

STATE OF MICHIGAN  
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter, on the Commission's own motion,	)	
to promulgate rules governing interconnection and	)	Case No. U-15787
net metering.	)	
_____	)	

**ERRATUM**

The version of the interconnection and net metering rules originally attached to the Commission's February 4, 2009 order fails to reflect certain non-substantive changes to the rules made by the State Office of Administrative Hearings and Rules (SOAHR) and the Legislative Service Bureau (LSB). The only significant change made was to R 460.601 (Definitions). Because of the length of the rule, LSB recommended that the rule be divided into two rules. The Commission concurs and R 460.601 is now R 460.601a (Definitions; A-I) and R 460.601b (Definitions; J-Z). The remaining changes are minor corrections to punctuation, grammar, and syntax. For clarity, the corrected rule set is attached here as Attachment A and posted on the Commission's website in this docket. The rule set also appears as corrected on the SOAHR website.

MICHIGAN PUBLIC SERVICE COMMISSION

\_\_\_\_\_  
Mary Jo Kunkle  
Its Executive Secretary

February 20, 2009  
Lansing, MI

DEPARTMENT OF ~~CONSUMER AND INDUSTRY SERVICES~~ **ENERGY, LABOR AND  
ECONOMIC GROWTH**

PUBLIC SERVICE COMMISSION

**ELECTRIC INTERCONNECTION AND NET METERING STANDARDS**

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, 45a(6), or 48 of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the public service commission by section 6 of 1909 PA 106, MCL 460.556, section 5 of 1919 PA 419, MCL 460.55, sections 4, 6, and 10e of 1939 PA 3, MCL 460.4, 460.6, and 460.10e, **and section 173 of 2008 PA 295, MCL 460.1173.**)

R 460.481, R 460.482, R 460.483, R 460.484, R 460.485, R 460.486, R 460.487, R 460.488, and R 460.489 are rescinded from the Michigan Administrative Code, and R 460.601a, R 460.601b, R 460.602, R 460.604, R 460.606, R 460.608, R 460.610, R 460.612, R 460.615, R 460.618, R 460.620, R 460.622, R 460.624, R 460.626, R 460.628, R 460.640, R 460.642, R 460.644, R 460.646, R 460.648, R 460.650, R 460.652, R 460.654, and R 460.656 are added to the Code as follows:

R 460.481—~~Definitions.~~ **Rescinded.**

~~Rule 1. (1) As used in these rules:~~

~~(a) "Distribution system" means the structures, equipment, and facilities operated by an electric utility to deliver electricity to end users, but it excludes transmission facilities that are subject to the jurisdiction of the federal energy regulatory commission.~~

~~(b) "Interconnection" means the process administered by an electric utility to implement the electrical connection of a project with a distribution system, so that parallel operation can occur.~~

~~(c) "Interconnection procedures" mean the requirements adopted by each electric utility and approved by the commission to govern interconnection.~~

~~(d) "Project" means a merchant plant and other electric generating equipment and associated facilities that are not owned or operated by an electric utility.~~

~~(e) "Project developer" means a person that owns, operates, or proposes to construct, own, or operate, a project.~~

~~(2) A term defined in section 10g of 1939 PA 3, MCL 460.10g, has the same meaning when used in these rules.~~

R 460.482—~~Electric utility interconnection procedures.~~ **Rescinded.**

~~Rule 2. (1) Each electric utility shall file an application for approval of proposed interconnection procedures within 90 days of the effective date of these rules. Two or more electric utilities may file a joint application proposing a single set of interconnection procedures~~

February 9, 2009

~~(2) The commission may approve, modify, or reject the proposed interconnection procedures. The commission shall issue its approval if the procedures, as proposed by the electric utility or with modifications required by the commission, meet all of the following requirements:~~

~~(a) Describe the steps necessary to effect the connection of a merchant plant or other project with the distribution system of the electric utility.~~

~~(b) Designate a single point of contact at the electric utility for all communications about interconnection.~~

~~(c) Are consistent with generally accepted industry practices and guidelines.~~

~~(d) Ensure the reliability of electric service and the safety of customers, utility employees, and the general public.~~

~~(e) Ensure compliance with these rules.~~

**R 460.483—Technical criteria. Rescinded.**

~~Rule 3. (1) The interconnection procedures shall specify technical, engineering, and operational requirements that are suitable for the electric utility's distribution system. The procedures shall include provisions that apply specifically to a project that designates some or all of its electrical output for sale to an electric utility or a third party.~~

~~(2) The interconnection procedures shall make provisions that are appropriate for the size and capacity of a project as they affect the technical and engineering complexity of the interconnection. The procedures shall include a distinct set of requirements for each of the following project capacity classifications:~~

~~(a) Less than 30 kilowatts.~~

~~(b) Thirty kilowatts or more, but less than 150 kilowatts.~~

~~(c) One hundred and fifty kilowatts or more, but less than 750 kilowatts.~~

~~(d) Seven hundred and fifty kilowatts or more, but less than 2 megawatts.~~

~~(e) Two megawatts or more.~~

~~(3) If the voltage at the electrical connection is comparable to the electric utility's transmission voltages, but the electric utility's facilities are classified as part of its distribution system for jurisdictional purposes, such as a radial line, the project shall not be subject to the interconnection procedures approved under these rules. The interconnection shall instead comply with analogous federal energy regulatory commission standards.~~

