

May 1, 2020

Michigan Public Service Commission  
7109 W Saginaw Hwy  
Lansing, MI 48917

Delivered electronically to:

Nick Evans, Public Utilities Engineering Specialist ([evansn@michigan.gov](mailto:evansn@michigan.gov))  
Julie Baldwin, Manager, Renewable Energy Section ([baldwinj2@michigan.gov](mailto:baldwinj2@michigan.gov))

**RE: ESA Comments Regarding MPSC Staff's Second Draft of Case No. U-20344 –  
Interconnection, Distributed Generation, and Legally Enforceable Obligation  
Standards (R 460.601a – R 460.656)**

Dear Ms. Baldwin and Mr. Evans:

The Energy Storage Association (“ESA”) respectfully submits the attached comments and redlines edits in response to the Public Service Commission’s (“Commission”) request for comments on the Commission Staff’s second draft of rules governing interconnection, distributed generation program and legacy net metering issued on February 28, 2020.

ESA is the national trade association dedicated to energy storage, working toward a more resilient, efficient, sustainable and affordable electricity grid—as is uniquely enabled by energy storage. With more than 180 members, ESA represents a diverse group of companies, including independent power producers, electric utilities, energy service companies, financiers, insurers, law firms, installers, manufacturers, component suppliers, and integrators involved in deploying energy storage systems around the globe. Further, our members work with all types of energy storage technologies and chemistries, including lithium-ion, advanced lead-acid, flow batteries, zinc-air, compressed air, and pumped hydro among others.

ESA respectfully submits these recommendations on interconnection standards for distributed energy storage resources for the Commission’s consideration to include in U-20344 -- Interconnection, Distributed Generation, and Legally Enforceable Obligation Standards.

Sincerely,



Jason Burwen  
Vice President, Policy  
Energy Storage Association

**STATE OF MICHIGAN  
MICHIGAN PUBLIC SERVICE COMMISSION**

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<b>In the matter, of the Commission’s own</b>	)	<b>Case No.</b>
<b>motion, to promulgate rules governing</b>	)	<b>U-20344</b>
<b>electric interconnection, distributed generation,</b>	)	
<b>a legally enforceable obligation.</b>	)	

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**COMMENTS OF THE ENERGY STORAGE ASSOCIATION**

The Energy Storage Association (ESA) provides comments to the Michigan Public Service Commission (“Commission”) Staff with regard to Staff’s second draft rules regarding Interconnection, Distributed Generation, and Legally Enforceable Obligation Standards. Specifically, ESA makes recommendations to (1) use “net system capacity” as an alternative to aggregate capacity as the study assumption for energy storage systems paired with generation; (2) include a customer’s “proposed use” of a distributed generation system; and (3) include rules to govern “inadvertent exports” from distributed generation systems that are permitted to perform this function.

**I. ABOUT THE ENERGY STORAGE ASSOCIATION**

ESA is the national trade association dedicated to energy storage, working toward a more resilient, efficient, sustainable and affordable electricity grid—as is uniquely enabled by energy storage. With more than 180 members, ESA represents a diverse group of companies, including independent power producers, electric utilities, energy service companies, financiers, insurers, law firms, installers, manufacturers, component suppliers, and integrators involved in deploying energy storage systems around the globe. Further, our members work with all types of energy storage

technologies and chemistries, including lithium-ion, advanced lead-acid, flow batteries, zinc-air, compressed air, and pumped hydro among others. Several ESA members have operating grid assets and assets under development in Michigan.

## **II. COMMENTS ON SECOND DRAFT INTERCONNECTION RULES**

In these comments, ESA respectfully proposes specific modifications to existing language and additional language required to ensure the fair treatment of energy storage in Michigan's interconnection rules. ESA's comments focus on ways to supplement and more fully address certain issues in the draft interconnection rules as they pertain to energy storage, specifically provisions regarding net system capacity, proposed use, and inadvertent export. ESA is open to various options to address each of these issues and facilitate greater participation of energy storage resources in Michigan. Rules adopted in Maryland and Nevada provide a useful precedent that ESA would support being adopted in Michigan, which we reflect in our redlines of the draft regulations at the end of this document. Supplementing Michigan's interconnection rules with these provisions is necessary to streamline the study timeline process, providing greater clarity and a timely review for customers seeking to interconnect to the utility distribution system. ESA's recommendations are based on distribution interconnection standards in Nevada and Maryland and therefore reflect previous, robust stakeholder input on which the Commission can base a decision to adopt. That said, ESA welcomes other stakeholders to propose ways to address the identified issues in lieu of importing proven approaches from other states.

