

## TITLE 39: UTILITIES

### PART IV: Mississippi Distributed Generator Interconnection and Distributed Generation

#### Subpart I: Mississippi Distributed Generator Interconnection Rule

##### Chapter 01: Introduction

The Mississippi Distributed Generation Interconnection Rule (MDGIR) sets forth standards to establish the technical and procedural requirements for Distributed Generator Facilities (DGFs) to be interconnected and operated in Parallel with the Electric Distribution System (EDS) owned or operated by Electric Utilities (EUs) in Mississippi under the jurisdiction of the Mississippi Public Service Commission (Commission). Capitalized terms used in this rule have the meaning specified in the section titled DEFINITIONS.

##### Chapter 02: Definitions

When used in this chapter, the following terms and phrases shall have the following meaning:

- 100 “Adverse System Impact”** means a negative effect, due to technical or operational limits on conductors or equipment being exceeded, that compromises the safety and reliability of the EDS.
- 101 “Applicable Laws and Regulations”** means all duly promulgated and applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.
- 102 “Certificate of Completion”** means a certificate in a completed form approved by the Commission containing information about the Interconnection Equipment to be used, its installation and local inspections.
- 103 “Certified Interconnection Equipment” or “Certified Equipment” or “Certified”** means a designation that the Interconnection Equipment meets the following requirements:
1. The Interconnection Equipment has been tested by a Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration (OSHA) in accordance with the following relevant codes and standards:
    - a. IEEE 1547.1 Standard for Conformance Tests Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems; and
    - b. Underwriters Laboratories (“UL”), UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems;

2. The Interconnection Equipment shall meet the requirements of the most current approved version of each code and standard listed above, as amended and supplemented at the time the Interconnection Request is submitted to be deemed Certified;
3. The Interconnection Equipment has been labeled and is publicly listed by such NRTL at the time of the interconnection application;
4. The Interconnection Customer verifies that the intended use of the Interconnection Equipment falls within the use or uses for which the Interconnection Equipment is labeled and is listed by the NRTL;
5. If the Interconnection Equipment is an integrated equipment package such as an inverter, then the Interconnection Customer shall show that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment;
6. If the Interconnection Equipment includes only interface components (switchgear, multi-function relays, or other interface devices), an Interconnection Customer shall demonstrate that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment; and
7. Certified Interconnection Equipment shall not require further design testing or Production Testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2, or additional Interconnection Equipment modification to meet the requirements. However, nothing herein shall preclude the need for an on-site Witness Test or operational test by the Interconnection Customer.

**104 “Commission”** means the Mississippi Public Service Commission.

**105 “Commissioning Tests”** means the tests applied to a DGF by an Interconnection Customer after construction is completed to verify that the DGF does not create Adverse System Impacts. At a minimum, the scope of the Commissioning Tests performed shall include the commissioning test specified by IEEE Standard 1547 section 5.4 “Commissioning Tests.”

**106 “Distributed Generator Facility” or “DGF”** means the equipment used by an Interconnection Customer to generate or store electricity that operates in Parallel with the EDS. A DGF typically includes an electric generator, prime mover, and the Interconnection Equipment required to safely interconnect with the EDS or local electric power system.

**107 “Distribution System Upgrade”** means a required addition or modification to the EU's EDS at or beyond the Point of Common Coupling (PCC) to accommodate the

interconnection of a DGF. Distribution System Upgrades do not include Interconnection Facilities.

- 108 “Electric Utility” or “EU”** means an electric public utility that distributes electricity to customers and is subject to the jurisdiction of the Commission pursuant to the provisions of Mississippi Code Annotated §§ 77-3-1, *et seq.*
- 109 “Electric Distribution System” or “EDS”** means the facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which EDSs operate differ among areas but generally carry less than 69 kilovolts of electricity. EDS has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.
- 110 “Facilities Study”** means an engineering study conducted by the EU to determine the required modifications to the EU’s EDS, including the cost and the time required to build and install such modifications as necessary to accommodate an Interconnection Request.
- 111 “Fault Current”** means the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase.
- 112 “Feasibility Study”** means a study performed to identify the existence of obvious adverse impacts before additional studies are undertaken for the proposed project to continue in the process.
- 113 “Governmental Authority”** mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, EU or any affiliate thereof.
- 114 “IEEE Standard 1547”** means the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.
- 115 “IEEE Standard 1547.1”** means the IEEE Standard 1547.1 (2005) "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.

- 116 “Interconnection Agreement” or “Agreement”** means a form of interconnection agreement approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. The agreement between the Interconnection Customer and the EU governs the connection of the DGF to the EU’s EDS, as well as the ongoing operation of the DGF after it is connected to the EU’s EDS.
- 117 “Interconnection Application” or “Application”** means a form of interconnection application approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. This application provides the information needed by the EU to review the request for interconnection. For the Level 1 review process, the Application and Agreement are part of the same document.
- 118 “Interconnection Customer”** means an entity that submits an Interconnection Request for a DGF to an EU's EDS.
- 119 “Interconnection Equipment”** means a group of equipment, components, or an integrated system connecting an electric generator with a local electric power system or an EDS that includes all interface equipment including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.
- 120 “Interconnection Facilities”** means facilities and equipment required by the EU to accommodate the interconnection of a DGF. Collectively, Interconnection Facilities include all facilities and equipment between the DGF and the PCC, including modification, additions, or upgrades that are necessary to physically and electrically interconnect the DGF to the EDS. Interconnection facilities are sole use facilities and do not include Distribution System Upgrades.
- 121 “Interconnection Request”** means an Interconnection Customer's request, in the form of an Application approved by the Commission, requesting the interconnection of a new DGF, or to increase the capacity or modify operating characteristics of an existing approved DGF that is interconnected with the EU's EDS.
- 122 “Line Section”** means that portion of an EU's distribution system connected to an Interconnection Customer, bounded by automatic sectionalizing devices or the end of the distribution line.
- 123 “Local Electric Power System” or “Local EPS”** means facilities that deliver electric power to a load that are contained entirely within a single premises or group of premises. Local electric power system has the same meaning as the term local electric power system defined in 3.1.6.2 of IEEE Standard 1547.
- 124 “Minor Equipment Modification”** means changes to the DGF that do not have a material impact on safety or reliability of the EDS.

- 125 “Mississippi Distributed Generation Interconnection Rule (MDGIR)”** means the most current version of the procedures for interconnecting Distributed Generator Facilities adopted by the Mississippi Public Service Commission.
- 126 “Nameplate Capacity”** means the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and is usually indicated on a nameplate physically attached to the power production equipment.
- 127 “Nationally Recognized Testing Laboratory” or “NRTL”** means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in the NRTL program.
- 128 “Parallel Operation” or “Parallel”** means the sustained state of operation over 100 milliseconds, which occurs when a DGF is connected electrically to the EDS and thus has the ability for electricity to flow from the DGF to the EDS.
- 129 “Point of Common Coupling” or “PCC”** means the point where the DGF is electrically connected to the EDS. Point of common coupling has the same meaning as defined in 3.1.13 of IEEE Standard 1547.
- 130 “Primary Line”** means a distribution line rated at greater than 600 volts.
- 131 “Production Test”** means production test as defined in IEEE Standard 1547.
- 132 “Queue Position”** means the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the EU.
- 133 “Radial Distribution Circuit”** means a circuit configuration where independent feeders branch out radially from a common source of supply. From the standpoint of a utility system, the area described is between the generating source or intervening substations and the customer’s entrance equipment. A radial distribution system is the most common type of connection between a utility and load in which power flows in one direction from the utility to the load.
- 134 “Scoping Meeting”** means a meeting between representatives of the Interconnection Customer and EU conducted for the purpose of discussing alternative interconnection options, exchanging information including any EDS data and earlier study evaluations that would be reasonably expected to impact interconnection options, analyzing information, and determining the potential feasible points of interconnection.
- 135 “Secondary Line”** means a service line subsequent to the Primary Line that is rated for 600 volts or less, also referred to as the customer’s service line.

- 136 “System Impact Study”** means a study that identifies the electric system impacts that would result if the proposed DGF were interconnected without DGF modifications or EDS modifications, focusing on the Adverse System Impacts identified in the Feasibility Study.
- 137 “UL Standard 1741”** means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.
- 138 “Witness Test”** means verification (through on-site observation) by the EU that the installation evaluation required by IEEE Standard 1547 Section 5.3 and the Commissioning Test required by IEEE Standard 1547 Section 5.4, have been adequately performed. For Interconnection Equipment that has not been Certified, the Witness Test shall also include the verification by the EU of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification by the EU of Production Tests required by IEEE Standard 1547 Section 5.2. All tests verified by the EU are to be performed in accordance with the applicable test procedures specified by IEEE Standard 1547.1.

### **Chapter 03: INTERCONNECTION REQUESTS, FEES, AND FORMS**

- 100** Interconnection Customers seeking to interconnect a DGF shall submit an Interconnection Request to the EU that owns the EDS to which interconnection is sought, using an application approved by the Commission. Electronic versions of such Commission-approved Application forms shall be posted on the EU’s website. The EU shall establish processes for accepting Interconnection Requests electronically, specifically through online submission. Such online submission portal should include, at a minimum, information on interconnection times and procedures, a repository of relevant forms that allow for electronic entry of text, an application status tracker, and a searchable interconnection queue that is updated on a regular basis.
- 101** When an Interconnection Customer is not currently a customer of the EU at the proposed PCC, upon request from the EU, the Interconnection Customer shall provide proof of site control evidenced by a property tax bill, deed, lease agreement, or other legally binding contract.
- 102** Interconnection fees shall be governed as follows for all Interconnection Requests and shall be published on each EU’s website:
1. An EU may not charge an application, or other fee, to an applicant that requests Level 1 interconnection review. However, if an application for Level 1 interconnection review is denied because it does not meet the requirements for Level 1 interconnection review and the applicant resubmits the application under another review procedure in accordance with the MDGIR, the EU may impose a fee for the resubmitted application, consistent with this section.

2. For a Level 2 interconnection review, the EU may charge fees of up to \$50.00 plus \$1.00 per kilowatt of the customer-generator facility's capacity, plus the reasonable cost of any required minor modifications to the electric distribution system or additional review. Costs for such minor modifications or additional review will be based on the EU's non-binding, good faith estimates and the ultimate actual installed costs. Costs for engineering work done as part of any additional review will not exceed \$100.00 per hour.
3. For a Level 3 interconnection review, the EU may charge fees of up to \$100.00 plus \$2.00 per kilowatt of the customer-generator facility's capacity, as well as charges for actual time spent on any required impact or facilities studies. Costs for engineering work done as part of an impact study or interconnection facilities study will not exceed \$100.00 per hour. If the EU must install facilities in order to accommodate the interconnection of the customer generating facility, the cost of such facilities will be the responsibility of the applicant.

**103** When the EU determines that an Interconnection Request is complete, a modification of DGF design by the Interconnection Customer other than a Minor Equipment Modification that is not agreed to in writing by the EU shall require submission of a new Interconnection Request.

#### **Chapter 04: INTERCONNECTION REVIEW LEVELS**

**100** The EU shall review Interconnection Requests using one of the three levels of review procedures established below. The EU shall first use the level of DGF Agreement specified by the Interconnection Customer in the Application. The EU may not impose additional requirements not specifically authorized unless the EU and the Interconnection Customer mutually agree to do so in writing.

**101** When an Interconnection Request is for an increase in capacity for an existing DGF, the Interconnection Request shall be evaluated on the basis of the new total Nameplate Capacity of the DGF.

**102** When an Interconnection Request is for a DGF that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single PCC, the Interconnection Request shall be evaluated on the basis of the aggregate Nameplate Capacity of the multiple devices.

#### **Chapter 05: LEVEL 1 INTERCONNECTION REVIEWS**

**100** The EU shall use Level 1 review procedures to evaluate Interconnection Requests when:

1. The DGF is inverter-based;
2. The DGF has a Nameplate Capacity of 20 kW or less; and

3. The Interconnection Equipment proposed for the DGF is Certified.

**101** For Level 1 Interconnection Review, the EU shall first evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:

1. For interconnection of a proposed DGF to a Line Section on a Radial Distribution Circuit, the aggregated generation on the Line Section, including the proposed DGF, shall not exceed 15% of the Line Section annual peak load.
2. When a proposed DGF is to be interconnected to a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, may not exceed 20 kW.
3. When a proposed DGF is single-phase and is to be interconnected to a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
4. Construction of facilities by the EU on its own system is not required to accommodate the DGF.