**R 460.484—Project application. Rescinded.**

~~Rule 4. (1) The interconnection procedures shall prescribe a process for a project developer to apply to an electric utility for an interconnection. The procedures may include a standard form application. A separate application shall be required for each project or project site.~~

~~(2) An electric utility shall acknowledge receipt of an application within 3 days, excluding Saturdays, Sundays, and other days when the offices of the electric utility are not open to the public.~~

~~(3) If the developer has paid the filing fee provided in R 460.485, the electric utility shall conduct an initial review of the application and provide the project developer 2 hours of consultation relating to the review in exchange for the fee. The consultation shall include a good faith estimate of the electric utility's charges to complete the interconnection.~~

~~(4) The interconnection procedures shall set a reasonable deadline for the electric utility to make an initial response to the application. The initial response shall indicate whether the application complies with the interconnection procedures and the standards set forth in these~~

rules and identify any information required to complete the application or bring it into compliance. If an electric utility rejects an application for interconnection or otherwise withholds interconnection, then it shall provide the project developer with a written explanation of the reasons, which shall be based on demonstrably valid technical, reliability, or safety criteria.

**R 460.485—Project filing fee. Rescinded.**

Rule 5. (1) A project developer shall pay the electric utility a filing fee calculated as \$0.50 per kilowatt of project capacity, but in no event shall the amount of the fee be less than \$100 or more than \$500.

(2) An electric utility may not charge additional fees, unless they are authorized by these rules.

**R 460.486—Interconnection deadlines. Rescinded.**

Rule 6. (1) The interconnection procedures shall set deadlines for processing an application filed by a project developer, achieving major milestones, and completing the interconnection and shall preclude undue delay. The deadlines shall ensure that the period from the date that the project developer files a complete application to the completion of all of the electric utility's obligations for interconnection shall be no longer than the following for each project capacity classification:

- (a) Less than 30 kilowatts 2 weeks
- (b) Thirty kilowatts or more, but less than 150 kilowatts 4 weeks
- (c) One hundred and fifty kilowatts or more, but less than 750 kilowatts 6 weeks
- (d) Seven hundred and fifty kilowatts or more, but less than 2 megawatts 12 weeks
- (e) Two megawatts or more 18 weeks

(2) Delays that are the responsibility of the project developer shall not be included in determining compliance with the deadlines imposed in subrule (1) of this rule.

(3) Delays that are solely attributable to time lapsed while an electric utility is diligently seeking to secure a necessary easement, right-of-way access, or other change in property rights or comply with governmental permitting or zoning requirements shall not be included in determining compliance with the deadlines imposed in subrule (1) of this rule.

**R 460.487—Additional services provided by electric utility. Rescinded.**

Rule 7. (1) The interconnection procedures shall state the conditions in which engineering studies or physical construction or modification of the electric utility's distribution system are required to facilitate or complete an interconnection. If any of those services are necessary, the electric utility and the project developer shall make a written agreement that sets forth the charges and other terms and conditions. The electric utility may prescribe standardized agreement forms as part of its interconnection procedures.

(2) The interconnection procedures shall set forth a uniform schedule of charges for engineering studies. The charges shall not exceed the lesser of either of the following:

- (a) Five percent of the estimated total cost of the project.
- (b) Ten thousand dollars.

(3) The interconnection procedures shall not require, or impose charges for, engineering studies if the project's aggregate export capacity is less than 15% of the line section peak load and the project does not contribute more than 25% of the maximum short circuit current at the point of interconnection.

~~(4) An agreement may impose charges for the electric utility's cost of making physical modifications to its distribution system, which shall not exceed reasonable, actual costs.~~

~~(5) An agreement required by this rule shall set deadlines for the electric utility to perform its obligations. The deadlines shall be consistent with the requirements in R 460.486(1). If the electric utility is unable to perform its obligations within the deadlines, then the project developer may choose to retain a contractor from a list of certified contractors maintained by the electric utility, and the contractor shall perform the remaining services and construction activities that are necessary to comply with the electric utility's specifications. The interconnection procedures shall include the list of certified contractors that are capable of performing services and construction under this subrule. The electric utility may not withhold or deny certification from any contractor that requests certification and demonstrates the requisite capabilities.~~

**R 460.488—Pre-certified equipment. Rescinded.**

~~Rule 8. The interconnection procedures shall include provisions for creating and maintaining an up-to-date listing of pre-certified types, makes, and models of manufactured generating equipment. The electric utility's listing may reference or incorporate listings of equipment certified by recognized national testing laboratories as suitable for connection with a distribution system. The electric utility shall include an item of equipment in its pre-certified list if the item is generally acceptable for interconnection with the distribution system and a detailed review of the item's engineering design, characteristics, or suitability is not necessary to approve its use or installation by a project developer.~~

**R 460.489—Waivers. Rescinded.**

~~Rule 9. An electric utility may apply for a waiver from 1 or more provisions of these rules. The Commission may grant a waiver upon a showing of good cause.~~

**PART 1. GENERAL PROVISIONS**

**R 460.601a Definitions; A-I.**

**Rule 1a. As used in these rules:**

**(a) “Alternative electric supplier” means that term as defined in section 10g of 2000 PA 141, MCL 460.10g.**

**(b) “Alternative electric supplier net metering program plan” means a document supplied by an alternative electric supplier that provides detailed information to an applicant about the alternative electric supplier’s net metering program.**

