MEMORANDUM ON PARALLEL OPERATION OF DISTRIBUTED GENERATION AND/OR ENERGY STORAGE SYSTEMS ON THE CUSTOMER SIDE OF THE UTILITY METER

Date: September 27, 2023

Subject: MSEB Requirements for Behind-the-Meter Generation and Energy Storage Installations

To: All Generation Installers and MSEB Customers

1. MSEB does **NOT** purchase power generated from customer-owned solar or other distributed generation assets connected on the customer side of the utility meter. Such systems may be installed to offset the customer's utility usage provided that the customer/installer follows the MSEB Interconnection Process and is approved for connection.

2. **Any customer found to be operating a distributed generation and/or energy storage system on the customer side of the meter without prior MSEB approval are subject to immediate discontinuance of utility services** until the violating system has been removed. MSEB reserves the right to refuse electric service indefinitely to customers found operating a non-approved system more than once.

3. **ALL** customers wishing to install any type of distributed generation or energy storage system on the customer side of the meter that has or may have any ability to back-feed onto the power system (i.e. any generation or storage system connected parallel into the facility's electrical system with any type of inverter), must use the following process to gain permission to operate the system:

    a. Customer or Installer must notify MSEB of intent to install a distributed generation and/or energy storage system and request an Interconnection Agreement.
    b. Customer or Installer must complete the **Interconnection Agreement** and forward it along with all engineering drawings, hardware specifications, one-line diagram, and any other applicable documentation to MSEB for review and approval, as well as payment for the $100 Application Fee and $250 Engineering/Inspection fee.
    c. Once the installation receives MSEB approval and fees have been paid, the Customer or Installer must obtain an **Electrical Addition Permit** from the City of Muscle Shoals Building Department prior to commencing work. (NOTE: Installer must be a licensed electrical contractor and have a **valid Business License** to operate in the City of Muscle Shoals.
    d. MSEB will provide the Installer with a Certificate of Completion which must be completed by the electrician and signed by the City of Muscle Shoals Electrical Inspector, then returned to MSEB before the system is turned on.
    e. Once MSEB has received the Certificate of Completion including the signature of the City of Muscle Shoals Electrical Inspector, a site visit/commissioning, and final inspection will be scheduled in which TVA Comprehensive Services personnel along with MSEB will simulate a utility power outage and verify that the system is operating as intended and not back-feeding onto the utility power system.

f. If the installation passes final inspection and is certified by TVA to be operating properly, the system may then be operated in parallel with the utility service.

NOTES:

- **Customer must not operate its generating facility in parallel with MSEB's system until customer receives final authorization for parallel operation from MSEB!** Unauthorized parallel operation could result in injury to persons and /or damage to equipment and/or property for which the customer shall be liable, and will subject customer to discontinuance of utility service indefinitely.
- If a special meter is required the customer will be required to pay a metering fee of no less than $100 to cover the cost of the meter.
- Additional aid-to-construct charges may apply.

MUSCLE SHOALS ELECTRIC BOARD

GUIDELINES FOR RENEWABLE ENERGY PROJECTS

Purpose:

The intent of this Guideline is to provide an overview of Muscle Shoals Electric Board processes and procedures related to the connection of Customer owned Renewable Energy Projects to the Muscle Shoals Electric Board distribution or transmission grid.

TVA Background Information:

TVA, through recent years, has launched a number of programs that let Valley-based businesses and consumers support, and partner, with TVA and Local Power Companies in generating clean, renewable energy.

TVA defines renewable energy as generation that is sustainable and is generally replenished naturally. TVA produces renewable energy from various sources including (but not limited to) conventional hydro, wind, and solar. TVA also purchases renewable energy for distribution to its customers, and conducts research into clean and renewable sources.

TVA frequently offers various Programs to encourage participation in the creation of electrical energy via various forms of renewable energy. These Programs vary depending on the size of the installation (how many kilowatts will be produced). The Program specifics also change over time, as TVA adjusts its Policies to reflect current market conditions, and generation needs.

Muscle Shoals Electric Board Renewable Energy:

Muscle Shoals Electric Board is required by contract to purchase its total electric power requirements form the Tennessee Valley Authority (TVA). Therefore, Muscle Shoals Electric Board cannot purchase any portion of the output of any Customer owned Renewable Energy Generation System connected to its distribution system. Muscle Shoals Electric Board role is to assist customers with participating in TVA programs, provide an interconnection between the Customer Owned Renewable Energy Generation System and TVA for transmitting energy, meter transmitted energy per Muscle Shoals Electric Board and TVA guidelines and to facilitate payments/reimbursements to Customers, from TVA, for the energy generated by their Renewable Energy System. Contact Muscle Shoals Electric Board to find out which TVA Program(s) are applicable at this time.

Muscle Shoals Electric Board Fees and Charges:

The following is a list of fees and charges for customers establishing a Customer-owned Renewable Energy Generation System. These fees and charges are designed to assist Muscle Shoals Electric Board in

recovering costs associated with Customer owned Renewable Energy Generation System participation in TVA programs.