**102** The Level 1 Interconnection Review shall then be conducted in accordance with the following procedures:

1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.
2. When an Interconnection Request is complete, the EU shall assign a Queue Position.
3. The EU shall, within 15 business days after notifying a Level 1 applicant that the application is complete, indicate that the DGF equipment meets all Level 1 criteria, verify the DG can be interconnected safely and reliably using Level 1 screens, and provide a conditionally approved Level 1 Interconnection Application Form and Agreement to the Interconnection Customer.

**103** Unless the EU determines and demonstrates to the Interconnection Customer that a DGF cannot be interconnected safely or reliably to its system and provides a letter to the Interconnection Customer explaining its reasons for denying an Interconnection Request, the EU's final approval of the Interconnection Agreement is subject to the following conditions:

1. The DGF has been approved by local or municipal electric code officials with jurisdiction over the interconnection;

2. The EU has received the required information on the Certificate of Completion from the Interconnection Customer. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
  3. The EU has completed its Witness Test in accordance with the MDGIR.
- 104** Within 10 business days of the estimated commissioning date indicated on the Interconnection Request, the EU shall, upon reasonable notice and at a mutually convenient time, conduct a Witness Test of the DGF to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes.
- 105** When a DGF is not approved under a Level 1 review, the Interconnection Customer may submit a new Interconnection Request for consideration under Level 2 or Level 3 procedures.

#### **Chapter 06: LEVEL 2 INTERCONNECTION REVIEWS**

- 100** The EU shall use the Level 2 Interconnection Review procedure to evaluate an Interconnection Request when:
1. The DGF has a Nameplate Capacity rating of 2 MW or less;
  2. The Interconnection Equipment proposed for the DGF is Certified; and
  3. The aggregated total of the Nameplate Capacity of all of the generators on the circuit, including the proposed DGF, is 2 MW or less.
- 101** No construction of facilities by an EU shall be required to accommodate the DGF, except as permitted by an additional review for minimal modifications of the EDS, as described in these Level 2 procedures.
- 102** For Level 2 Interconnection Review, the EU first shall evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:
1. For interconnection of a proposed DGF to a radial distribution circuit, the aggregated generation on the Line Section, including the proposed DGF, may not exceed 15% of the Line Section annual peak load.
  2. The proposed DGF, in aggregation with other generation on the distribution circuit, may not contribute more than 10% to the distribution circuit's maximum Fault Current at the point on the Primary Line nearest the Point of Common Coupling (PCC).

3. The proposed DGF, in aggregate with other generation on the distribution circuit, may not cause any distribution protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers), or other customer equipment on the EDS to be exposed to Fault Currents exceeding 87.5% of the short circuit interrupting capability. The Interconnection Request may not receive approval for interconnection on a circuit that already exceeds 87.5% of the short circuit interrupting capability.
4. When a DGF is to be connected to three-phase, three-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected phase-to-phase.
5. When a DGF is to be connected to three-phase, four-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected line-to-neutral and shall be effectively grounded.
6. When the proposed DGF is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, shall not exceed 20 kW.
7. When a proposed DGF is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
8. A DGF, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the DGF proposes to interconnect, may not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
9. No construction of facilities by an EU on its own system shall be required to accommodate the DGF.

**103** The Level 2 Interconnection Review shall then be conducted in accordance with the following procedures:

1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing. As part of this process, the EU shall assign a Queue Position. The Queue Position of the Interconnection Request shall be used to determine the potential Adverse System Impact of the DGF based on the relevant screening criteria. If there are higher queued Interconnection Requests on the same radial line circuit, the EU shall evaluate the Interconnection Requests by performing any Level 2 screens requiring aggregate capacity calculations and determine if the DGF in combination with the higher queued Interconnection Requests exceeds any of the

aggregate capacity requirements. If an aggregate capacity requirement is exceeded, the EU shall notify the Interconnection Customer and shall not be obligated to meet the timeline for reviewing the Interconnection Request until such time as the EU has completed the review of all other Interconnection Requests that have a higher Queue Position and impact the aggregate capacity calculation that has been exceeded.

2. At the time an EU determines additional information is required to complete an evaluation, the EU shall request the information. The time necessary to complete the evaluation may be extended by mutual agreement of the parties, but only to the extent of the time required for receipt of the additional information. During an extension of time to submit additional information, the EU may not alter the Interconnection Customer's Queue Position.
3. Within 20 business days after the EU notifies the Interconnection Customer that it has received a completed Interconnection Request, the EU shall:
  - a. Evaluate the Interconnection Request using the Level 2 screening criteria;
  - b. Review any analysis provided by the Interconnection Customer, using the same criteria used by the customer; and
  - c. Provide the Interconnection Customer with the EU's evaluation, including a comparison of the results of its own analyses with those of Interconnection Customer, if applicable. When an EU does not have a record of receipt of the Interconnection Request and the Interconnection Customer can demonstrate that the original Interconnection Request was delivered, the EU shall expedite its review to complete the evaluation of the Interconnection Request within 20 business days of the Interconnection Customer's re-submittal.

**104** The EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of its determination that the Interconnection Request passes the Level 2 screening criteria.

**105** When a DGF has failed to meet one or more of the Level 2 screens, the EU shall offer to perform additional review for minimal modifications of the EDS to determine whether minimal modifications to the EDS would enable the interconnection to be made consistent with safety, reliability and power quality criteria. The EU shall provide the Interconnection Customer with a nonbinding, good faith estimate of the costs of additional review for minimal modifications of the EDS. The EU shall undertake the additional review for minimal modifications of the EDS or the modifications only after the Interconnection Customer consents to pay for the review and modifications.

**106** If the DGF fails one or more of the Level 2 screening criteria but the EU determines that minimal modifications to the EDS would enable the DGF to interconnect safely and

reliably, the EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of making that determination.

**107** If the EU finds that the DGF cannot be interconnected with minimal modifications to the EDS, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review.

**108** An Interconnection Customer shall have 30 business days to sign and return the Agreement. When an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing prior to the expiration of the 30 business day period to extend the deadline. The EU may not unreasonably deny the request for extension.

**109** The DGF Interconnection Agreement shall not become final until:

1. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
2. The DGF is approved by electric code officials with jurisdiction over the interconnection;
3. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
4. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

**110** If the DGF is not approved under a Level 2 review, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review. The Queue Position assigned to the Level 2 Interconnection Request shall be retained provided the request is made within 15 business days of notification that the current Interconnection Request is denied.

#### **Chapter 07: LEVEL 3 INTERCONNECTION REVIEWS**

**100** The EU shall use the Level 3 review procedure to evaluate an Interconnection Request when the Interconnection Customer requests Level 3 review.

**101** The Level 3 review shall be conducted in accordance with the following process:

1. An EU shall, within 10 business days of receipt of an Interconnection Request, inform the Interconnection Customer in writing or by electronic means that the

Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.

2. When the Interconnection Request is deemed not complete, the EU shall provide the Interconnection Customer with a written list detailing information required to complete the Interconnection Request. The Interconnection Customer shall have 10 business days to provide appropriate data in order to complete the Interconnection Request, or the Interconnection Request shall be considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The Interconnection Request shall be deemed complete when the required information has been provided by the Interconnection Customer, or the parties have agreed that the Interconnection Customer may provide additional information at a later time.
3. When an Interconnection Request is complete, the EU shall assign a Queue Position. The Queue Position of an Interconnection Request shall be used to determine the cost responsibility necessary for the facilities to accommodate the interconnection. The EU shall notify the Interconnection Customer about other higher-queued Interconnection Customers that have the potential to impact the cost responsibility.
4. Level 3 Scoping Meetings shall be conducted as follows:
  - a. By mutual agreement of the parties, the Scoping Meeting, interconnection Feasibility Study, interconnection System Impact Study, or interconnection Facilities Study provided for in a Level 3 review may be waived;
  - b. If agreed to by the parties, a Scoping Meeting shall be held within 10 business days, or other mutually agreed to time, after the EU has notified the Interconnection Customer that the Interconnection Request is deemed complete. The purpose of the meeting shall be to review the Interconnection Request, existing studies relevant to the Interconnection Request, and the results of the Level 1 or Level 2 screening criteria;
  - c. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study shall be performed, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Feasibility Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;
  - d. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study is not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection System Impact Study agreement, including

an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study; and

- e. When the parties agree at the Scoping Meeting that an interconnection Feasibility Study and System Impact Study are not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Facilities Study agreement including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
5. Any required interconnection studies shall be carried out using the following guidelines:
- a. An interconnection Feasibility Study shall include the following analyses and conditions for the purpose of identifying and addressing potential Adverse System Impacts to the EU's EDS that would result from the interconnection:
    - b. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
    - c. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
    - d. Initial review of grounding requirements and system protection;
    - e. Description and nonbinding estimated cost of facilities required to interconnect the DGF to the EU's EDS in a safe and reliable manner; and
    - f. Additional evaluations at the expense of the Interconnection Customer, when an Interconnection Customer requests that the interconnection Feasibility Study evaluate multiple potential points of interconnection.
6. An interconnection System Impact Study shall evaluate the impact of the proposed interconnection on both the safety and reliability of the EU's EDS. The study shall identify and detail the system impacts that result when the proposed DGF is interconnected without project or system modifications, focusing on the Adverse System Impacts identified in the interconnection Feasibility Study and potential impacts including those identified in the Scoping Meeting. The study shall consider all generating facilities that, on the date the interconnection System Impact Study is commenced, are directly interconnected with the EU's system, have a pending higher Queue Position to interconnect to the system, and have a signed a DGF Interconnection Agreement.
- a. An interconnection System Impact Study shall be performed when the interconnection Feasibility Study identifies a potential distribution system

Adverse System Impact. The EU shall send the Interconnection Customer an interconnection System Impact Study agreement within 5 business days of transmittal of the interconnection Feasibility Study report. The agreement shall include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The System Impact Study shall include:

- i. A load flow study;
  - ii. Identification of affected systems;
  - iii. An analysis of equipment interrupting ratings;
  - iv. A protection coordination study;
  - v. Voltage drop and flicker studies;
  - vi. Protection and set point coordination studies;
  - vii. Grounding reviews; and
  - viii. Impact on system operation.
- b. An interconnection System Impact Study shall consider the following criteria:
- i. A short circuit analysis;
  - ii. A stability analysis;
  - iii. Alternatives for mitigating Adverse System Impacts on affected systems;
  - iv. Voltage drop and flicker studies;
  - v. Protection and set point coordination studies; and
  - vi. Grounding reviews.
- c. The interconnection System Impact Study shall provide the following:
- i. The underlying assumptions of the study;
  - ii. The results of the analyses;
  - iii. A list of any potential impediments to providing the requested interconnection service;
  - iv. Required Distribution System Upgrades; and
  - v. A nonbinding good faith estimate of cost and time to construct any required Distribution System Upgrades.
- d. The parties shall use an interconnection System Impact Study agreement approved by the Commission.

7. The interconnection Facilities Study shall be conducted as follows:

- a. Within 5 business days of completion of the interconnection System Impact Study, the EU shall send a report to the Interconnection Customer with an interconnection Facilities Study agreement, which includes an

outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;

- b. The interconnection Facilities Study shall estimate the cost of the equipment, engineering, procurement and construction work including overheads needed to implement the conclusions of the interconnection Feasibility Study and the interconnection System Impact Study to interconnect the DGF. The interconnection Facilities Study shall identify:
    - i. The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
    - ii. The nature and estimated cost of the EU's Interconnection Facilities and Distribution System Upgrades necessary to accomplish the interconnection; and
    - iii. An estimate of the time required to complete the construction and installation of the facilities;
  - c. The parties may agree to permit an Interconnection Customer to separately arrange for a third party to design and construct the required Interconnection Facilities. The EU may review the design of the facilities under the interconnection Facilities Study agreement. When the parties agree to separately arrange for design and construction and to comply with security and confidentiality requirements, the EU shall make all relevant information and required specifications available to the Interconnection Customer to permit the Interconnection Customer to obtain an independent design and cost estimate for the facilities, which shall be built in accordance with the specifications;
  - d. Upon completion of the interconnection Facilities Study, and with the agreement of the Interconnection Customer to pay for the Interconnection Facilities and Distribution System Upgrades identified in the interconnection Facilities Study, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement within 5 business days; and
8. When an EU determines, as a result of the interconnection studies conducted under a Level 3 review, that it is appropriate to interconnect the DGF, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement. If the Interconnection Request is denied, the EU shall provide a written explanation setting forth the reasons for denial;
  9. An Interconnection Customer shall have 30 business days from receipt of the DGF Interconnection Agreement, unless another mutually agreeable time frame is reached, to sign and return the DGF Interconnection Agreement to the EU. If an

Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing, prior to the expiration of the 30 business-day period, to extend the deadline. The EU may not unreasonably deny the request for extension. When construction is required, the interconnection of the DGF shall proceed according to milestones agreed to by the parties in the DGF Interconnection Agreement. The DGF Interconnection Agreement may not be final until:

- a. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
- b. The DGF is approved by electric code officials with jurisdiction over the interconnection;
- c. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
- d. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

**102** An interconnection System Impact Study is not required when the interconnection Feasibility Study concludes there is no Adverse System Impact, or when the study identifies an Adverse System Impact, but the EU is able to identify a remedy without the need for an interconnection System Impact Study.