**(c) “Applicant” means the legally responsible person applying to an electric utility to interconnect a project with the electric utility’s distribution system or a person applying for a net metering program. An applicant may be either a customer of an electric utility or a customer of an alternative electric supplier.**

**(d) “Application review” means a review by the electric utility of the completed application for interconnection to determine if an engineering review is required.**

**(e) “Area network” means a location on the distribution system served by multiple transformers interconnected in an electrical network circuit.**

**(f) “Category 1” means an inverter based project of 20 kW or less that uses equipment certified by a nationally recognized testing laboratory to IEEE 1547.1 testing standards and in compliance with UL 1741 scope 1.1A.**

- (g) "Category 2" means a project of greater than 20 kW and not more than 150 kW.
- (h) "Category 3" means a project of greater than 150 kW and not more than 550 kW.
- (i) "Category 4" means a project of greater than 550 kW and not more than 2 MW.
- (j) "Category 5" means a project of greater than 2 MW.
- (k) "Certified equipment" means a generating, control, or protective system that has been certified as meeting acceptable safety and reliability standards by a nationally recognized testing laboratory in conformance with UL 1741.
- (l) "Commission" means the Michigan public service commission.
- (m) "Commissioning test" means the procedure, performed in compliance with IEEE 1547.1, for documenting and verifying the performance of a project to confirm that the project operates in conformity with its design specifications.
- (n) "Customer" means a person who receives electric service from an electric utility's distribution system or a person who participates in a net metering program through an alternative electric supplier or electric utility.
- (o) "Customer-generator" means a person that owns a project that is interconnected to an electric utility distribution system.
- (p) "Distribution system" means the structures, equipment, and facilities operated by an electric utility to deliver electricity to end users, not including transmission facilities that are subject to the jurisdiction of the federal energy regulatory commission.
- (q) "Distribution system study" means a study to determine if a distribution system upgrade is needed to accommodate the proposed project and to determine the cost of an upgrade if required.
- (r) "Electric provider" means any person or entity whose rates are regulated by the commission for selling electricity to retail customers in this state.
- (s) "Electric utility" means as that term is defined in section 2 of 1995 PA 30, MCL 460.562.
- (t) "Eligible electric generator" means a methane digester or renewable energy system with a generation capacity limited to the customer's electric need and that does not exceed the following:
  - (i) 150 kW of aggregate generation at a single site for a renewable energy system.
  - (ii) 550 kW of aggregate generation at a single site for a methane digester.
- (u) "Engineering review" means a study to determine the suitability of the interconnection equipment including any safety and reliability complications arising from equipment saturation, multiple technologies, and proximity to synchronous motor loads.
- (v) "Full retail rate" means the power supply and distribution components of the cost of electric service. Full retail rate does not include a system access charge, service charge, or other charge that is assessed on a per meter basis.
- (w) "IEEE" means institute of electrical and electronics engineers.
- (x) "IEEE 1547" means IEEE "Standard for Interconnecting Distributed Resources with Electric Power Systems."
- (y) "IEEE 1547.1" means IEEE "Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."
- (z) "Interconnection" means the process undertaken by an electric utility to construct the electrical facilities necessary to connect a project with a distribution system so that parallel operation can occur.

(aa) "Interconnection procedures" mean the requirements that govern project interconnection adopted by each electric utility and approved by the commission.

**R 460.601b Definitions; J-Z.**

**Rule 1b.** As used in these rules

- (a) "kW" means kilowatt.
- (b) "kWh" means kilowatt-hours.
- (c) "Material modification" means a modification that changes the maximum electrical output of a project or changes the interconnection equipment, including either of the following:
  - (i) Changing from certified to noncertified equipment.
  - (ii) Replacing a component with a component of different functionality or UL listing.
- (d) "Modified net metering" means a utility billing method that applies the power supply component of the full retail rate to the net of the bidirectional flow of kWh across the customer interconnection with the utility distribution system during a billing period or time-of-use pricing period.
- (e) "MW" means megawatt.
- (f) "Nationally recognized testing laboratory" means any testing laboratory recognized by the accreditation program of the U.S. department of labor occupational safety and health administration.
- (g) "Parallel operation" means the operation, for longer than 100 milliseconds, of a project while connected to the energized distribution system.
- (h) "Project" means electric generating equipment and associated facilities that are not owned or operated by an electric utility.
- (i) "Renewable energy credit" means a credit granted pursuant to the commission's renewable energy credit certification and tracking program in section 41 of 2008 PA 295, MCL 460.1041.
- (j) "Renewable energy resource" means that term as defined in section 11(i) of 2008 PA 295, MCL 460.1011(i).
- (k) "Renewable energy system" means that term as defined in section 11(k) of 2008 PA 295, MCL 460.1011(k).
- (l) "Spot network" means a location on the distribution system that uses 2 or more inter-tied transformers to supply an electrical network circuit.
- (m) "True net metering" means a utility billing method that applies the full retail rate to the net of the bidirectional flow of kW hours across the customer interconnection with the utility distribution system, during a billing period or time-of-use pricing period.
- (n) "UL" means underwriters laboratory.
- (o) "UL 1741" means the "Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources."
- (p) "UL 1741 scope 1.1A" means paragraph 1.1A contained in chapter 1, section 1 of UL 1741.
- (q) "Uniform interconnection application form" means the standard application forms, approved by the commission under R 460.615, to be used for category 1, category 2, category 3, category 4, and category 5 projects.

