisfied that it is safe to operate.

List components of the Small Generating Facility equipment package that are currently certified:

	Equipment Type	Certifying Entity
1.	_____	_____

2. _____ _____

3. _____ _____

4. _____ _____

5. _____ _____

6. _____ _____

Interconnection Customer Signature:_____

SIGN OFF AREA

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the Terms And Conditions For Interconnecting an Inverter-Based Small Generating Facility No Larger Than Ten kW and return the Certificate of Completion when the Small Generating Facility has been installed. *(To be signed by interconnection customer or a legally authorized representative)*

Signed:_____

Title:_____Date:_____

CONTINGENT APPROVAL TO INTERCONNECT THE SMALL GENERATING FACILITY (For Company Use Only)

Interconnection of the Small Generating Facility is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10 kW and return of the Certificate of Completion.

Signed:_____

Title:_____Date:_____

Application ID Number:_____

Company Waives inspection/witness test? Check One: □ Yes □ No

CONTACT INFORMATION FOR APPLICATION SUBMISSION AND FOR MORE INFORMATION:

Information Contact:	Andy Molt	Applications Contact:	James A. Ziebarth
Title:	Director of Member Services	Title:	System Engineer
e-mail:	andym@ywelectric.coop	e-mail:	james@hea.coop

Address: 26862 US Hwy 34
PO Box Y
Akron, CO 80720
Phone: (970) 345-2291
Fax: (970) 345-2154

CERTIFICATION CODES AND STANDARDS:

- IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)
- UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

- IEEE Std 929-2000 IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems
- NFPA 70 (2011), National Electrical Code
- IEEE Std C37.90.1-1989 (R1994), IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems
- IEEE Std C37.90.2 (1995), IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers
- IEEE Std C37.108-1989 (R2002), IEEE Guide for the Protection of Network Transformers
- IEEE Std C57.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors
- IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits
- IEEE Std C62.45-1992 (R2002), IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits
- ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)
- IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic Terms
- NEMA MG 1-1998, Motors and Small Resources, Revision 3
- IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

Certification of small generator equipment packages.

(I) Small generating facility equipment proposed for use separately or packaged with other equipment in an interconnection system shall be considered certified for interconnected operation if (1) it has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in paragraph (h), (2) it has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and (3) such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.

(II) The interconnection customer must verify that the intended use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.

(III) Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for an on-site commissioning test by the parties to the interconnection nor follow-up production testing by the NRTL.

(IV) If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.

(V) Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL, and does not violate the interface components' labeling and listing performed by the NRTL, no further design review, testing or additional equipment on the customer side of the point of common coupling shall be required to meet the requirements of this interconnection procedure.

(VI) An equipment package does not include equipment provided by the utility.

TERMS AND CONDITIONS FOR INTERCONNECTING AN INVERTER-BASED SMALL GENERATING FACILITY NO LARGER THAN TEN KW

(I) Construction of the facility. The interconnection customer may proceed to construct the small generating facility when the utility approves the interconnection request (the application) and returns it to the IC.

(II) Interconnection and operation. The IC may operate small generating facility and interconnect with the utility's electric system once all of the following have occurred:

(A) Upon completing construction, the interconnection customer will cause the small generating facility to be inspected or otherwise certified by the appropriate local electrical wiring inspector with jurisdiction, and

(B) The customer returns the certificate of completion to the utility, and

(C) The utility has completed its inspection of the small generating facility. All inspections must be conducted by the utility, at its own expense, within ten business days after receipt of the certificate of completion and shall take place at a time agreeable to the parties. The utility shall provide a written statement that the small generating facility has passed inspection or shall notify the customer of what steps it must take to pass inspection as soon as practicable after the inspection takes place.

(D) The utility has the right to disconnect the small generating facility in the event of improper installation or failure to return the certificate of completion.

(III) Safe operations and maintenance. The interconnection customer shall be fully responsible to operate, maintain, and repair the small generating facility as required to ensure that it complies at all times with the interconnection standards to which it has been certified.

(IV) Access. The utility shall have access to the disconnect switch and metering equipment of the small generating facility at all times. The utility shall provide reasonable notice to the customer when possible prior to using its right of access.