**103** The parties shall use a form of interconnection Feasibility Study agreement approved by the Commission.

## **Chapter 08: TECHNICAL STANDARDS**

**100** The technical standard to be used in evaluating all Interconnection Requests under Level 1, Level 2, and Level 3 reviews, unless otherwise provided for in these procedures, is IEEE Standard 1547. IEEE 1547.2, "Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems," shall be used as a guide (but not a requirement) to detail and illustrate the interconnection protection requirements that are provided in IEEE 1547.

## **Chapter 09: POINT OF COMMON COUPLING**

**100** To minimize the cost of interconnecting multiple DGFs, the EU or the Interconnection Customer may propose a single PCC for multiple DGFs located at a single site. If the Interconnection Customer rejects the EU's proposal for a single PCC, the Interconnection Customer shall pay the additional cost, if any, of providing a separate PCC for each DGF. If the EU rejects the customer's proposal for a single PCC without providing a written

technical explanation, the EU shall pay the additional cost, if any, of providing a separate PCC for each DGF.

### **Chapter 10: RECORDS AND REPORTS**

- 100** An EU shall maintain records of the following for a minimum of 3 years:
1. The total number of and the Nameplate Capacity of the Interconnection Requests received, approved and denied under Level 1, Level 2, and Level 3 reviews;
  2. The number of Interconnection Requests that were not processed within the timelines established in this rule;
  3. The number of Scoping Meetings held and the number of feasibility studies, impact studies, and facility studies performed and the fees charged for these studies;
  4. The justifications for the actions taken to deny Interconnection Requests; and
- 101** An EU shall provide a report to the Commission containing the information required in paragraphs (a)-(d) above, on or before February 1st each year.

### **Chapter 11: INFORMATION FOR PROSPECTIVE INTERCONNECTIONCUSTOMERS**

- 100** An EU shall designate a contact person and contact information on its website and for the Commission's website for submission of all Interconnection Requests and from whom information on the Interconnection Request process and the EU's EDS can be obtained regarding a proposed DGF. The information shall include studies and other materials useful to an understanding of the feasibility of interconnecting a DGF at a particular point on the EU's EDS, except to the extent that providing the materials would violate security requirements or confidentiality agreements, or otherwise would be contrary to Mississippi or federal law and regulations. In appropriate circumstances, the EU may require execution of a confidentiality agreement prior to release of information about the EU's EDS.
- 101** When the EU determines that an Interconnection Request is complete, a modification of DGF design by the Interconnection Customer other than a Minor Equipment Modification that is not agreed to in writing by the EU shall require submission of a new Interconnection Request.

### **Chapter 12: ADDITIONAL TECHNICAL REQUIREMENTS**

- 100** DGFs shall be capable of being isolated from the EU. For Level 2 and Level 3 interconnection, the isolation shall be by means of a lockable, visible-break isolation device whose status is clearly indicated and is accessible by the EU. The isolation device shall be installed, owned and maintained by the owner of the DGF and located between

the DGF and the PCC. A draw-out type circuit breaker with a provision for padlocking at the draw-out position can be considered an isolation device for purposes of this requirement. A draw-out type circuit breaker has a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a short circuit. A draw-out circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. For the purposes of these regulations, the draw-out circuit breaker shall be capable of being locked in the open, draw-out position. Level 1 interconnections do not require an external isolation device.

- 101** A Level 2 or Level 3 Interconnection Customer may elect to provide the EU access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the EU, by installing a lockbox provided by the EU that shall provide ready access to the isolation device. The Interconnection Customer shall install the lockbox in a location that is readily accessible by the EU, and the Interconnection Customer shall permit the EU to affix a placard in a location of its choosing that provides clear instructions to EU operating personnel on access to the isolation device. In the event that the Interconnection Customer fails to comply with the terms of this subsection and the EU needs to gain access to the isolation device, the EU shall not be held liable for any damages resulting from any necessary EU action to isolate the Interconnection Customer.
- 102** Any metering necessitated by a DGF shall be installed, operated and maintained in accordance with applicable tariffs. Any such metering requirements shall be clearly identified as part of the DGF Interconnection Agreement executed by the Interconnection Customer and the EU.
- 103** The EU shall design, procure, construct, install, and own any Distribution System Upgrades. The actual cost of the Distribution System Upgrades, including overheads, shall be directly assigned to the Interconnection Customer. The Interconnection Customer may be entitled to financial contribution from any other EU customers who may in the future utilize the upgrades paid for by the Interconnection Customer. Such contributions shall be governed by the rules, regulations, and decisions of the Commission.
- 104** The Interconnection Customer shall design its DGF to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the power factor range required by the EU's applicable tariff for a comparable load customer. EU may also require the Interconnection Customer to follow a voltage or VAR schedule if such schedules are applicable to similarly situated generators in the control area on a comparable basis and have been approved by the Commission. The specific requirements for meeting a voltage or VAR schedule shall be clearly specified in Attachment 3 of the "Mississippi Distributed Generator Interconnection Rule Level 2 and Level 3 Agreement for Interconnection of Distributed Generator Facilities." Under no circumstance shall these additional requirements for voltage support or reactive power exceed the normal operating capabilities of the DGF. The requirements in this paragraph may be additional to requirements in IEEE 1547.

### **Chapter 13: DISPUTES**

- 100** A party shall attempt to resolve all disputes regarding interconnection as provided in the MDGIR promptly, equitably, and in a good faith manner.
- 101** When a dispute arises, a party may seek immediate resolution through complaint procedures available through the Commission by providing written notice to the Commission and the other party stating the issues in dispute.
- 102** When disputes relate to the technical application of the MDGIR, the Commission may designate a technical consultant to resolve the dispute. Upon Commission designation, the parties shall use the technical consultant to resolve disputes related to interconnection. Costs for dispute resolution conducted by the technical consultant shall be established by the technical consultant and subject to review by the Commission. The EU and the Interconnection Customer shall share equally the costs of an outside arbitrator unless they mutually agree to a different payment arrangement.
- 103** Pursuit of dispute resolution shall not affect an Interconnection Customer with regard to consideration of an Interconnection Request or an Interconnection Customer's Queue Position.

## TITLE 39: UTILITIES

### PART IV: Mississippi Distributed Generator Interconnection and Distributed Generation

#### Subpart II: Mississippi Distributed Generation Rule

##### Chapter 01: Introduction

- 100** The Mississippi Distributed Generation Rule (MDGR) sets forth technical and procedural requirements for qualified Distributed Generator Facilities (DGFs). These DGFs are also subject to the requirements of the Mississippi Distributed Generator Interconnection Rule (MDGIR).

##### Chapter 02: DEFINITIONS

The following capitalized terms, when used in this Rule, shall have the following meanings unless the context clearly indicates otherwise. These definitions are in addition to those found in the MGDIR, which also apply to the MDGR.

- 100 “Billing Period”** means the monthly billing period used by an Electric Utility (EU) to measure usage and any excess energy exported by a DGF to the EU, and to bill customers.
- 101 “Avoided Cost of Wholesale Power”** means the cost to an EU<sup>1</sup> of electric energy that the EU would generate itself or purchase from another source, such as from an organized wholesale power market, but for the purchase from a Distributed Generation Interconnection Customer (DGIC). In essence, the avoided cost is the marginal cost to produce or purchase one more unit of electrical energy. When a DGIC delivers electricity to an EU, the EU will reduce the equivalent amount of electricity that either is generated at its most expensive operating plant that is not running for reliability purposes or is purchased from an organized wholesale power market. For power generated by an EU, the cost avoided consists of the cost of fuel needed to produce that electricity and the corresponding portion of the plant’s operation and maintenance costs and shall include an appropriate average line loss adjustment. For DGICs with solar PV systems, the Avoided Cost of Wholesale Power and the corresponding average line loss adjustment shall reflect the daytime energy production of a solar PV system. No capacity credit is given as part of the calculation of Avoided Cost of Wholesale Power. For an EU that is a member of a regional transmission organization (RTO), the Avoided Cost of Wholesale Power shall be the average real-time locational marginal price (LMP) calculated by the RTO for the EU’s load zone(s). Such LMP shall include an appropriate average line loss adjustment. For DGICs with solar PV systems, such LMP and the corresponding average line loss adjustment shall reflect the daytime energy production of a solar PV system.

---

<sup>1</sup> An EU is an electric utility within the meaning of Miss. Code Ann. section 77-3-3(d)(i) (Supp 2014).

- 102 “Distributed Generation Value”** means an adjustment to be included in the Total Value of Distributed Generation for benefits of distributed generation that, while expected to occur, are currently non-quantifiable or difficult to quantify. The Distributed Generation Value shall be equal to 2.5 cents per kilowatt hour, unless and until modified upward or downward based on Mississippi-specific data, by separate Order of the Commission, and after full notice and hearing. To provide sufficient financial certainty to qualifying customers that install DGFs, this Distributed Generation Value shall remain in place for a period of twenty-five (25) years from the date the customer begins taking net generation service under the EU’s net generation tariff.
- 103 “Low-to-Moderate Income Benefits Adder”** means an additional amount to be included in the Total Value of Distributed Generation that shall flow to qualifying customers whose household income is at or below 225% of the federal poverty level (or similar requirement proposed by the EU to be approved by the Commission) who is approved to take service under the EU’s net generation tariff. Beginning with the effective date of this rule, the Low-to-Moderate Income Benefits Adder shall be equal to 2 cents per kilowatt hour. To provide sufficient financial certainty to qualifying low-to-moderate income customers that install DGFs, this Low-to-Moderate Income Benefits Adder shall remain in place for a period of twenty-five (25) years from the date a qualified DGIC customer begins taking service under the EU’s net generation tariff.
- 104 “Total Value of Distributed Generation”** means the total amount – expressed in cents per kilowatt hour - that shall be credited to EU customers as a result of excess energy exported by a DGF to the EU, which shall include the Avoided Cost of Wholesale Power plus the Distributed Generation Value plus, if applicable, the Low-to-Moderate Income Benefits Adder, as further outlined in this rule.
- 105 “Exit Fee”** means a fee that is paid by a customer that reduces load by using a DGF and is intended to compensate the EU in whole or part for the loss of fixed cost contribution from that customer. Exit fees are not allowed under this rule, unless otherwise approved by the Commission.
- 106 “Distributed Generation Interconnection Customer” or “DGIC”** is any electricity customer, such as an industrial, large commercial, residential or small commercial customer, that generates electricity on the customer’s side of the meter using a Renewable Energy source. The electricity customer must own or lease the DGF producing the Renewable Energy on the electricity customer’s side of the meter in order to qualify as a DGIC under this MDGR, unless otherwise approved by the Commission.
- 107 “Net Generation”** means measuring the real-time kilowatt-hours supplied by the EU to the DGIC and the kilowatt-hours produced by the DGIC’s DGF and exported to the EU over the applicable Billing Period. Net Generation includes the real-time displacement of kilowatt-hours that otherwise would be provided by the EU by kilowatt-hours that were generated by the DGIC’s DGF. An EU may employ a multi-channel meter for separately measuring the DGIC’s electric usage and excess energy exported to the EU.

Special metering requirements are obviated with the use of advanced metering infrastructure or “smart meters.”

- 108 “Renewable Energy”** means electric energy produced from solar technologies, wind energy, geothermal technologies, wave or tidal action, hydro-power facilities, hydrogen, and biomass. Any energy derived from fossil fuels is not considered renewable and does not qualify under the MDGR.
- 109 “Biomass”** means a power source that is comprised of combustible solids or gases from forest products, manufacturing waste, or byproducts; products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing; urban wood waste; municipal liquid waste treatment operations; and landfill gas.

