CORE ELECTRIC COOPERATIVE	**Operating Procedure**	**Procedure No.**	750-03
		Revision No.	4
		Effective Date	9/27/2022
Energy Storage Procedure		**Distribution Restriction: None**	

PURPOSE

1. This document provides guidance for the interconnection of electric storage (i.e. batteries) to operate in parallel with the utility and or a customer's renewable energy generation. Each configuration must demonstrate the energy storage system is charged exclusively by the Net Energy Metering eligible on-site generation, or the customer must demonstrate the storage system will never export electrical power to the grid.

2. Energy storage systems paired with Net Energy Metering eligible onsite renewable generation.

APPLICATION

All electrical energy sources operating in parallel with CORE Electric Cooperative ("CORE") are required to submit an application for interconnection. Each application shall be submitted to CORE personnel for review and approval. Each application shall include the following:

1. One line diagram that includes the utility meter, transfer switch, all power sources, disconnect to power sources, inverters, electrical panel, protected panels.

2. Specifications sheet for all major components showing UL certification.

3. A site plan showing the utility meter, transfer switch, all power sources, disconnect to power sources, inverters, electrical panel, protected panels.

4. Site control documentation

5. Inverter Configuration and programming

6. Application processing fee in the amount of $195.00

Note: Applications will not be processed until all required documentation has been received. CORE reserves the right to request additional information not listed above.

INTERCONNECTION REVIEWS

All electrical sources, including energy storage, that operate in parallel with CORE are required to have an interconnection review and an Interconnection Agreement to ensure safety, system reliability, and operational compatibility. For purposes of this procedure, a source is considered to be operating in parallel with the grid when it is connected to the electrical grid and can supply energy to the customer simultaneously with the electrical grid supply of energy. Any source operating in parallel to the grid is required to have an Interconnection Agreement.

When a storage system is installed in conjunction with a renewable generation system, both may be reviewed at the same time and be included in one Interconnection Agreement. When a storage system is installed after the renewable generation system, the review level will be based upon the combination of the onsite generation rated capacity and the storage nameplate capacity for the selected operating mode of the energy storage. The operating modes will be part of the Interconnection Agreement requirements and changes in operating modes that impact the ability of the energy storage system to adhere to the settlement requirements may require another review of the facility and possibly mitigations. If the energy storage is installed at the same time as the renewable source, a combined review is preferred as the total time and cost will be less than two separate reviews.

INADVERTENT EXPORT

Inadvertent export is the unscheduled export of real power generated from a customer's energy storage and delivered to the Company. The requirement term "no export" allows occasional "de minimis" inadvertent export of power from the energy storage to the grid only. In all instances of this procedure references of "no export" or "inadvertent export" only applies to the energy storage power sent to the grid and does not apply to the power that may be exported to the grid by the onsite renewable generation. This recognizes that any parallel operation of a source with the utility may encounter brief upsets due to feeder or customer disturbances, sudden load changes, etc.

The use of an internal transfer relay, energy management system, or other customer facility hardware or software system(s) intended to prevent the reverse power flow, or net export, from the customer's energy storage across the point of interconnection is required. The magnitude of export shall be less than the energy storage's nameplate rating (kW-gross) and the duration of export of power from the customer's energy storage shall be less than 30 seconds for any single event. There are no limits to the number of events.

The cumulative amount of energy from the customer's energy storage and delivered to the utility in any calendar month shall be less than the customer's energy storage's nameplate rating (kW-gross) multiplied by one (1) hour.

Any amount of export of real power across the point of interconnection lasting longer than thirty (30) seconds for any single event shall result in a cease-to-energize or halt of energy production of the customer's energy storage within two (2) seconds of exceeding the thirty (30) second duration limit.

Where applicable, any failure of the Customer's energy storage control system for thirty (30) seconds or more, resulting from loss of control signal, loss of control power or single component failure of the distributed energy resource (DER) or related control sensing of control circuitry, will cause the customer's energy storage to enter a non-export operational mode where no energy will be Inadvertently Exported to the grid.

METER SET AND ON-SITE INSPECTION

CORE personnel shall witness testing of the following requirements before final approval is granted:

1. Verify power operation with no back feed to the utility (anti-islanding).
2. Verify visible, lockable disconnect.
3. Verify signage on meter housing, disconnect switch, and transfer switch as specified in the Small Generation Interconnect Guidelines (720-02).
4. Verify inverter programming that will not allow electrical power export from energy storage devices to the grid.

ADDITIONAL INFORMATION

All installations shall comply with latest revisions of local, state, and federal regulations, the NEC, NESC, NFPA, and IEEE.

Each diagram provides the representative configuration in principle and may have other features not reflected in the diagram but the operational principle shall be consistent with the operational principle demonstrated by the diagram. The desired functionality may be controlled by inverter or control system programing. The diagrams are attached at the end of the text and are considered a part of this guidance.