(r) “Uniform interconnection agreement” means the standard interconnection agreements, approved by the commission under R 460.615 and used for all category 1, category 2, category 3, category 4, and category 5 projects.

(s) “Uniform net metering application” means the net metering application form approved by the commission under R 460.642 and used by all electric utilities and alternative electric suppliers.

(t) “Working days” means days excluding Saturdays, Sundays, and other days when the offices of the electric utility are not open to the public.

#### **R 460.602 Adoption of standards by reference.**

**Rule 2. (1)** The standards specified in these rules are adopted in these rules by reference.

(a) UL 1741 Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources, November 7, 2005 revision, is available from COMM 2000, 1414 Brook Drive, Downers Grove, IL 60515, USA, telephone number: 1-888-853-3503 or via the internet website: [www.comm-2000.com](http://www.comm-2000.com) at a cost of \$385.00 at the time of adoption of these rules.

(b) The following standards are available from IEEE by telephone at 1-800-678-4333 or from the internet website [www.standards.ieee.org](http://www.standards.ieee.org).

(i) The IEEE 1547, IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems, 1/1/2003, is available at a cost of \$70.00 at the time of adoption of these rules.

(ii) The IEEE 1547.1, IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems, 1/1/2005, is available at a cost of \$55.00 at the time of adoption of these rules.

(2) The standards specified in subrule (1) of this rule are also available for inspection and distribution at cost plus \$25.00 shipping and handling from the Public Service Commission at 6545 Mercantile Way, Suite 7 Lansing, MI 48911.

#### **R 460.604 Prohibited practices.**

**Rule 4. (1)** An electric provider shall not charge an applicant or customer-generator any fee or charge or require additional equipment, insurance, or any other requirement not specifically authorized by the interconnection standards in Part 2 of these rules or under the net metering standards in Part 3 of these rules, unless the fee, charge or other requirement would apply to other similarly situated customers who are not customer-generators.

(2) An electric provider or alternative electric supplier shall provide to net metering customers electric service at nondiscriminatory rates that are identical, with respect to rate structure, retail rate components and any monthly charges, to the rates that the net metering customer would be charged if the net metering customer were not participating in the net metering program.

#### **R 460.606 Designated points of contact.**

**Rule 6. (1)** Within 30 days of the effective date of these rules, each electric utility shall designate and maintain 1 initial point of contact for all customer inquiries related to interconnection and net metering from which interested parties may obtain information about interconnection and net metering procedures and applications and agreement forms.



(2) Within 30 days of the effective date of these rules, each alternative electric supplier shall designate 1 initial point of contact for all customer inquiries related to net metering from which interested parties may obtain information about net metering programs, applications, and processing. Each electric utility and alternative electric supplier shall have current information concerning its initial point of contact on file with the commission.

(3) Each electric utility shall designate and maintain a point of contact for each applicant to address applicant inquiries about technical issues or interconnection status that may arise during the interconnection process.

(4) Each interconnection applicant or net metering customer shall designate a point of contact with sufficient technical expertise to address any questions regarding a proposed interconnection or net metering application.

#### **R 460.608 Alternative dispute resolution.**

**Rule 8. (1)** If there is a dispute between an interconnection applicant and an electric utility or between a net metering applicant and an electric utility or alternative electric supplier, and with consent of all parties, the parties shall attempt alternative means of resolving the dispute.

(2) Any alternative means that will result in a settlement may be used including, but not limited to, settlement conferences, mediation, and other informal dispute resolution methods.

(3) If a party is dissatisfied with a recommended settlement resulting from the alternative dispute resolution process, the party may file a complaint with the commission as provided under R 460.17101 to R 460.17701.

#### **R 460.610 Appointment of experts.**

**Rule 10. (1)** If a complaint is filed against an electric utility regarding a technical issue, the commission may appoint from 1 to 3 independent experts to investigate the complaint and report findings to the commission.

(2) The experts shall submit a report to the commission with the results and conclusions of their inquiry and may suggest corrective measures for resolving the complaint. The reports of the experts shall be received in evidence and the experts shall be made available for cross examination by the parties at any hearing.

(3) The reasonable expenses of experts, including a reasonable hourly fee or fee determined by the commission, shall be submitted to the commission for approval and, if approved, shall be funded under subrule (4) of this rule.

(4) The electric utility or alternative electric supplier shall reimburse the experts appointed by the commission for the reasonable expenses incurred in the course of investigating the complaint.

#### **R 460.612 Waivers.**

**Rule 12.** An electric utility, alternative electric supplier, or applicant may apply for a waiver from 1 or more provisions of these rules. The commission may grant a waiver upon a showing of good cause and a finding that the waiver is in the public interest.

## **PART 2. INTERCONNECTION STANDARDS**

**R 460.615 Electric utility interconnection procedures.**

**Rule 15. (1)** Each electric utility shall file applications for approval of proposed interconnection procedures and forms within 90 days of the effective date of these rules. Two or more electric utilities may file a joint application proposing interconnection procedures for use by the joint applicants. All procedures and forms shall be written in plain English.