### **Chapter 03: NET GENERATION REQUIREMENTS**

- 100** This MDGR sets forth the Net Generation requirements that apply to EUs that have customers who self-generate electricity with Renewable Energy on the customer’s side of the EU’s meter that wish to Net Generate, as indicated by the customer on the Standard Application. These customers are referred to as DGICs in this rule.
- 101** All EUs shall offer Net Generation to any customer that seeks to generate electricity on the customer’s side of the EU’s meter using Renewable Energy sources, provided:
1. For residential customers, Net Generation nameplate direct current capacity of the aggregated DGFs at the customer’s premises shall be limited to the lesser of 110% of the customer’s annual peak demand or 20 kW and shall meet the requirements of the MDGIR;
  2. For non-residential customers, Net Generation nameplate direct current capacity for the aggregate DGFs at the customer’s premises shall be limited to the lesser of 110% of the customer’s annual peak demand or 2 MW and shall meet the requirements of the MDGIR.
  3. In cases where Battery Energy Storage Systems (“BESS”) are paired with a DGF, the capacity of the BESS will not affect the total nameplate capacity limits of a customer’s DGF under this MDGR.
- 102** EUs may refuse additional net generation requests if the total net generation direct current capacity in kW, as reported through these requirements, exceeds at any time 3 percent of the EU’s total system peak demand expressed in kW recorded during the prior calendar year.
- 103** Each EU shall develop a tariff for Net Generation and interconnection policies in concordance with this MDGR and the MDGIR. Each EU shall make Net Generation

available to eligible DGICs on a first-come, first-served basis until such time as the aforementioned cap has been reached.

- 104** An EU shall provide Net Generation at non-discriminatory rates that are identical, with respect to rate structure and level, retail rate components, and any monthly fixed charges, to the rates that a DGIC would be charged if not a DGIC, unless otherwise approved by the Commission.
- 105** In each Billing Period, energy supplied to the DGIC from the EU as recorded on the EU's bi-directional meter or smart meter will be billed using appropriate commission-approved rate and rider schedules. This provision means that energy self-supplied by the DGIC, up to the amount supplied from the EU to the DGIC (e.g., through the recording of meter Channel 1) will be credited to the DGIC at the full retail rate (i.e., effectively displacing energy supplied from the EU). During that same Billing Period, any excess energy supplied from the DGIC to the EU and recorded on the EU's bi-directional net meter in kWh (e.g., through meter Channel 2) will be credited on the DGIC's bill at the applicable Total Value of Distributed Generation expressed in cents per kWh and shall be accounted for through the EU's fuel adjustment clause. The customer's monthly bill will be the total of billing for any usage (i.e., as recorded on meter Channel 1) subject to any customer charge and/or minimum bill provisions in the EU's rate and rider schedules less any credit due to the customer from excess energy exported to the EU (i.e., as recorded on meter Channel 2). If the sum total of the monthly bill is negative, any such amount will be carried over to the next Billing Period and applied to any charges arising during the subsequent Billing Period.
- 106** Beginning with the effective date of this rule, Total Value of Distributed Generation shall be equal to the Avoided Cost of Wholesale Power plus the Distributed Generation Value. Further, the Distributed Generation Value shall be equal to 2.5 cents/kWh, unless and until modified upward or downward based on Mississippi-specific data, by separate Order of the Commission, and after full notice and hearing. Within sixty (60) days of the effective date of this rule, each EU shall file with the Commission revised net generation tariffs consistent with the provisions of this revised rule for consideration and approval by the Commission.
- 107** Each new Billing Period shall begin with zero kWh credits to the DGIC; however, subject to the provisions above, the customer may carry over any value of energy credit arising from the prior Billing Period(s). When a customer closes his or her account with the EU, if the DGIC has accumulated a dollar balance as a result of excess energy delivered to the EU, any such balance, net of costs owed to the EU, shall be paid to the DGIC.
- 108** Credit for any excess energy exported to the EU shall not be applied to reduce any fixed monthly customer charges or minimum bill provisions imposed by the EU under Commission-approved rate and rider schedules.

- 109** An EU shall offer a DGIC the choice of a time differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the EU offers the choice to customers in the same rate class as the DGIC. If a DGIC uses a retail billing arrangement that has time-differentiated rates, the EU shall net any production from the DGFs against the customer's consumption within the same time-of-use period in the Billing Period and any excess energy exported to the EU will be credited as described above.
- 110** Any renewable energy credits (RECs) created by the DGIC are and shall remain the property of the DGIC, unless otherwise approved by the Commission. The EU shall not charge any back-up, standby, or Exit Fees to a DGIC, unless otherwise approved by the Commission.
- 111** An EU shall not charge a DGIC any fee or charge, or require additional equipment, insurance or any other requirement, unless the fee, charge, or other requirement is specifically authorized in this MDGR or the MDGIR, or the fee would apply to other customers in the same rate class that are not DGICs, or unless otherwise approved by the Commission.
- 112** All DGICs must be electrically interconnected with their EU pursuant to the provisions of the MDGIR. All rules and regulations for interconnected DGFs within the MDGIR apply to DGICs. Any Distribution System Upgrades, including additional equipment needed that is associated with the export of electricity, shall be at the DGIC's expense, per the MDGIR.
- 113** Each EU shall file with the Commission within three months of the effective date of this revised rule the EU's plan to inform its customers of the opportunities available under the MDGR.
- 114** Nothing in this document shall abrogate any person's obligation to comply with all applicable Federal or State laws, rules or regulations, including the MDGIR.

#### **Chapter 04: METERS AND METERING**

- 100** A DGIC shall be equipped with metering equipment that can measure the flow of electricity in each direction at the same time. This may be accomplished through the use of advanced metering infrastructure, or a single bi-directional meter that records customer usage as well as excess energy exported to the EU (e.g., energy supplied to the customer net of the output of the DGIC is measured on Channel 1 and excess energy supplied by the DGIC to the EU in excess of the customer's requirements is measured on Channel 2).
- 101** An EU may choose to use an existing electric revenue meter if the following criteria are met:
1. The meter is capable of measuring the flow of electricity both into and out of the DGIC at the same time; and

2. The meter is accurate to within plus or minus five percent when measuring excess energy flowing from the DGIC to the EU.
- 102** If the DGIC's existing electric revenue meter does not meet the requirements above, the EU shall install a new revenue meter for the DGIC, at the DGIC's expense, within 10 business days after the interconnection agreement is executed and approved. If the EU offers a time-differentiated rate chosen by the DGIC, the meter shall have the capability to appropriately record energy flows in each direction during any time-differentiated period.
- 103** Any subsequent revenue meter change will be at the EU's expense, meaning such meter expense will not be charged to an individual DGIC but shall become part of the EU's overall cost of service and subsequent revenue requirement.

### **Chapter 05: REPORTING REQUIREMENTS**

- 100** Each EU with one or more DGICs connected to its grid shall submit to the Mississippi Public Service Commission a Net Generation report on or before March 1st of each calendar year. The report shall include the following information regarding DGICs during the reporting period:
1. The total energy expressed in kilowatt-hours supplied to the EU's grid by DGICs and a description of any estimation methodology used;
  2. The total number of DGICs that were paid for excess energy exported to the EU at the end of any Billing Period(s) during the prior calendar year;
  3. The total dollar amount by month that the EU paid to ~~REDGICs~~ DGICs for excess energy exported to the EU during the prior calendar year;
  4. The total number of net generation DGFs by resource type that were interconnected at the end of the prior calendar year;
  5. The total rated nameplate direct current generating capacity of net generation DGFs installed during the prior calendar year broken out by resource type; and
  6. The percentage of the EU's total system peak demand from the prior calendar year represented by the total rated nameplate direct current generating capacity of net generation DGFs.
  7. The total number of ~~REDGICs~~ DGICs who received the Low-to-Moderate Income Benefits Adder that calendar year.

- 101** For purposes of these reporting requirements, any estimates shall be made using Commission-approved protocols unless no such protocols are available, in which case the estimates shall be accompanied by detailed calculations demonstrating how the estimates were made.

## **Chapter 06: CUSTOMER PROGRAMS**

- 100** While the Commission recognizes that it cannot order an EU to construct or acquire specific resources, the Commission finds that economic benefits warrant reasonably incentivizing energy independence through cost reductions for renewable energy for K-12 public schools through power purchase agreements, renewable energy for low-to-moderate income residential customers and residential battery storage systems that can accommodate and are compatible with any existing or future EU demand side management or demand response programs. Any renewable energy for public school programs or low-to-moderate income residential renewable energy programs will be subject to the three percent (3%) participation cap described, previously, herein; however, nothing herein prevents an EU from extending these programs if it chooses. These programs should begin on January 1, 2023, and should continue for no more than five (5) years.
- 101** Compliance with tariffs implementing a renewable energy program described above and the execution and filing of a power purchase agreement shall be deemed sufficient to satisfy any certificate requirements subject to Commission jurisdiction and authority.
- 102** Public Schools participating in any solar for public schools program are admonished to treat any savings or revenues as supplementing, not supplanting, school budgets related to educational expenses and investments focused on the classroom, such as classroom supplies.
- 103** EUs should be allowed to recover all reasonable and prudent costs incurred by them and resulting rates shall reflect on a prospective basis the reduction in energy sales volume that will result from all distributed generation. EUs all shall be allowed to recover all investments relating to this rule and any programs discussed above, including an opportunity to earn a reasonable return thereon. Such investments shall include, but not be limited to, equipment, incentives, marketing and delivery, direct installation costs, and any administration costs.

## **Chapter 07: CONSUMER PROTECTIONS**

- 100** In an effort to foster continued monitoring and consideration of the fairness and efficacy of this rule, representatives of the Commission, the Mississippi Public Utilities Staff, the Office of the Mississippi Attorney General, and other qualified stakeholders shall meet annually to identify and discuss issues related to net generation that may warrant further Commission attention and/or review. Members of the Commission Staff and Public Utilities Staff who participated in the working group shall present any joint recommendations on such issues to the Commission by January 30th each year.

**101** In order to offer all customers some level of consumer protection, any entity interacting with customers in any transaction or proposed transaction related to this rule or any program or implementing tariff associated herewith, including but not limited to solar developers and solar installers, shall take the following actions, as applicable:

1. Must file with the Commission a point of contact to whom the Commission may direct customer complaints for resolution;
2. Must register with the Secretary of State to do business in Mississippi and list a registered agent for service of process; and
3. Must file annually with the Commission, and provide a copy to the consumer protection division of the Office of the Mississippi Attorney General, any marketing material with attestation to its accuracy.

#### **Chapter 08: REOPENER**

**100** The Commission may revisit this rule five years from its effective date.

## TITLE 39: UTILITIES

### PART IV: Mississippi Distributed Generator Interconnection and ~~Net Metering~~ Distributed Generation

#### Subpart I: Mississippi Distributed Generator Interconnection Rule

##### Chapter 01: Introduction

The Mississippi Distributed Generation Interconnection Rule (MDGIR) sets forth standards to establish the technical and procedural requirements for Distributed Generator Facilities (DGFs) to be interconnected and operated in Parallel with the Electric Distribution System (EDS) owned or operated by Electric Utilities (EUs) in Mississippi under the jurisdiction of the Mississippi Public Service Commission (Commission). Capitalized terms used in this rule have the meaning specified in the section titled DEFINITIONS.

##### Chapter 02: Definitions

When used in this chapter, the following terms and phrases shall have the following meaning:

- 100 “Adverse System Impact”** means a negative effect, due to technical or operational limits on conductors or equipment being exceeded, that compromises the safety and reliability of the EDS.
- 101 “Applicable Laws and Regulations”** means all duly promulgated and applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.
- 102 “Certificate of Completion”** means a certificate in a completed form approved by the Commission containing information about the Interconnection Equipment to be used, its installation and local inspections.
- 103 “Certified Interconnection Equipment” or “Certified Equipment” or “Certified”** means a designation that the Interconnection Equipment meets the following requirements:
1. The Interconnection Equipment has been tested by a Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration (OSHA) in accordance with the following relevant codes and standards:
    - a. IEEE 1547.1 Standard for Conformance Tests Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems; and
    - b. Underwriters Laboratories (“UL”), UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems;

2. The Interconnection Equipment shall meet the requirements of the most current approved version of each code and standard listed above, as amended and supplemented at the time the Interconnection Request is submitted to be deemed Certified;
3. The Interconnection Equipment has been labeled and is publicly listed by such NRTL at the time of the interconnection application;
4. The Interconnection Customer verifies that the intended use of the Interconnection Equipment falls within the use or uses for which the Interconnection Equipment is labeled and is listed by the NRTL;
5. If the Interconnection Equipment is an integrated equipment package such as an inverter, then the Interconnection Customer shall show that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment;
6. If the Interconnection Equipment includes only interface components (switchgear, multi-function relays, or other interface devices), an Interconnection Customer shall demonstrate that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment; and
7. Certified Interconnection Equipment shall not require further design testing or Production Testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2, or additional Interconnection Equipment modification to meet the requirements. However, nothing herein shall preclude the need for an on-site Witness Test or operational test by the Interconnection Customer.