Configurations may vary and can supply power to a protected load panel, or the main load panel.

CORE reserves the right to conduct an inspection to verify compliance at a later date if problems arise; indications of possible non-compliance are present, etc.

Application ID (CORE use only): _____ Received: _____

Level 1Application and/or Energy Storage Application

Interconnecting a Certified Inverter-Based Small Generating Facility No Larger than Twenty-five (25) kW for Residential or Twenty-five (25) kW for Commercial

Interconnection Customer Information

Name:_____Contact Person:_____

Account Number:_____

Address: _____

City:_____State:_____Zip: _____

Phone Number:_____E-Mail_____

Equipment Installation Contractor/Electrical Contractor (If different from above)

Contact Name: _____

Company Name:_____

Contact Phone Number:_____E-Mail Address: _____

Small Generating Facility Information

☐ New ☐ Existing System Size AC:_____ Total System Size AC:_____

Inverter Manufacturer:_____ Model:_____

Inverter Nameplate AC Rating:_____(kW) System DC Rating:_____(kW)

Inverter Output AC settings Rating:_____(kW)**(supporting documents required for export limiting)**

Projected Annual Energy Production:_____(kWh)

Service Voltage: ☐ 120/240 ☐ 120/208 ☐ 277/480

Power must be exported to the grid at a power factor of .95 or higher

Energy Storage Information:

☐ New ☐ Existing ☐ Not Applicable

Energy Storage Inverter Manufacturer:_____Model:_____

Total Energy Storage Size:_____kW _____kWH

Batteries are subject to no-export restrictions.

Please include the following documentation: one-line diagram, site plan (showing all equipment location and fencing), specification sheets for modules, batteries, and inverter(s). $195 Application Processing Fee

Application ID (CORE use only): _____

This Application shall be deemed complete when the Interconnection Customer provides all applicable and correct information required below, as well as any additional information required by CORE to evaluate the Request. The terms of this Application are governed by the provisions applicable to the Level 1 Process of CORE's Small Generation Interconnection Procedures and/or Energy Storage Procedure, as the same may be amended, modified, or restated from time to time.

Interconnection Customer Signature

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 twenty-five (25) kW for residential or twenty-five (25) kW for commercial and return the Certificate of Completion when the Small Generating Facility has been installed. I further agree that CORE shall be entitled to any renewable energy credits or other similar attributes associated with the production of electricity by the equipment referred to in this application upon interconnection of that equipment, until such time as CORE is notified in writing of the transfer or assignment of such credits or attributes to a third party.

I UNDERSTAND THAT ONLY SYSTEMS UP TO LESSER OF 200% OF THE 12 MONTH HISTORICAL USAGE AT THE METER LOCATION, OR 10 KW FOR RESIDENTIAL, OR 25 KW FOR COMMERCIAL ARE ELIGIBLE FOR NET METERING.

I UNDERSTAND THAT CORE HAS THE RIGHT TO CHANGE ITS RATES AT ANY TIME AND THAT FUTURE REVISIONS MAY INCLUDE A REDUCTION IN THE ENERGY CREDIT RATE, THE ADDITION OF A DEMAND CHARGE, AN INCREASED SERVICE CHARGE, A MODIFICATION TO THE COMPENSATION PAID FOR ANNUAL EXCESS GENERATION, OR OTHER CHANGES THAT WOULD ALLOW CORE TO RECOVER COSTS OF PROVIDING SERVICE TO NET METERING AND OTHER CUSTOMERS.

I UNDERSTAND THAT SUCH REVISIONS, IF ADOPTED, MAY AFFECT THE RELATIVE COSTS AND ECONOMIC BENEFITS OF MY GENERATION EQUIPMENT AND I ACKNOWLEDGE THAT IN AGREEING TO INTERCONNECT MY GENERATION EQUIPMENT, CORE RESERVES ITS RIGHT TO ESTABLISH RATES DESIGNED TO FULLY RECOVER ITS COSTS AND MAKES NO COMMITMENT TO ME THAT IT WILL CONTINUE ITS CURRENT RATES OR RATE STRUCTURE FOR ANY PERIOD OF TIME.

Signed: _____

Title: _____ Date: _____

Contingent Approval (For CORE use only)

Interconnection of the Small Generating Facility and/or Inverter-Based Energy Storage Device is approved contingent upon the Terms and Conditions for Interconnecting an Inverter-Based Small Generating Facility No Larger than twenty-five (25) kW for residential or twenty-five (25) kW for commercial and return of the Certificate of Completion.

Intermountain Rural Electric Association d/b/a CORE Electric Cooperative
Signature: _____

Title: _____ Date: _____