**(2)** The application for interconnection of a category 1 project shall contain all of the following:

**(a)** A description of the proposed procedure for an applicant to apply for interconnection of a category 1 project.

**(b)** A uniform interconnection application form for category 1 projects.

**(c)** A uniform interconnection agreement for category 1 projects.

**(3)** The application for interconnection of category 2 to category 5 projects shall contain all of the following:

**(a)** Uniform interconnection application forms for each of category 2 to category 5 projects.

**(b)** Uniform interconnection agreements for each of category 2 to category 5 projects.

**(c)** A description of the steps for processing an application for category 2 to category 5 projects that complies with R 460.620.

**(d)** Specific technical, engineering, and operational requirements that are suitable for the electric utility's distribution system.

**(e)** A schedule of application review fees, engineering review fees, distribution system study fees, and testing and site inspection fees that conforms to R 460.618(1).

**(f)** A timeline for notifications as required under R 460.620.

**(4)** The interconnection procedures shall include all of the following, if applicable:

**(a)** For projects interconnecting to a spot network circuit where the project or aggregate of total generation exceeds 5 percent of the spot network's maximum load, a requirement that the project must utilize a protective scheme that will ensure that its current flow will not affect the network protective devices, including reverse power relays or a comparable function.

**(b)** For projects that use inverter-based protective functions for an interconnection to an area network, a requirement that the project, in aggregate with other projects interconnected on the load side of network protective devices, shall not exceed the lesser of 10 percent of the minimum annual load on the network or 500 kW. For a photovoltaic project without batteries, the 10 percent minimum shall be determined as a function of the minimum load occurring during an off-peak daylight period.

**(c)** For projects interconnecting to area networks that do not use inverter-based protective functions or inverter-based projects that do not meet the requirements of subrule 4(b) of this rule, a requirement that the project use reverse power relays or other protection devices or methods that ensure no export of power from the customer's site including any inadvertent export (e.g. under fault conditions) that could adversely affect protective devices on the network circuit.

**(5)** The proposed procedures shall ensure all of the following:

**(i)** Consistency with generally accepted industry practices and guidelines.

**(ii)** Reliability of electric service and safety of customers, utility employees, and the general public.

(iii) Suitability for the size and capacity of a project as it affects the technical and engineering complexity of the interconnection.

(iv) Compliance with these rules.

(6) The proposed interconnection procedures may include an informal process for obtaining a waiver to technical requirements described in the interconnection procedures for a specific project provided compliance with these rules is ensured.

(7) The Commission shall provide a 30-day period for comment before approving the applications for interconnection procedures.

**R 460.618 Interconnection fees.**

**Rule 18. (1) Interconnection application and engineering review, distribution study, distribution upgrade, and testing and inspection fees shall not exceed the following amounts for projects that do not participate in the net metering program:**

	<b>Application review</b>	<b>Engineering review</b>	<b>Distribution study</b>	<b>Distribution upgrades</b>	<b>Testing &amp; inspection</b>
<b>Category 1</b>	<b>\$75</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Category 2</b>	<b>\$100</b>	<b>\$0</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>
<b>Category 3</b>	<b>\$150</b>	<b>\$0</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>
<b>Category 4</b>	<b>\$250</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>
<b>Category 5</b>	<b>\$500</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>

**(2) Net metering application fees for category 1 to category 3 projects that participate in the net metering program shall not exceed \$25. Interconnection application and engineering review, distribution study, distribution upgrade, and testing and inspection fees shall not exceed the following amounts for projects that participate in the net metering program:**

	<b>Application review</b>	<b>Engineering review</b>	<b>Distribution study</b>	<b>Distribution upgrades</b>	<b>Testing &amp; inspection</b>
<b>Category 1</b>	<b>\$75</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Category 2</b>	<b>\$75</b>	<b>\$0</b>	<b>Actual or maximum approved by commission</b>	<b>Actual or maximum approved by commission</b>	<b>\$0</b>

Category 3	\$75	\$0	Actual or maximum approved by commission	Actual or maximum approved by commission	\$0
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**R 460.620 Application and interconnection process.**

**Rule 20. (1) If requested by the applicant before or during the application process, an electric utility shall provide up to 2 hours of technical consultation at no additional cost to the applicant. Consultation may be limited to providing information concerning the utility system operating characteristics and location of system components.**

**(2) For category 2 and category 3 project applications, the applicant shall provide a one-line diagram that is signed by an electrical contractor licensed by the state of Michigan.**

**(3) For category 4 and category 5 project applications, the applicant shall provide a one-line diagram that is sealed by a professional engineer licensed by the state of Michigan.**

**(4) Within 10 working days of receiving a new or revised interconnection application, the electric utility shall notify the applicant whether the interconnection application is complete. If the application is incomplete, the electric utility shall advise the applicant of the deficiency.**

**(5) Within 10 working days of determining that an application is complete, the electric utility shall complete its application review. For category 1 projects or if the application review shows that an engineering review is not required, the interconnection process shall proceed to subrule (11) of this rule. If the electric utility determines that an engineering review is required, it shall notify the applicant of the need for and cost of that review. An applicant shall have 1 year in which to request, in writing, that the utility proceed with an engineering review at the cost indicated. The applicant shall provide any changes or updates to the application before the engineering review begins.**

**(6) Upon receiving applicant's written notification to proceed with the engineering review and applicable payment, the electric utility shall complete an engineering review and notify the applicant of the results within the following time periods:**

- (a) Category 2 applications, 10 working days.**
- (b) Category 3 application, 15 working days.**
- (c) Category 4 application, 25 working days.**
- (d) Category 5 application, 45 working days.**