**104 “Commission”** means the Mississippi Public Service Commission.

**105 “Commissioning Tests”** means the tests applied to a DGF by an Interconnection Customer after construction is completed to verify that the DGF does not create Adverse System Impacts. At a minimum, the scope of the Commissioning Tests performed shall include the commissioning test specified by IEEE Standard 1547 section 5.4 “Commissioning Tests.”

**106 “Distributed Generator Facility” or “DGF”** means the equipment used by an Interconnection Customer to generate or store electricity that operates in Parallel with the EDS. A DGF typically includes an electric generator, prime mover, and the Interconnection Equipment required to safely interconnect with the EDS or local electric power system.

- 107 “Distribution System Upgrade”** means a required addition or modification to the EU's EDS at or beyond the Point of Common Coupling (PCC) to accommodate the interconnection of a DGF. Distribution System Upgrades do not include Interconnection Facilities.
- 108 “Electric Utility” or “EU”** means an electric public utility that distributes electricity to customers and is subject to the jurisdiction of the Commission pursuant to the provisions of Mississippi Code Annotated §§ 77-3-1, *et seq.*
- 109 “Electric Distribution System” or “EDS”** means the facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which EDSs operate differ among areas but generally carry less than 69 kilovolts of electricity. EDS has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.
- 110 “Facilities Study”** means an engineering study conducted by the EU to determine the required modifications to the EU’s EDS, including the cost and the time required to build and install such modifications as necessary to accommodate an Interconnection Request.
- 111 “Fault Current”** means the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase.
- 112 “Feasibility Study”** means a study performed to identify the existence of obvious adverse impacts before additional studies are undertaken for the proposed project to continue in the process.
- 113 “Governmental Authority”** mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, EU or any affiliate thereof.
- 114 “IEEE Standard 1547”** means the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 (2003) "Standard for Interconnecting Distributed Resources with Electric Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.
- 115 “IEEE Standard 1547.1”** means the IEEE Standard 1547.1 (2005) "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.

- 116 “Interconnection Agreement” or “Agreement”** means a form of interconnection agreement approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. The agreement between the Interconnection Customer and the EU governs the connection of the DGF to the EU’s EDS, as well as the ongoing operation of the DGF after it is connected to the EU’s EDS.
- 117 “Interconnection Application” or “Application”** means a form of interconnection application approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. This application provides the information needed by the EU to review the request for interconnection. For the Level 1 review process, the Application and Agreement are part of the same document.
- 118 “Interconnection Customer”** means an entity that submits an Interconnection Request for a DGF to an EU's EDS.
- 119 “Interconnection Equipment”** means a group of equipment, components, or an integrated system connecting an electric generator with a local electric power system or an EDS that includes all interface equipment including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.
- 120 “Interconnection Facilities”** means facilities and equipment required by the EU to accommodate the interconnection of a DGF. Collectively, Interconnection Facilities include all facilities and equipment between the DGF and the PCC, including modification, additions, or upgrades that are necessary to physically and electrically interconnect the DGF to the EDS. Interconnection facilities are sole use facilities and do not include Distribution System Upgrades.
- 121 “Interconnection Request”** means an Interconnection Customer's request, in the form of an Application approved by the Commission, requesting the interconnection of a new DGF, or to increase the capacity or modify operating characteristics of an existing approved DGF that is interconnected with the EU's EDS.
- 122 “Line Section”** means that portion of an EU's distribution system connected to an Interconnection Customer, bounded by automatic sectionalizing devices or the end of the distribution line.
- 123 “Local Electric Power System” or “Local EPS”** means facilities that deliver electric power to a load that are contained entirely within a single premises or group of premises. Local electric power system has the same meaning as the term local electric power system defined in 3.1.6.2 of IEEE Standard 1547.
- 124 “Minor Equipment Modification”** means changes to the DGF that do not have a material impact on safety or reliability of the EDS.

- 125 “Mississippi Distributed Generation Interconnection Rule (MDGIR)”** means the most current version of the procedures for interconnecting Distributed Generator Facilities adopted by the Mississippi Public Service Commission.
- 126 “Nameplate Capacity”** means the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and is usually indicated on a nameplate physically attached to the power production equipment.
- 127 “Nationally Recognized Testing Laboratory” or “NRTL”** means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in the NRTL program.
- 128 “Parallel Operation” or “Parallel”** means the sustained state of operation over 100 milliseconds, which occurs when a DGF is connected electrically to the EDS and thus has the ability for electricity to flow from the DGF to the EDS.
- 129 “Point of Common Coupling” or “PCC”** means the point where the DGF is electrically connected to the EDS. Point of common coupling has the same meaning as defined in 3.1.13 of IEEE Standard 1547.
- 130 “Primary Line”** means a distribution line rated at greater than 600 volts.
- 131 “Production Test”** means production test as defined in IEEE Standard 1547.
- 132 “Queue Position”** means the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the EU.
- 133 “Radial Distribution Circuit”** means a circuit configuration where independent feeders branch out radially from a common source of supply. From the standpoint of a utility system, the area described is between the generating source or intervening substations and the customer’s entrance equipment. A radial distribution system is the most common type of connection between a utility and load in which power flows in one direction from the utility to the load.
- 134 “Scoping Meeting”** means a meeting between representatives of the Interconnection Customer and EU conducted for the purpose of discussing alternative interconnection options, exchanging information including any EDS data and earlier study evaluations that would be reasonably expected to impact interconnection options, analyzing information, and determining the potential feasible points of interconnection.
- 135 “Secondary Line”** means a service line subsequent to the Primary Line that is rated for 600 volts or less, also referred to as the customer’s service line.

- 136 “System Impact Study”** means a study that identifies the electric system impacts that would result if the proposed DGF were interconnected without DGF modifications or EDS modifications, focusing on the Adverse System Impacts identified in the Feasibility Study.
- 137 “UL Standard 1741”** means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.
- 138 “Witness Test”** means verification (through on-site observation) by the EU that the installation evaluation required by IEEE Standard 1547 Section 5.3 and the Commissioning Test required by IEEE Standard 1547 Section 5.4, have been adequately performed. For Interconnection Equipment that has not been Certified, the Witness Test shall also include the verification by the EU of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification by the EU of Production Tests required by IEEE Standard 1547 Section 5.2. All tests verified by the EU are to be performed in accordance with the applicable test procedures specified by IEEE Standard 1547.1.

### **Chapter 03: INTERCONNECTION REQUESTS, FEES, AND FORMS**

- 100** Interconnection Customers seeking to interconnect a DGF shall submit an Interconnection Request to the EU that owns the EDS to which interconnection is sought, using an application approved by the Commission. Electronic versions of such Commission-approved Application forms shall be posted on the EU’s website. The EU shall establish processes for accepting Interconnection Requests electronically, specifically through online submission. Such online submission portal should include, at a minimum, information on interconnection times and procedures, a repository of relevant forms that allow for electronic entry of text, an application status tracker, and a searchable interconnection queue that is updated on a regular basis.
- 101** When an Interconnection Customer is not currently a customer of the EU at the proposed PCC, upon request from the EU, the Interconnection Customer shall provide proof of site control evidenced by a property tax bill, deed, lease agreement, or other legally binding contract.
- 102** Interconnection fees shall be governed as follows for all Interconnection Requests and shall be published on each EU’s website:
1. An EU may not charge an application, or other fee, to an applicant that requests Level 1 interconnection review. However, if an application for Level 1 interconnection review is denied because it does not meet the requirements for Level 1 interconnection review and the applicant resubmits the application under another review procedure in accordance with the MDGIR, the EU may impose a fee for the resubmitted application, consistent with this section.

2. For a Level 2 interconnection review, the EU may charge fees of up to \$50.00 plus \$1.00 per kilowatt of the customer-generator facility's capacity, plus the reasonable cost of any required minor modifications to the electric distribution system or additional review. Costs for such minor modifications or additional review will be based on the EU's non-binding, good faith estimates and the ultimate actual installed costs. Costs for engineering work done as part of any additional review will not exceed \$100.00 per hour.
3. For a Level 3 interconnection review, the EU may charge fees of up to \$100.00 plus \$2.00 per kilowatt of the customer-generator facility's capacity, as well as charges for actual time spent on any required impact or facilities studies. Costs for engineering work done as part of an impact study or interconnection facilities study will not exceed \$100.00 per hour. If the EU must install facilities in order to accommodate the interconnection of the customer generating facility, the cost of such facilities will be the responsibility of the applicant.

**103** When the EU determines that an Interconnection Request is complete, a modification of DGF design by the Interconnection Customer other than a Minor Equipment Modification that is not agreed to in writing by the EU shall require submission of a new Interconnection Request.

#### **Chapter 04: INTERCONNECTION REVIEW LEVELS**

**100** The EU shall review Interconnection Requests using one of the three levels of review procedures established below. The EU shall first use the level of DGF Agreement specified by the Interconnection Customer in the Application. The EU may not impose additional requirements not specifically authorized unless the EU and the Interconnection Customer mutually agree to do so in writing.

**101** When an Interconnection Request is for an increase in capacity for an existing DGF, the Interconnection Request shall be evaluated on the basis of the new total Nameplate Capacity of the DGF.

**102** When an Interconnection Request is for a DGF that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single PCC, the Interconnection Request shall be evaluated on the basis of the aggregate Nameplate Capacity of the multiple devices.

#### **Chapter 05: LEVEL 1 INTERCONNECTION REVIEWS**

**100** The EU shall use Level 1 review procedures to evaluate Interconnection Requests when:

1. The DGF is inverter-based;
2. The DGF has a Nameplate Capacity of 20 kW or less; and

3. The Interconnection Equipment proposed for the DGF is Certified.

**101** For Level 1 Interconnection Review, the EU shall first evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:

1. For interconnection of a proposed DGF to a Line Section on a Radial Distribution Circuit, the aggregated generation on the Line Section, including the proposed DGF, shall not exceed 15% of the Line Section annual peak load.
2. When a proposed DGF is to be interconnected to a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, may not exceed 20 kW.
3. When a proposed DGF is single-phase and is to be interconnected to a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
4. Construction of facilities by the EU on its own system is not required to accommodate the DGF.

**102** The Level 1 Interconnection Review shall then be conducted in accordance with the following procedures:

1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.
2. When an Interconnection Request is complete, the EU shall assign a Queue Position.
3. The EU shall, within 15 business days after notifying a Level 1 applicant that the application is complete, indicate that the DGF equipment meets all Level 1 criteria, verify the DG can be interconnected safely and reliably using Level 1 screens, and provide a conditionally approved Level 1 Interconnection Application Form and Agreement to the Interconnection Customer.

**103** Unless the EU determines and demonstrates to the Interconnection Customer that a DGF cannot be interconnected safely or reliably to its system and provides a letter to the Interconnection Customer explaining its reasons for denying an Interconnection Request, the EU's final approval of the Interconnection Agreement is subject to the following conditions:

1. The DGF has been approved by local or municipal electric code officials with jurisdiction over the interconnection;

2. The EU has received the required information on the Certificate of Completion from the Interconnection Customer. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
  3. The EU has completed its Witness Test in accordance with the MDGIR.
- 104** Within 10 business days of the estimated commissioning date indicated on the Interconnection Request, the EU shall, upon reasonable notice and at a mutually convenient time, conduct a Witness Test of the DGF to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes.
- 105** When a DGF is not approved under a Level 1 review, the Interconnection Customer may submit a new Interconnection Request for consideration under Level 2 or Level 3 procedures.