(V) Disconnection. The utility may temporarily disconnect the small generating facility upon the following conditions:

(A) For scheduled outages per notice requirements in the utility's tariff or Commission rules.

(B) For unscheduled outages or emergency conditions pursuant to the utility's tariff or Commission rules.

(C) If the small generating facility does not operate in the manner consistent with these terms and conditions.

(D) The utility shall inform the interconnection customer in advance of any scheduled disconnection, or as is reasonable after an unscheduled disconnection.

(VI) Indemnification. The parties shall at all times indemnify, defend, and save the other party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting

from the other party's action or inactions of its obligations under this agreement on behalf of the indemnifying party, except in cases of gross negligence or intentional wrongdoing by the indemnified party.

(VII) Insurance. The interconnection customer, at its own expense, shall secure and maintain in effect during the term of this agreement, liability insurance with a combined single limit for bodily injury and property damage of not less than $300,000 each occurrence. Such liability insurance shall not exclude coverage for any incident related to the subject generator or its operation. The utility shall be named as an additional insured under the liability policy unless the system is a solar system installed on a premise using the residential tariff and has a design capacity of ten kW or less. The policy shall include that written notice be given to the utility at least 30 days prior to any cancellation or reduction of any coverage. A copy of the liability insurance certificate must be received by the utility prior to plant operation. Certificates of insurance evidencing the requisite coverage and provision(s) shall be furnished to utility prior to date of interconnection of the generation system. Utilities shall be permitted to periodically obtain proof of current insurance coverage from the generating customer in order to verify proper liability insurance coverage. The interconnection customer will not be allowed to commence or continue interconnected operations unless evidence is provided that satisfactory insurance coverage is in effect at all times.

(VIII) Limitation of liability. Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under subparagraph (i)(VI) of this rule.

(IX) Termination. The agreement to operate in parallel may be terminated under the following conditions:

(A) By the Customer by providing written notice to the utility.

(B) By the utility if the small generating facility fails to operate for any consecutive 12 month period or the customer fails to remedy a violation of these terms and conditions.

(C) Permanent disconnection. In the event this agreement is terminated, the utility shall have the right to disconnect its facilities or direct the customer to disconnect its small generating facility.

(D) Survival rights. This agreement shall continue in effect after termination to the extent necessary to allow or require either party to fulfill rights or obligations that arose under the agreement.

(X) Assignment/Transfer of ownership of the facility. This agreement shall survive the transfer of ownership of the small generating facility to a new owner when the new owner agrees in writing to comply with the terms of this agreement and so notifies the utility.

Y-W ELECTRIC ASSOCIATION, INC.
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(970) 345-2291 • 800-660-2291 • Fax (970) 345-2154 • www.ywelectric.coop
A Touchstone Energy ® Cooperative

Certificate of Completion for Inverter-based Systems up to 10 kW

This certificate must be completed and returned to the Y-W Electric Association's Engineer in order to operate the interconnected system and receive net-metering credit. See *Attachment 8 - Y-WEA Generation Interconnection Standard – 25 kW or Less Connected at Secondary Voltages and Attachment 13: Colorado PUC Rule 3665* for additional information.

PART 1
INTERCONNECTION CUSTOMER

Name:_____

Contact Person:_____

Mailing Address:_____

City:_____County:_____State:_____Zip Code:_____

Phone Number: Day:_____Evening:_____

Fax Number:_____ Email Address:_____

SIGN OFF AREA

I hereby certify that, to the best of my knowledge, the system referenced in the previously-submitted Short-Form Interconnection Application and Agreement up to 10 kW has been installed and conforms to the data provided on the Short-Form Interconnection Application and Agreement up to 10 kW and to all requirements contained on the Short-Form Interconnection Application and Agreement up to 10 kW.

Signed:_____

Title:_____Date:_____

INTERCONNECTION APPLICATION COMPLETION (For Company Use Only)

Installation of the Small Generating Facility is complete and approved contingent upon continued conformance to the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than 10 kW.

Signed:_____

Title:_____Date:_____

Application ID Number:_____