**(7) If the engineering review indicates that a distribution system study is necessary, the electric utility shall provide, in writing, the cost of the study in its engineering review findings. The utility shall also provide the applicant with a list of distribution system upgrades that may be required for interconnection with an estimated cost of each system component if such information is reasonably ascertainable upon completion of the engineering study. This estimate shall be provided to assist the applicant in determining whether to proceed with the project and the utility shall not be bound by the estimate. The distribution system study cost is valid for 1 year and the applicant shall have 1 year from receipt of the engineering review findings in which to notify the electric utility to proceed with the distribution system study. Upon receiving written notification to proceed and payment of the applicable fee, the electric utility shall conduct the distribution system study.**

(8) The electric utility shall complete the distribution system study and provide study results to the applicant within the following time periods:

- (a) Category 2 applications, 10 working days.
- (b) Category 3 application, 15 working days.
- (c) Category 4 application, 45 working days unless a different time period is mutually agreed upon.
- (d) Category 5 application, 60 working days unless a different time period is mutually agreed upon.

(9) The electric utility shall notify the applicant of its completed distribution system study findings along with any distribution system construction or modification costs to be paid by the applicant. The cost may include a contingency fee of not more than 10%. Any payment made in excess of actual costs shall be refunded to the applicant.

(10) If the applicant agrees, in writing, to pay the cost identified in subrule (9) of this rule, the electric utility shall complete the distribution system upgrades and the applicant shall pay for the upgrades and install the project within a mutually agreed upon time period.

(11) The applicant shall notify the electric utility when an installation and any required local code inspection and approval is complete and provide an opportunity for the electric utility to schedule a site visit to witness commissioning tests required by IEEE 1547.1 and inspect the project. The electric utility may provide a written waiver of its right to visit the site to inspect the project and witness the commissioning tests. The utility shall notify the applicant of its intent to visit the site, inspect the project, witness the commissioning tests or of its intent to waive inspection within 10 working days after notification that the installation and inspections are complete.

(12) Within 5 working days of the receipt of the completed commissioning test report, the electric utility shall notify the applicant of its acceptance of the commissioning test report and shall notify the applicant of its approval or disapproval of the interconnection. If approved, the electric utility shall also provide to the applicant a written statement of final approval, cost reconciliation, and an interconnection agreement. The applicant shall sign and return the interconnection agreement to the electric utility before beginning parallel operation. If the electric utility does not approve the interconnection, the electric utility shall notify the applicant of the necessary corrective actions required for approval. The applicant, after taking corrective action, may request the electric utility to reconsider the interconnection request.

(13) An applicant for interconnection who receives generation service from an alternative electric supplier and who intends to participate in the alternative electric supplier's net metering program shall provide a copy of the complete interconnection application with the applicant's net metering application to the alternative electric supplier. The alternative electric supplier shall notify the applicant within 10 business days whether the applicant is accepted into the alternative electric supplier's net metering program.

#### **R 460.622 Modifications to project.**

**Rule 22.** The applicant shall notify the electric utility of plans for any material modification to the project. The applicant shall provide this notification by submitting a revised uniform application form and application fee along with all supporting materials that are reasonably requested by the electric utility. The applicant may not begin any

material modification to the project until the electric utility has approved the revised application, including any necessary engineering review or distribution system study. The application shall be processed in accordance with R 460.620.

**R 460.624 Insurance.**

**Rule 24.** (1) An applicant interconnecting a category 1 or category 2 project to the distribution system of an electric utility shall not be required to obtain any additional liability insurance.

(2) An electric utility shall not require an applicant interconnecting a category 1 or category 2 project to name the utility as an additional insured party.

(3) For category 3 to category 5 projects, the applicant shall obtain and maintain general liability insurance of a minimum of \$1,000,000.

**R 460.626 Disconnection.**

**Rule 26.** An electric utility may refuse to connect or may disconnect a project from the distribution system if any of the following conditions apply:

- (a) Lack of a fully executed interconnection agreement.
- (b) Termination of interconnection by mutual agreement.
- (c) Noncompliance with technical or contractual requirements after notice is provided to the applicant of the technical or contractual deficiency.
- (d) Distribution system emergency.
- (e) Routine maintenance, repairs, and modifications, but only for a reasonable length of time necessary to perform the required work and upon reasonable notice.

**R 460.628 Easements and rights-of-way.**

**Rule 28.** If an electric utility line extension is required to accommodate an interconnection, the applicant is responsible for the cost of providing or obtaining easements or rights-of-way.

### **PART 3. NET METERING STANDARDS**

**R 460.640 Application process.**

**Rule 40.** (1) Each electric provider shall file initial net metering program tariff sheets within 30 days of the effective date of these rules.

(2) Each alternative electric supplier shall file an alternative electric supplier net metering program plan within 30 days of the effective date of these rules.

(3) Electric providers and alternative electric suppliers shall file annual net metering program reports in a form to be determined by the commission, not later than March 31 of each year.

(4) Each electric provider shall maintain records of all applications and up-to-date records of all active eligible electric generators located within its service area. Each alternative electric supplier shall maintain records of all applications and up-to-date records of all eligible electric generators participating in its net metering program.

(5) Selection of customers for participation in the net metering program shall be based on the order in which the applications for the net metering program are received by the electric provider or alternative electric supplier.

(6) An electric provider or alternative electric supplier shall not refuse to provide or discontinue electric service to a customer solely for the reason that the customer participates in the net metering program.