### **Chapter 06: LEVEL 2 INTERCONNECTION REVIEWS**

- 100** The EU shall use the Level 2 Interconnection Review procedure to evaluate an Interconnection Request when:
1. The DGF has a Nameplate Capacity rating of 2 MW or less;
  2. The Interconnection Equipment proposed for the DGF is Certified; and
  3. The aggregated total of the Nameplate Capacity of all of the generators on the circuit, including the proposed DGF, is 2 MW or less.
- 101** No construction of facilities by an EU shall be required to accommodate the DGF, except as permitted by an additional review for minimal modifications of the EDS, as described in these Level 2 procedures.
- 102** For Level 2 Interconnection Review, the EU first shall evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:
1. For interconnection of a proposed DGF to a radial distribution circuit, the aggregated generation on the Line Section, including the proposed DGF, may not exceed 15% of the Line Section annual peak load.
  2. The proposed DGF, in aggregation with other generation on the distribution circuit, may not contribute more than 10% to the distribution circuit's maximum Fault Current at the point on the Primary Line nearest the Point of Common Coupling (PCC).
  3. The proposed DGF, in aggregate with other generation on the distribution circuit, may not cause any distribution protective devices and equipment (including

substation breakers, fuse cutouts, and line reclosers), or other customer equipment on the EDS to be exposed to Fault Currents exceeding 87.5% of the short circuit interrupting capability. The Interconnection Request may not receive approval for interconnection on a circuit that already exceeds 87.5% of the short circuit interrupting capability.

4. When a DGF is to be connected to three-phase, three-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected phase-to-phase.
5. When a DGF is to be connected to three-phase, four-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected line-to-neutral and shall be effectively grounded.
6. When the proposed DGF is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, shall not exceed 20 kW.
7. When a proposed DGF is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
8. A DGF, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the DGF proposes to interconnect, may not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
9. No construction of facilities by an EU on its own system shall be required to accommodate the DGF.

**103** The Level 2 Interconnection Review shall then be conducted in accordance with the following procedures:

1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing. As part of this process, the EU shall assign a Queue Position. The Queue Position of the Interconnection Request shall be used to determine the potential Adverse System Impact of the DGF based on the relevant screening criteria. If there are higher queued Interconnection Requests on the same radial line circuit, the EU shall evaluate the Interconnection Requests by performing any Level 2 screens requiring aggregate capacity calculations and determine if the DGF in combination with the higher queued Interconnection Requests exceeds any of the aggregate capacity requirements. If an aggregate capacity requirement is exceeded, the EU shall notify the Interconnection Customer and shall not be obligated to meet

the timeline for reviewing the Interconnection Request until such time as the EU has completed the review of all other Interconnection Requests that have a higher Queue Position and impact the aggregate capacity calculation that has been exceeded.

2. At the time an EU determines additional information is required to complete an evaluation, the EU shall request the information. The time necessary to complete the evaluation may be extended by mutual agreement of the parties, but only to the extent of the time required for receipt of the additional information. During an extension of time to submit additional information, the EU may not alter the Interconnection Customer's Queue Position.
  3. Within 20 business days after the EU notifies the Interconnection Customer that it has received a completed Interconnection Request, the EU shall:
    - a. Evaluate the Interconnection Request using the Level 2 screening criteria;
    - b. Review any analysis provided by the Interconnection Customer, using the same criteria used by the customer; and
    - c. Provide the Interconnection Customer with the EU's evaluation, including a comparison of the results of its own analyses with those of Interconnection Customer, if applicable. When an EU does not have a record of receipt of the Interconnection Request and the Interconnection Customer can demonstrate that the original Interconnection Request was delivered, the EU shall expedite its review to complete the evaluation of the Interconnection Request within 20 business days of the Interconnection Customer's re-submittal.
- 104** The EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of its determination that the Interconnection Request passes the Level 2 screening criteria.
- 105** When a DGF has failed to meet one or more of the Level 2 screens, the EU shall offer to perform additional review for minimal modifications of the EDS to determine whether minimal modifications to the EDS would enable the interconnection to be made consistent with safety, reliability and power quality criteria. The EU shall provide the Interconnection Customer with a nonbinding, good faith estimate of the costs of additional review for minimal modifications of the EDS. The EU shall undertake the additional review for minimal modifications of the EDS or the modifications only after the Interconnection Customer consents to pay for the review and modifications.
- 106** If the DGF fails one or more of the Level 2 screening criteria but the EU determines that minimal modifications to the EDS would enable the DGF to interconnect safely and

reliably, the EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of making that determination.

**107** If the EU finds that the DGF cannot be interconnected with minimal modifications to the EDS, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review.

**108** An Interconnection Customer shall have 30 business days to sign and return the Agreement. When an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing prior to the expiration of the 30 business day period to extend the deadline. The EU may not unreasonably deny the request for extension.

**109** The DGF Interconnection Agreement shall not become final until:

5. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
6. The DGF is approved by electric code officials with jurisdiction over the interconnection;
7. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
8. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

**110** If the DGF is not approved under a Level 2 review, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review. The Queue Position assigned to the Level 2 Interconnection Request shall be retained provided the request is made within 15 business days of notification that the current Interconnection Request is denied.

## **Chapter 07: LEVEL 3 INTERCONNECTION REVIEWS**

**100** The EU shall use the Level 3 review procedure to evaluate an Interconnection Request when the Interconnection Customer requests Level 3 review.

**101** The Level 3 review shall be conducted in accordance with the following process:

1. An EU shall, within 10 business days of receipt of an Interconnection Request, inform the Interconnection Customer in writing or by electronic means that the

Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.

2. When the Interconnection Request is deemed not complete, the EU shall provide the Interconnection Customer with a written list detailing information required to complete the Interconnection Request. The Interconnection Customer shall have 10 business days to provide appropriate data in order to complete the Interconnection Request, or the Interconnection Request shall be considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The Interconnection Request shall be deemed complete when the required information has been provided by the Interconnection Customer, or the parties have agreed that the Interconnection Customer may provide additional information at a later time.
3. When an Interconnection Request is complete, the EU shall assign a Queue Position. The Queue Position of an Interconnection Request shall be used to determine the cost responsibility necessary for the facilities to accommodate the interconnection. The EU shall notify the Interconnection Customer about other higher-queued Interconnection Customers that have the potential to impact the cost responsibility.
4. Level 3 Scoping Meetings shall be conducted as follows:
  - a. By mutual agreement of the parties, the Scoping Meeting, interconnection Feasibility Study, interconnection System Impact Study, or interconnection Facilities Study provided for in a Level 3 review may be waived;
  - b. If agreed to by the parties, a Scoping Meeting shall be held within 10 business days, or other mutually agreed to time, after the EU has notified the Interconnection Customer that the Interconnection Request is deemed complete. The purpose of the meeting shall be to review the Interconnection Request, existing studies relevant to the Interconnection Request, and the results of the Level 1 or Level 2 screening criteria;
  - c. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study shall be performed, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Feasibility Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;
  - d. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study is not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection System Impact Study agreement, including

an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study; and

- e. When the parties agree at the Scoping Meeting that an interconnection Feasibility Study and System Impact Study are not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Facilities Study agreement including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
5. Any required interconnection studies shall be carried out using the following guidelines:
- a. An interconnection Feasibility Study shall include the following analyses and conditions for the purpose of identifying and addressing potential Adverse System Impacts to the EU's EDS that would result from the interconnection:
    - b. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
    - c. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
    - d. Initial review of grounding requirements and system protection;
    - e. Description and nonbinding estimated cost of facilities required to interconnect the DGF to the EU's EDS in a safe and reliable manner; and
    - f. Additional evaluations at the expense of the Interconnection Customer, when an Interconnection Customer requests that the interconnection Feasibility Study evaluate multiple potential points of interconnection.
6. An interconnection System Impact Study shall evaluate the impact of the proposed interconnection on both the safety and reliability of the EU's EDS. The study shall identify and detail the system impacts that result when the proposed DGF is interconnected without project or system modifications, focusing on the Adverse System Impacts identified in the interconnection Feasibility Study and potential impacts including those identified in the Scoping Meeting. The study shall consider all generating facilities that, on the date the interconnection System Impact Study is commenced, are directly interconnected with the EU's system, have a pending higher Queue Position to interconnect to the system, and have a signed a DGF Interconnection Agreement.
- a. An interconnection System Impact Study shall be performed when the interconnection Feasibility Study identifies a potential distribution system

Adverse System Impact. The EU shall send the Interconnection Customer an interconnection System Impact Study agreement within 5 business days of transmittal of the interconnection Feasibility Study report. The agreement shall include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The System Impact Study shall include:

- i. A load flow study;
- ii. Identification of affected systems;
- iii. An analysis of equipment interrupting ratings;
- iv. A protection coordination study;
- v. Voltage drop and flicker studies;
- vi. Protection and set point coordination studies;
- vii. Grounding reviews; and
- viii. Impact on system operation.

b. An interconnection System Impact Study shall consider the following criteria:

- i. A short circuit analysis;
- ii. A stability analysis;
- iii. Alternatives for mitigating Adverse System Impacts on affected systems;
- iv. Voltage drop and flicker studies;
- v. Protection and set point coordination studies; and
- vi. Grounding reviews.

c. The interconnection System Impact Study shall provide the following:

- i. The underlying assumptions of the study;
- ii. The results of the analyses;
- iii. A list of any potential impediments to providing the requested interconnection service;
- iv. Required Distribution System Upgrades; and
- v. A nonbinding good faith estimate of cost and time to construct any required Distribution System Upgrades.

d. The parties shall use an interconnection System Impact Study agreement approved by the Commission.

7. The interconnection Facilities Study shall be conducted as follows:

- a. Within 5 business days of completion of the interconnection System Impact Study, the EU shall send a report to the Interconnection Customer with an interconnection Facilities Study agreement, which includes an

outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;

- b. The interconnection Facilities Study shall estimate the cost of the equipment, engineering, procurement and construction work including overheads needed to implement the conclusions of the interconnection Feasibility Study and the interconnection System Impact Study to interconnect the DGF. The interconnection Facilities Study shall identify:
    - i. The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
    - ii. The nature and estimated cost of the EU's Interconnection Facilities and Distribution System Upgrades necessary to accomplish the interconnection; and
    - iii. An estimate of the time required to complete the construction and installation of the facilities;
  - c. The parties may agree to permit an Interconnection Customer to separately arrange for a third party to design and construct the required Interconnection Facilities. The EU may review the design of the facilities under the interconnection Facilities Study agreement. When the parties agree to separately arrange for design and construction and to comply with security and confidentiality requirements, the EU shall make all relevant information and required specifications available to the Interconnection Customer to permit the Interconnection Customer to obtain an independent design and cost estimate for the facilities, which shall be built in accordance with the specifications;
  - d. Upon completion of the interconnection Facilities Study, and with the agreement of the Interconnection Customer to pay for the Interconnection Facilities and Distribution System Upgrades identified in the interconnection Facilities Study, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement within 5 business days; and
8. When an EU determines, as a result of the interconnection studies conducted under a Level 3 review, that it is appropriate to interconnect the DGF, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement. If the Interconnection Request is denied, the EU shall provide a written explanation setting forth the reasons for denial;
9. An Interconnection Customer shall have 30 business days from receipt of the DGF Interconnection Agreement, unless another mutually agreeable time frame is reached, to sign and return the DGF Interconnection Agreement to the EU. If an

Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing, prior to the expiration of the 30 business-day period, to extend the deadline. The EU may not unreasonably deny the request for extension. When construction is required, the interconnection of the DGF shall proceed according to milestones agreed to by the parties in the DGF Interconnection Agreement. The DGF Interconnection Agreement may not be final until:

- a. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
- b. The DGF is approved by electric code officials with jurisdiction over the interconnection;
- c. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
- d. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

**102** An interconnection System Impact Study is not required when the interconnection Feasibility Study concludes there is no Adverse System Impact, or when the study identifies an Adverse System Impact, but the EU is able to identify a remedy without the need for an interconnection System Impact Study.

**103** The parties shall use a form of interconnection Feasibility Study agreement approved by the Commission.

## **Chapter 08: TECHNICAL STANDARDS**

**100** The technical standard to be used in evaluating all Interconnection Requests under Level 1, Level 2, and Level 3 reviews, unless otherwise provided for in these procedures, is IEEE Standard 1547. IEEE 1547.2, “Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems,” shall be used as a guide (but not a requirement) to detail and illustrate the interconnection protection requirements that are provided in IEEE 1547.

## **Chapter 09: POINT OF COMMON COUPLING**

**100** To minimize the cost of interconnecting multiple DGFs, the EU or the Interconnection Customer may propose a single PCC for multiple DGFs located at a single site. If the Interconnection Customer rejects the EU’s proposal for a single PCC, the Interconnection Customer shall pay the additional cost, if any, of providing a separate PCC for each DGF. If the EU rejects the customer’s proposal for a single PCC without providing a written

technical explanation, the EU shall pay the additional cost, if any, of providing a separate PCC for each DGF.