The Renewable Energy Generation System applicant will also be required to pay any TVA fees and charges outlined in TVA programs per corresponding TVA guidelines.

Muscle Shoals Electric Board Application Fees: Non-refundable payment at time of Application for Interconnection and Parallel Operating Agreement for Renewable Generation submission.

1 kW – 50 kW	$100
Greater than 50 kW	$250

Note: These Fees shall be modified over time, at the discretion of Muscle Shoals Electric Board and/or TVA.

Muscle Shoals Electric Board Engineering Fees: Non-refundable payment, with the minimum Engineering Fee payment (see below) due at time of Application for Interconnection and Parallel Operating Agreement for Renewable Generation submission.

Minimum Engineering Charge/Inspection Fee	$250

Engineering Fee Cost will vary based on specific size of system, existing distribution and/or transmission facilities and other conditions effecting specific project.

Engineer Fee estimated total cost will be provided after Muscle Shoals Electric Board Interconnection Application is submitted by the Customer.

Muscle Shoals Electric Board Meter Related Charges:

Metering of renewable generation will be completed per Muscle Shoals Electric Board guidelines, and/or TVA guidelines (as applicable), and will require the installation of a special generation meter. The meter will be provided by Muscle Shoals Electric Board, or TVA (as applicable). The Customer shall be charged for the meter. If TVA is not involved, this meter charge will be $100. If TVA is involved, the meter charge will be provided later in the process.

If TVA is involved, the customer may also be responsible for maintaining communication service to the meter per Muscle Shoals Electric Board and TVA guidelines. If this communication is required, the Customer will incur a standard monthly access fee for the generation meter.

Muscle Shoals Electric Board Aid-in-Construction Charges:

If engineering analysis determines that upgrades to the Muscle Shoals Electric Board distribution or transmission grid infrastructure is required to accommodate the Customer owned Renewable Energy Generation System costs associated with these upgrades will be charged to the Customer as aid-in-construction.

MUSCLE SHOALS ELECTRIC BOARD

APPLICATION FOR INTERCONNECTION OF DISTRIBUTED GENERATION

Tier 1 (1 kW – 50 kW)

This Application is considered complete when it provides all applicable and correct information required below.

Participant Information

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Location of Proposed Generation (if different): _____

Telephone (Day): _____ (Evening): _____

E-Mail Address: _____

Electric Service Account Number: _____

ELECTRICAL CONTRACTOR (Licensed Electrical Contractor is Required)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ Representative: _____

Email Address: _____

Contractor's License #: _____ City/County/State: _____

GENERATING FACILITY INFORMATION

Inverter Manufacturer: _____ Model _____ Qty _____

Nameplate Rating: _____ (kW) _____ (kVA) _____ (AC Volts)

Single Phase _____ Three Phase _____

System Design Capacity: _____ (kW) _____ (kVA)

Energy Source: Solar ☐ Wind ☐ Hydro ☐ Other (describe) _____

Attach support information to show testing and listing by a Nationally Recognized Laboratory for compliance with the codes and standards outlined in 1.4.1 – 1.4.6 for the proposed system.

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

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

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

ADDITIONAL INFORMATION – Single Line Diagram

In addition to the items listed above, attach a detailed single-line diagram of the proposed facility, all applicable elementary diagrams, major equipment, (generators, transformers, inverters, circuit breakers, protective relays, batteries, number and location of PV Panels, meter, disconnect switch, etc.) specifications, test reports, etc., and any other applicable drawings or documents necessary for the proper design of the interconnection. Also provide the address or grid coordinates of the facility.

PERMISSION TO INTERCONNECT

Participant must not operate its generating facility in parallel with MSEB's system until Participant receives authorization for parallel operation from MSEB. Unauthorized parallel operation could result in injury to persons and /or damage to equipment and/or property for which the customer shall be liable.

INTERCONNECTION PARTICIPANT SIGNATURE

I hereby certify that, to the best of my knowledge, the information provided in this Application is true.

Signed: _____

Title: _____ Date: _____

MUSCLE SHOALS ELECTRIC BOARD

CERTIFICATE OF COMPLETION

Tier Levels 1 and 2

Interconnection Participant: _____

Contact Person: _____

Address: _____

Location of the Generating Facility (if different from above): _____

_____

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

E-Mail Address: _____

Electrician:

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

E-Mail Address: _____

License number: _____

Inspection:

This Generating Facility has been installed and inspected in compliance with the local building/electrical code of the City of Muscle Shoals and the National Electric Code.
Signed (Local electrical wiring inspector, or attach signed electrical inspection):

_____

Print Name: _____ Date: _____

As a condition of interconnection, you are required to send a copy of this form to (insert MSEB information below):

Name: Matt Bernauer

Company: Muscle Shoals Electric Board

Address: PO Box 2547. Muscle Shoals, AL 35662

Email: mbernauer@mseb.net