(7) Net metering programs provided by electric providers and alternative electric suppliers shall limit each applicant to generation capacity designed to meet the customer's electric needs.

(a) At the customer's option, the generation capacity shall be determined by 1 of the following methods:

(i) Aggregate nameplate capacity of the generator(s).

(ii) An estimate of the expected annual kWh output of the generator(s) determined in a manner approved by the commission and specified on the electric provider's net metering tariff sheet or in the alternative electric supplier's net metering program plan.

(b) At the customer's option, the customer's electric needs shall be determined by 1 of the following methods:

(i) The customer's annual energy usage, measured in kWh, during the previous 12-month period.

(ii) For a customer with metered demand data available, the maximum integrated hourly demand measured in kW during the previous 12-month period.

(iii) In cases where there is no data, incomplete data, or incorrect data for the customer's energy usage or the customer is making changes on-site that will affect total usage, the electric provider or alternative electric supplier and the customer shall mutually agree on a method to determine the customer's electric needs.

#### **R 460.642 Net metering application and fees.**

**Rule 42. (1)** A uniform net metering application form and process shall be used by all electric providers and alternative electric suppliers. The uniform net metering application form shall be approved by the commission.

**(2)** Net metering application processing for electric providers shall be conducted in the following manner:

(a) An applicant applying for net metering shall at the same time apply for an electric provider interconnection or shall indicate on the net metering application that the applicant has applied for interconnection with the electric provider.

(b) If an applicant has an executed interconnection agreement at the time of filing the net metering application, the electric provider shall have 10 working days to complete its review of the net metering application. All other net metering applications shall be processed within 10 days after the applicant's interconnection agreement is executed.

(c) As part of the review, the electric provider shall determine whether the appropriate meter(s) are installed for net metering.

(d) After completing the review, the electric provider shall notify the customer whether the net metering application is approved or disapproved.

(e) If an applicant approved for net metering requires new or additional meters, the electric provider shall make arrangements with the customer to install the meters at a mutually agreed upon time.

(f) Within 10 working days after the necessary meters are installed, the electric provider shall complete changes to the applicant's account to permit net metering credit to be applied to the account.

**(3) Net metering application processing for alternative electric suppliers shall be conducted in the following manner:**

**(a) A customer receiving retail electric service from an alternative electric supplier shall submit the completed net metering application form to the alternative electric supplier and a copy of the form to the electric provider that provides distribution services.**

**(b) Within the time periods in subrule (2) of this rule, the electric provider shall determine whether the appropriate meter(s) are installed for net metering and, if necessary, contact the customer to arrange for meter installation.**

**(c) The electric provider shall notify the alternative electric supplier when the interconnection agreement for the eligible generator is executed and installation of the appropriate meter(s) is completed.**

**(d) Within 10 working days of notification, the alternative electric supplier shall complete changes to the applicant's account to permit net metering credit to be applied to the account.**

**(4) If a net metering application is disapproved, the electric provider or alternative electric supplier shall notify the customer of the reasons for the disapproval. The customer shall have an opportunity to correct the net metering application. If the application is withdrawn by the customer, the electric provider or alternative electric supplier shall refund the net metering application fee to the customer.**

**(5) Customers participating in the net metering program under the commission's March 29, 2005 order in case no. U-14346 shall be transferred to the statewide net metering program established under these rules within 30 days of commission approval of the electric provider's net metering tariff. Any remaining net excess generation credits shall be credited to the customer in accordance with R 460.652. Additional application, interconnection, installation fees, or system requirements are waived for customers who transfer to the net metering program authorized by these rules.**

**(6) The net metering application fee for electric providers and alternative electric suppliers shall not exceed \$25. The fee shall be specified on the electric provider's net metering tariff sheet or in the alternative electric supplier's net metering program plan. The combined total of net metering application fees and interconnection application review fees shall not exceed \$100.**

#### **R 460.644 Net metering program size.**

**Rule 44. If an electric provider or alternative electric supplier reaches the net metering program size limits in section 173(2) of 2008 PA 295, MCL 460.1173(2), the electric provider or alternative electric supplier shall provide notice to the commission and to all customers that its net metering program is closed and that no new applications will be accepted. All completed applications that are pending at the time the net metering program closes shall be processed and the applicants shall be allowed to participate in the net metering program.**

#### **R 460.646 Generation and net metering equipment.**

**Rule 46. (1) New generation and net metering equipment and its installation must meet all current local and state electric and construction code requirements. Any equipment that is certified by a nationally recognized testing laboratory to IEEE 1547.1 testing standards and in compliance with UL 1741 scope 1.1A and installed in compliance with this part is**



considered eligible equipment. Within the time provided by the commission in R 460.620 and consistent with good provider practice, protection of electric provider workers, protection of electric provider equipment, and protection of the general public, an electric provider may study, confirm, and ensure that an eligible electric generator installation at the customer's site meets the IEEE 1547 anti-islanding requirements.

(2) Customers with executed interconnection agreements on the effective date of these rules shall be considered eligible generators provided the customer's project complies with R 460.601a(t) and R 460.640(7).

#### **R 460.648 Meters.**

**Rule 48.** (1) For a customer with a generation system capable of generating 20 kW or less, the provider shall determine the customer's net usage using the customer's existing meter if it is capable of reverse registration. If meter upgrades or modifications are required, the following applies:

(a) An electric provider serving over 1,000,000 customers in this state shall provide a meter or meters capable of measuring the flow of energy in both directions at no additional charge to the net metering customer. The cost of the meter(s) or meter modification shall be considered a cost of operating the net metering program.