### **Chapter 10: RECORDS AND REPORTS**

**100** An EU shall maintain records of the following for a minimum of 3 years:

1. The total number of and the Nameplate Capacity of the Interconnection Requests received, approved and denied under Level 1, Level 2, and Level 3 reviews;
2. The number of Interconnection Requests that were not processed within the timelines established in this rule;
3. The number of Scoping Meetings held and the number of feasibility studies, impact studies, and facility studies performed and the fees charged for these studies;
4. The justifications for the actions taken to deny Interconnection Requests; and

**101** An EU shall provide a report to the Commission containing the information required in paragraphs (a)-(d) above, on or before February 1st ~~within 90 calendar days of the close of each year.~~

### **Chapter 11: INFORMATION FOR PROSPECTIVE INTERCONNECTION CUSTOMERS**

**100** An EU shall designate a contact person and contact information on its website and for the Commission's website for submission of all Interconnection Requests and from whom information on the Interconnection Request process and the EU's EDS can be obtained regarding a proposed DGF. The information shall include studies and other materials useful to an understanding of the feasibility of interconnecting a DGF at a particular point on the EU's EDS, except to the extent that providing the materials would violate security requirements or confidentiality agreements, or otherwise would be contrary to Mississippi or federal law and regulations. In appropriate circumstances, the EU may require execution of a confidentiality agreement prior to release of information about the EU's EDS.

**101** When the EU determines that an Interconnection Request is complete, a modification of DGF design by the Interconnection Customer other than a Minor Equipment Modification that is not agreed to in writing by the EU shall require submission of a new Interconnection Request.

### **Chapter 12: ADDITIONAL TECHNICAL REQUIREMENTS**

**100** DGFs shall be capable of being isolated from the EU. For Level 2 and Level 3 interconnection, the isolation shall be by means of a lockable, visible-break isolation device whose status is clearly indicated and is accessible by the EU. The isolation device

shall be installed, owned and maintained by the owner of the DGF and located between the DGF and the PCC. A draw-out type circuit breaker with a provision for padlocking at the draw-out position can be considered an isolation device for purposes of this requirement. A draw-out type circuit breaker has a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a short circuit. A draw-out circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. For the purposes of these regulations, the draw-out circuit breaker shall be capable of being locked in the open, draw-out position. Level 1 interconnections do not require an external isolation device.

- 101** A Level 2 or Level 3 Interconnection Customer may elect to provide the EU access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the EU, by installing a lockbox provided by the EU that shall provide ready access to the isolation device. The Interconnection Customer shall install the lockbox in a location that is readily accessible by the EU, and the Interconnection Customer shall permit the EU to affix a placard in a location of its choosing that provides clear instructions to EU operating personnel on access to the isolation device. In the event that the Interconnection Customer fails to comply with the terms of this subsection and the EU needs to gain access to the isolation device, the EU shall not be held liable for any damages resulting from any necessary EU action to isolate the Interconnection Customer.
- 102** Any metering necessitated by a DGF shall be installed, operated and maintained in accordance with applicable tariffs. Any such metering requirements shall be clearly identified as part of the DGF Interconnection Agreement executed by the Interconnection Customer and the EU.
- 103** The EU shall design, procure, construct, install, and own any Distribution System Upgrades. The actual cost of the Distribution System Upgrades, including overheads, shall be directly assigned to the Interconnection Customer. The Interconnection Customer may be entitled to financial contribution from any other EU customers who may in the future utilize the upgrades paid for by the Interconnection Customer. Such contributions shall be governed by the rules, regulations, and decisions of the Commission.
- 104** The Interconnection Customer shall design its DGF to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the power factor range required by the EU's applicable tariff for a comparable load customer. EU may also require the Interconnection Customer to follow a voltage or VAR schedule if such schedules are applicable to similarly situated generators in the control area on a comparable basis and have been approved by the Commission. The specific requirements for meeting a voltage or VAR schedule shall be clearly specified in Attachment 3 of the "Mississippi Distributed Generator Interconnection Rule Level 2 and Level 3 Agreement for Interconnection of Distributed Generator Facilities." Under no circumstance shall these additional requirements for

voltage support or reactive power exceed the normal operating capabilities of the DGF. The requirements in this paragraph may be additional to requirements in IEEE 1547.

### **Chapter 13: DISPUTES**

- 100** A party shall attempt to resolve all disputes regarding interconnection as provided in the MDGIR promptly, equitably, and in a good faith manner.
- 101** When a dispute arises, a party may seek immediate resolution through complaint procedures available through the Commission by providing written notice to the Commission and the other party stating the issues in dispute.
- 102** When disputes relate to the technical application of the MDGIR, the Commission may designate a technical consultant to resolve the dispute. Upon Commission designation, the parties shall use the technical consultant to resolve disputes related to interconnection. Costs for dispute resolution conducted by the technical consultant shall be established by the technical consultant and subject to review by the Commission. The EU and the Interconnection Customer shall share equally the costs of an outside arbitrator unless they mutually agree to a different payment arrangement.
- 103** Pursuit of dispute resolution shall not affect an Interconnection Customer with regard to consideration of an Interconnection Request or an Interconnection Customer's Queue Position.

## TITLE 39: UTILITIES

### PART IV: Mississippi Distributed Generator Interconnection and ~~Net Metering~~ Distributed Generation

#### Subpart II: Mississippi ~~Renewable Energy Net Metering~~ Distributed Generation Rule

##### Chapter 01: Introduction

- 101** The Mississippi ~~Renewable Energy Net Metering~~ Distributed Generation Rule (~~MDGR~~MDGR) sets forth technical and procedural requirements for ~~Net Metering on~~ qualified Distributed Generator Facilities (DGFs). These DGFs are also subject to the requirements of the Mississippi Distributed Generator Interconnection Rule (MDGIR).

##### Chapter 02: DEFINITIONS

The following capitalized terms, when used in this Rule, shall have the following meanings unless the context clearly indicates otherwise. These definitions are in addition to those found in the MGDIR, which also apply to the MDGR.

- 100** “**Billing Period**” means the monthly billing period used by an Electric Utility (EU) to measure usage and any excess energy exported by a DGF to the EU, and to bill customers.
- 101** “**Avoided Cost of Wholesale Power**” means the cost to an EU<sup>2</sup> of electric energy that the EU would generate itself or purchase from another source, such as from an organized wholesale power market, but for the purchase from a ~~Renewable Energy Net Metered~~ Distributed Generation Interconnection Customer (RENMIC DGIC). In essence, the avoided cost is the marginal cost to produce or purchase one more unit of electrical energy. When a ~~RENMIC~~DGIC delivers electricity to an EU, the EU will reduce the equivalent amount of electricity that either is generated at its most expensive operating plant that is not running for reliability purposes or is purchased from an organized wholesale power market. For power generated by an EU, the cost avoided consists of the cost of fuel needed to produce that electricity and the corresponding portion of the plant’s operation and maintenance costs and shall include an appropriate average line loss adjustment. For DGICs with solar PV systems, the Avoided Cost of Wholesale Power and the corresponding average line loss adjustment shall reflect the daytime energy production of a solar PV system. No capacity credit is given as part of the calculation of Avoided Cost of Wholesale Power. For an EU that is a member of a regional transmission organization (RTO), the Avoided Cost of Wholesale Power shall be the average real-time locational marginal price (LMP) calculated by the RTO for the EU’s load zone(s). Such LMP ~~may be adjusted to reflect the daytime energy production of a solar PV system and~~ shall include an appropriate average line loss adjustment. For DGICs with solar PV systems, such LMP and the corresponding average line loss adjustment shall reflect the daytime energy production of a solar PV system.

---

<sup>2</sup> An EU is an electric utility within the meaning of Miss. Code Ann. section 77-3-3(d)(i) (Supp 2014).

- 102** ~~“Non-Quantifiable Expected Benefits Distributed Generation Value”~~ means an temporary adjustment to be included in the Total Benefits Value of Distributed Generation for benefits of distributed generation that, while expected to occur, are currently non-quantifiable or difficult to quantify. The ~~Non-Quantifiable Expected Benefits Distributed Generation Value~~ shall be equal to no more than 2.5 cents per kilowatt hour, unless and until modified upward or downward based on Mississippi-specific data, by separate Order of the Commission, and after full notice and hearing. for no longer than three (3) years after the effective date of this rule, which shall serve as a proxy for the Actual Benefits of Distributed Generation further defined below. To provide sufficient financial certainty to qualifying customers that install DGFs, this Distributed Generation Value shall remain in place for a period of twenty-five (25) years from the date the customer begins taking net generation service under the EU’s net generation tariff.
- 103** ~~“Actual Benefits of Distributed Generation”~~ means actual, quantifiable benefits realized by installed distributed generation over and above the Avoided Cost of Wholesale Power, which shall be calculated based upon information derived from the report of a third party consultant chosen by the Commission (further described below) and the experience of the utilities since implementation of this rule, as well as any additional information that may be available in the industry at that time. ~~The calculation of the Actual Benefits of Distributed Generation shall replace the temporary Non-Quantifiable Expected Benefits no later than three (3) years following the effective date of this rule.~~
- 103** “Low-to-Moderate Income Benefits Adder” means an additional amount to be included in the Total Value Benefits of Distributed Generation that shall flow to ~~the first 1,000~~ qualifying customers whose household income is at or below ~~200~~225% of the federal poverty level (or similar requirement proposed by the EU to be approved by the Commission) who is approved to take service under the EU’s net ~~metering~~ generation tariff. Beginning with the effective date of this rule, the Low-to-Moderate Income Benefits Adder shall be equal to 2 cents per kilowatt hour. To provide sufficient financial certainty to qualifying low-to-moderate income customers that install DGFs, this Low-to-Moderate Income Benefits Adder shall remain in place for a period of twenty-five (25) ~~fifteen (15)~~ years from the date ~~the~~ a qualified DGIC customer begins taking ~~net metering~~ service under the EU’s net generation ~~metering~~ tariff.
- 104** “Total Benefits Value of Distributed Generation” means the total amount – expressed in cents per kilowatt hour - that shall be credited to EU customers as a result of excess energy exported by a DGF to the EU, which shall include the Avoided Cost of Wholesale Power plus the Distributed Generation Value ~~Non-Quantifiable Expected Benefits Adder~~ or the Actual Benefits of Distributed Generation, plus, if applicable, the Low-to-Moderate Income Benefits Adder, as further outlined in this rule.
- 105** “Exit Fee” means a fee that is paid by a customer that reduces load by using a DGF and is intended to compensate the EU in whole or part for the loss of fixed cost contribution

from that customer. Exit fees are not allowed under this Rule, unless otherwise approved by the Commission.

**106** “~~Renewable Energy Net Metered~~ Distributed Generation Interconnection Customer” or “RENMICDGIC” is any electricity customer, such as an industrial, large commercial, residential or small commercial customer, that generates electricity on the customer’s side of the meter using a Renewable Energy source. The electricity customer must own or lease the DGF producing the Renewable Energy on the electricity customer’s side of the meter in order to qualify as a RENMICDGIC under this MDGR, unless otherwise approved by the Commission.

**107** “Net Generation Metering” means measuring the real-time kilowatt-hours supplied by the EU to the RENMICDGIC and the kilowatt-hours produced by the RENMICDGIC’s DGF and exported to the EU over the applicable Billing Period. Net generation metering includes the real-time displacement of kilowatt-hours that otherwise would be provided by the EU by kilowatt-hours that were generated by the RENMICDGIC’s DGF. An EU may employ a multi-channel meter for separately measuring the RENMICDGIC’s electric usage and excess energy exported to the EU. Special metering requirements are obviated with the use of advanced metering infrastructure or “smart meters.”

**108** “Renewable Energy” means electric energy produced from solar technologies, wind energy, geothermal technologies, wave or tidal action, hydro-power facilities, hydrogen, and biomass. Any energy derived from fossil fuels is not considered renewable and does not qualify under the MDGR.

**109** “Biomass” means a power source that is comprised of combustible solids or gases from forest products, manufacturing waste, or byproducts; products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing; urban wood waste; municipal liquid waste treatment operations; and landfill gas.

### **Chapter 03: ~~NET METERING~~ GENERATION REQUIREMENTS**

**100** This MDGR sets forth the Net Metering Generation requirements that apply to EUs that have customers who self-generate electricity with Renewable Energy on the customer’s side of the EU’s meter that wish to Net Meter, as indicated by the customer on the Standard Application. These customers are referred to as RENMICDGIC s in this Rule.