(b) An electric provider serving fewer than 1,000,000 customers in this state shall provide a meter or meters capable of measuring the flow of energy in both directions to customers at cost. Only the incremental cost above that for meter(s) provided by the electric provider to similarly situated nongenerating customers shall be paid by the eligible customer.

(c) An electric provider shall provide a generator meter, if requested by the customer, at cost.

(2) For a customer with a generation system capable of generating more than 20 kW and up to 150 kW, the provider shall utilize a meter or meters capable of measuring the flow of energy in both directions and the generator output. If meter upgrades are necessary to provide such functionality, the following applies:

(a) An electric provider serving over 1,000,000 customers in this state shall provide a meter or meters capable of measuring the flow of energy in both directions at no additional charge to a net metering customer. If the provider provides the upgraded meter(s) at no additional charge to the customer, the cost of the meter(s) shall be considered a cost of operating the net metering program.

(b) An electric provider serving fewer than 1,000,000 customers in this state shall provide a meter or meters capable of measuring the flow of energy in both directions to customers at cost. Only the incremental cost above that for meters provided by the electric provider to similarly situated nongenerating customers shall be paid by the eligible customer.

(c) An electric provider shall provide a generator meter. The cost of the meter shall be considered a cost of operating a net metering program.

(3) For a customer with a generation system capable of generating more than 150 kW, the provider shall utilize a meter or meters capable of measuring the flow of energy in both directions and the generator output. If meter upgrades are necessary to provide such functionality the customer shall pay the cost of providing any new meters.

(4) An electric provider deploying advanced metering infrastructure shall not charge the cost of advanced meters to a net metering customer or the net metering program.

**R 460.650 Billing and credit for true net metering customers.**

**Rule 650. (1)** Net metering customers with a system capable of generating 20 kW or less shall qualify for true net metering. For customers who qualify for true net metering, the net of the bidirectional flow of kWh across the customer interconnection with the utility distribution system during the billing period or during each time-of-use pricing period within the billing period, including excess generation, shall be credited at the full retail rate.

(2) The credit for excess generation, if any, shall appear on the next bill. Any excess credit not used to offset current charges shall be carried forward for use in subsequent billing periods.

(3) At the end of each calendar year, an electric provider or alternative electric supplier shall refund to a customer the remaining credit amount if the credit amount is more than \$50.00.

(4) If the credit amount is less than \$50.00 at the end of the calendar year, the credit shall be carried forward for use in subsequent billing periods.

(5) If a customer leaves the provider's system or service is terminated for any reason, an electric provider or alternative electric supplier shall refund to the customer the remaining credit amount.

**R 460.652 Billing and credit for modified net metering customers.**

**Rule 52. (1)** Net metering customers with a system capable of generating more than 20 kW qualify for modified net metering. For customers who qualify for modified net metering, a negative net metered quantity during the billing period or during each time-of-use pricing period within the billing period reflects net excess generation for which the customer is entitled to receive credit. Standby charges for modified net metering customers on an energy rate schedule shall equal the retail distribution charge applied to the imputed customer usage during the billing period. The imputed customer usage is calculated as the sum of the metered on-site generation and the net of the bidirectional flow of power across the customer interconnection during the billing period. The commission shall establish standby charges for modified net metering customers on demand-based rate schedules that provide an equivalent contribution to provider system costs. Standby charges shall not be applied to customers with systems capable of generating 150 kW or less.

(2) The credit for excess generation shall appear on the next bill. Any excess kWh not used to offset current charges shall be carried forward for use in subsequent billing periods.

(3) A customer qualifying for modified net metering shall not have net metering credits applied to distribution charges.

(4) At the end of each calendar year, an electric provider or alternative electric supplier shall remit a check to a customer for the remaining credit amount if the credit amount is more than \$50.00.

(5) If the credit amount is less than \$50.00 at the end of the calendar year, the credit shall be carried forward for use in subsequent billing periods.

(6) If a customer leaves the provider's system or service is terminated for any reason, an electric provider or alternative electric supplier shall refund to the customer the remaining credit amount.

(7) The credit per kWh for kWh delivered into the provider's distribution system shall be 1 of the following as determined by the commission:

(a) The monthly average real-time locational marginal price for energy at the commercial pricing node within the electric provider's distribution service territory, or for a net metering customer on a time-based rate schedule, the monthly average real-time locational marginal price for energy at the commercial pricing node within the electric provider's distribution service territory during the time-of-use pricing period.

(b) The electric provider or alternative electric supplier's power supply component of the full retail rate during the billing period or time-of-use pricing period.

#### **R 460.654 Renewable energy credits.**

**Rule 54. (1)** An eligible electric generator shall own any renewable energy credits granted for electricity generated under the net metering program.

(2) An electric provider may purchase or trade renewable energy certificates from a net metering customer if agreed to by the net metering customer.

(3) The commission may develop a program for aggregating renewable energy certificates from net metering customers.

#### **R 460.656 Penalties.**

**Rule 56.** Upon a complaint or on the commission's own motion, if the commission finds after notice and hearing that an electric provider has not complied with a provision or order issued under part 5 of 2008 PA 295, the commission shall order remedies and penalties as necessary to make whole a customer or other person who has suffered damages as a result of the violation.