**101** All EUs shall offer Net Metering Generation to any customer that seeks to generate electricity on the customer’s side of the EU’s meter using Renewable Energy sources, provided:

1. For residential customers, Net Generation Metering nameplate direct current capacity of the aggregated DGFs at the customer’s premises shall be limited to the

lesser of 110% of the customer's annual peak demand or 20 kW and shall meet the requirements of the MDGIR;

2. For non-residential customers, Net Generation Metering nameplate direct current capacity for the aggregate DGFs at the customer's premises shall be limited to the lesser of 110% of the customer's annual peak demand or 2 MW and shall meet the requirements of the MDGIR.
  3. In cases where Battery Energy Storage Systems ("BESS") are paired with a DGF, the capacity of the BESS will not affect the total nameplate capacity limits of a customer's DGF under this MDGR.
- 102** EUs may refuse additional net generation metering requests if the total net generation metering direct current capacity in kW, as reported through these requirements, exceeds at any time 3 percent of the EU's total system peak demand expressed in kW recorded during the prior calendar year.
- 103** Each EU shall develop a tariff for Net Generation Metering and interconnection policies in concordance with this MDGR and the MDGIR. Each EU shall make Net Generation Metering available to eligible RENMICDGICs on a first-come, first-served basis until such time as the aforementioned cap has been reached.
- 104** An EU shall provide Net Generation Metering at non-discriminatory rates that are identical, with respect to rate structure and level, retail rate components, and any monthly fixed charges, to the rates that a RENMICDGIC would be charged if not a RENMICDGIC, unless otherwise approved by the Commission.
- 105** In each Billing Period, energy supplied to the RENMICDGIC from the EU as recorded on the EU's bi-directional ~~net~~ meter or smart meter will be billed using appropriate commission-approved rate and rider schedules. This provision means that energy self-supplied by the RENMICDGIC, up to the amount supplied from the EU to the RENMICDGIC (e.g., through the recording of meter Channel 1) will be credited to the RENMICDGIC at the full retail rate (i.e., effectively displacing energy supplied from the EU). During that same Billing Period, any excess energy supplied from the RENMICDGIC to the EU and recorded on the EU's bi-directional net meter in kWh (e.g., through meter Channel 2) will be credited on the RENMICDGIC's bill at the applicable Total ~~Benefits~~ Value of Distributed Generation expressed in cents per kWh and shall be accounted for through the EU's fuel adjustment clause. The customer's monthly bill will be the total of billing for any usage (i.e., as recorded on meter Channel 1) subject to any customer charge and/or minimum bill provisions in the EU's rate and rider schedules less any credit due to the customer from excess energy exported to the EU (i.e., as recorded on meter Channel 2). If the sum total of the monthly bill is negative, any such amount will be carried over to the next Billing Period and applied to any charges arising during the subsequent Billing Period.

**106** Beginning with the effective date of this rule, Total Benefits Value of Distributed Generation shall temporarily be equal to the Avoided Cost of Wholesale Power plus the Distributed Generation Value Non-Quantifiable Expected Benefits. Further, the Distributed Generation Value Non-Quantifiable Expected Benefits shall be equal to 2.5 cents/kWh, unless and until modified upward or downward based on Mississippi-specific data, by separate Order of the Commission, and after full notice and hearing, which may be modified downward at any time by order of this Commission, should the Commission find it is in the public interest to do so. Within sixty (60) days of the effective date of this rule, each EU shall file with the Commission revised net generation metering tariffs consistent with the provisions of this revised rule for consideration and approval by the Commission.

~~**107** In the calculation of Total Benefits of Distributed Generation, Non-Quantifiable Expected Benefits shall be replaced and subsumed by Actual Benefits of Distributed Generation no later than three (3) years following the effective date of this rule. In order to develop a calculation for Actual Benefits of Distributed Generation within that three-year timeframe, the Commission shall cause a study to be performed by an independent consultant beginning no earlier than one year after the effective date of this rule, the costs of which shall be paid by each EU whose rates are regulated by the Commission under the Mississippi Public Utilities Act, §§ 73-3-1 et seq., and recovered through each such EU's net metering tariff. Said independent consultant will work collaboratively with the utilities and gather information from other stakeholders to provide the Commission with guidance in developing a calculation of benefits that can be demonstrated to have been realized and quantified as a result of the adoption of distributed generation in Mississippi. No later than three (3) years from the effective date of this rule, the Commission shall instruct each EU to file modifications to their net metering tariffs to reflect a calculation of Actual Benefits of Distributed Generation consistent with conclusions of the study and data provided by the EUs.~~

**107** Each new Billing Period shall begin with zero kWh credits to the RENMICDGIC; however, subject to the provisions above, the customer may carry over any value of energy credit arising from the prior Billing Period(s). When a customer closes his or her account with the EU, if the RENMICDGIC has accumulated a dollar balance as a result of excess energy delivered to the EU, any such balance, net of costs owed to the EU, shall be paid to the RENMICDGIC.

**108** Credit for any excess energy exported to the EU shall not be applied to reduce any fixed monthly customer charges or minimum bill provisions imposed by the EU under Commission-approved rate and rider schedules.

**109** An EU shall offer a RENMICDGIC the choice of a time differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the EU offers the choice to customers in the same rate class as the RENMICDGIC. If a RENMICDGIC uses a retail billing arrangement that has time-differentiated rates, the EU shall net any production from the DGFs against the customer's consumption within the same time-of-use period in the

Billing Period and any excess energy exported to the EU will be credited as described above.

- 110** Any renewable energy credits (RECs) created by the RENMICDGIC are and shall remain the property of the RENMICDGIC, unless otherwise approved by the Commission. The EU shall not charge any back-up, standby, or Exit Fees to a RENMICDGIC, unless otherwise approved by the Commission.
- 111** An EU shall not charge a RENMICDGIC any fee or charge, or require additional equipment, insurance or any other requirement, unless the fee, charge, or other requirement is specifically authorized in this MDGR or the MDGIR, or the fee would apply to other customers in the same rate class that are not RENMICDGICs, or unless otherwise approved by the Commission.
- 112** All RENMICDGICs must be electrically interconnected with their EU pursuant to the provisions of the MDGIR. All rules and regulations for interconnected DGFs within the MDGIR apply to RENMICDGICs. Any Distribution System Upgrades, including additional equipment needed that is associated with the export of electricity, shall be at the RENMICDGIC's expense, per the MDGIR.
- 113** ~~As a further requirement under this rule, each~~ Each EU shall file with the Commission within three months of the effective date of this revised rule the EU's plan inform its customers, ~~whether through a website, a bill insert, or other form of communication,~~ of the opportunities available under the MDGR to interconnect DGFs and receive compensation for excess energy delivered to the grid.
- 114** Nothing in this document shall abrogate any person's obligation to comply with all applicable Federal or State laws, rules or regulations, including the MDGIR.

#### **Chapter 04: METERS AND METERING**

- 100** A RENMICDGIC shall be equipped with metering equipment that can measure the flow of electricity in each direction at the same time. This ~~is typically~~ may be accomplished through the use of advanced metering infrastructure, or a single bi-directional meter that records customer usage as well as excess energy exported to the EU (e.g., energy supplied to the customer net of the output of the RENMICDGIC is measured on Channel 1 and excess energy supplied by the RENMICDGIC to the EU in excess of the customer's requirements is measured on Channel 2).
- 101** An EU may choose to use an existing electric revenue meter if the following criteria are met:
1. The meter is capable of measuring the flow of electricity both into and out of the RENMICDGIC at the same time; and

2. The meter is accurate to within plus or minus five percent when measuring excess energy flowing from the RENMICDGIC to the EU.
- 102** If the RENMICDGIC's existing electric revenue meter does not meet the requirements above, the EU shall install a new revenue meter for the RENMICDGIC, at the RENMICDGIC's expense, within 10 business days after the interconnection agreement is executed and approved. If the EU offers a time-differentiated rate chosen by the RENMICDGIC, the meter shall have the capability to appropriately record energy flows in each direction during any time-differentiated period.
- 103** Any subsequent revenue meter change will be at the EU's expense, meaning such meter expense will not be charged to an individual RENMICDGIC but shall become part of the EU's overall cost of service and subsequent revenue requirement.

### **Chapter 05: REPORTING REQUIREMENTS**

- 100** Each EU with one or more RENMICDGICs connected to its grid shall submit to the Mississippi Public Service Commission a Net Generation Metering report ~~within 90 days of the end~~ on or before March 1st of each calendar year. The report shall include the following information regarding RENMICDGICs during the reporting period:
1. The total energy expressed in kilowatt-hours supplied to the EU's grid by RENMICDGICs and a description of any estimation methodology used;
  2. The total number of RENMICDGICs that were paid for excess energy exported to the EU at the end of any Billing Period(s) during the prior calendar year;
  3. The total dollar amount by month that the EU paid to RENMICDGICs for excess energy exported to the EU during the prior calendar year;
  4. The total number of net generation metering DGFs by resource type that were interconnected at the end of the prior calendar year;
  5. The total rated nameplate direct current generating capacity of net metering generation DGFs installed during the prior calendar year broken out by resource type; and
  6. The percentage of the EU's total system peak demand from the prior calendar year represented by the total rated nameplate direct current generating capacity of net metering generation DGFs.
  7. The total number of DGICs who received the Low-to-Moderate Income Benefits Adder that calendar year.

- 101** For purposes of these reporting requirements, any estimates shall be made using Commission-approved protocols unless no such protocols are available, in which case the estimates shall be accompanied by detailed calculations demonstrating how the estimates were made.

### **Chapter 06: CUSTOMER PROGRAMS**

- 100** While the Commission recognizes that it cannot order an EU to construct or acquire specific resources, the Commission finds that economic benefits warrant reasonably incentivizing energy independence through cost reductions for renewable energy for K-12 public schools through power purchase agreements, renewable energy for low-to-moderate income residential customers and residential battery storage systems that can accommodate and are compatible with any existing or future EU demand side management or demand response programs. Any renewable energy for public school programs or low-to-moderate income residential renewable energy programs will be subject to the three percent (3%) participation cap described, previously, herein; however, nothing herein prevents an EU from extending these programs if it chooses. These programs should begin on January 1, 2023, and should continue for no more than five (5) years.
- 101** Compliance with tariffs implementing a renewable energy program described above and the execution and filing of a power purchase agreement shall be deemed sufficient to satisfy any certificate requirements subject to Commission jurisdiction and authority.
- 102** Public Schools participating in any solar for public schools program are admonished to treat any savings or revenues as supplementing, not supplanting, school budgets related to educational expenses and investments focused on the classroom, such as classroom supplies.
- 103** EUs should be allowed to recover all reasonable and prudent costs incurred by them and resulting rates shall reflect on a prospective basis the reduction in energy sales volume that will result from all distributed generation. EUs all shall be allowed to recover all investments relating to this rule and any programs discussed above, including an opportunity to earn a reasonable return thereon. Such investments shall include, but not be limited to, equipment, incentives, marketing and delivery, direct installation costs, and any administration costs.

### **Chapter 076: SAFETY AND CONSUMER PROTECTION WORKING GROUP CONSUMER PROTECTIONS**

- 100** In an effort to foster continued monitoring and consideration of the fairness and efficacy of this rule, order to ensure adequate safeguards for safety and consumer protection, a the joint working group shall be established between representatives of the Commission, the Mississippi Public Utilities Staff, the Office of the Mississippi Attorney General, and other qualified stakeholders, as identified and requested by the

~~working group. Prior to January 1, 2017, the working group shall establish and present to the Commission an initial set of consumer protection and safety standards and guidelines related to the installation and use of distributed generation systems. Thereafter, the working group shall reconvene as necessary to discuss additional issues related to net metering as they arise, and to present shall meet annually to identify and discuss issues related to net generation that may warrant further Commission attention and/or review. Members of the Commission Staff and Public Utilities Staff who participated in the working group shall present any joint any recommendations on such issues to the Commission by January 30th each year.~~

**101** In order to offer all customers some level of consumer protection, any entity interacting with customers in any transaction or proposed transaction related to this rule or any program or implementing tariff associated herewith, including but not limited to solar developers and solar installers, shall take the following actions, as applicable:

- a. Must file with the Commission a point of contact to whom the Commission may direct customer complaints for resolution;
- b. Must register with the Secretary of State to do business in Mississippi and list a registered agent for service of process; and
- e. Must file annually with the Commission, and provide a copy to the consumer protection division of the Office of the Mississippi Attorney General, any marketing material with attestation to its accuracy.

### **Chapter 087: REOPENER**

**101** ~~Five years from the effective date of this Rule, the Commission shall open a new docket to assess the efficacy and functionality of the MDGR, and make any subsequent revisions or modifications of the Rule that may be deemed necessary at that time. The Commission may revisit this Rule five years from its effective date.~~