### *Inclusion of Net System Capacity and Proposed Use*

Customer-sited storage systems are unique in that the project owner is able in large part to control the system's operational profile. Given the fact that these systems are highly controllable, study processes that always assume maximum export of the battery at times when the grid is most

constrained will not accurately capture the expected behavior of the energy storage system and will result in undue cost burdens and lengthy study timelines. This problem is particularly pronounced for AC-coupled solar and energy storage systems. Unfortunately, such a study erroneously assumes a customer will discharge their PV system and energy storage system at the same time during peak hours; in some cases, this may even be technically impossible.

Aggregating nameplate capacity would lead to longer study timelines and unnecessary and costly upgrades. Incorporating a customer's "proposed use," is a critical component of the interconnection process and must be incorporated into the utility's determination of the interconnection study assumptions, in order to avoid these delays and unnecessary costs. Similarly, incorporation of "net system capacity" in the second draft regulations would ensure that the system controls are factored into a utility's interconnection study assumptions. Based on ESA's activities and coordination with stakeholders in other jurisdictions, ESA recommends the Commission consider the following definitions from Maryland and Nevada's interconnection rules:

Example of this language in Nevada's existing interconnection rules (Rule 15):<sup>1,2</sup>

Net Nameplate Rating: The gross generating capacity of a Generating Unit or the total of the gross generating capacity of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Unit(s) minus the consumption of electrical power of the Generating Unit(s). Where the gross generating capacity of a Generating Unit or Units is limited (e.g., through the use of a control system, power relay(s), or other similar device settings or adjustments), the Net Nameplate Rating shall be the maximum specified by the Applicant in the Application. The Net Nameplate Rating will subsequently be contained in the net metering agreement or Interconnection and Operating Agreement.

Examples of this language in Maryland's final interconnection rules (RM 68):<sup>3</sup>

"Net system capacity" means the total export capacity at a point of common coupling of a small generator facility as measured by the nameplate capacities of all power production units and energy storage devices minus their consumption of electrical power, if applicable, as limited

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<sup>1</sup> Note that Net Nameplate Rating is another term for Net System Capacity.

<sup>2</sup> Nevada Public Utilities Commission. "Docket No. 17-06014 Application of Nevada Power Company d/b/a NV Energy filed under Advice Letter No. 479 to revise Tariff no. 1-B to modify Generating Facility Interconnections Rule No. 15." April 18, 2018. [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2015\\_THRU\\_PRESENT/2017-6/29210.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-6/29210.pdf)

<sup>3</sup> Maryland Division of State Documents. "Code of Maryland Regulations Sec 20.50.09.02, Definitions." March 31, 2020. <http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.02.htm>

through the use of a control system, power relays, or other similar device settings or adjustments.

#### Proposed Use.

(a) “Proposed use” means the operational control modes of a small generator facility upon which the applicant’s technical review is based and under which the small generator facility is bound to operate upon the execution of the interconnection agreement.

(b) “Proposed use” for a small generator facility includes a combination of electric generators and energy storage devices operating in specified operational control modes during specified time periods.

ESA believes the proposed language strikes the right balance between the consideration of responsibilities of the utility to ensure system reliability and safety on the one hand, and recognizing the wide variety of applications of energy storage that customers may want to employ through the use of operational controls on the other.

#### *Inclusion of Inadvertent Export Rules*

As applications of behind-the-meter storage expand and energy storage systems become an integral part of load management strategy for customers, ESA asserts that inclusion of “inadvertent export” in the second draft of rules put forward by the Commission Staff will be important. As energy storage becomes more widely used as a means of managing and offsetting significant portions of on-site consumption needs, the systems being deployed are much more closely aligned with the size of the customer’s load, creating a new dynamic. By more closely sizing system with load, particularly for residential customers, situations might arise where the customer’s load drops unexpectedly and immediately, and the on-site generation or battery may not ramp down quickly enough to adjust to the new load. In this situation there can be a few seconds of production that cannot be used on-site because the load is no longer there. In those situations, the ability to rely on inadvertent export for those few seconds can facilitate a customer’s ability to maintain the balance of the system.

The ability to inadvertently export for a brief period of time is critical to enabling a customer to follow the load of a large percentage of their energy needs. It is also important to note that inadvertent export is very different from planned grid exports. Because of the spontaneous nature of these fluctuations in load as a result of customer behavior patterns, these instances of inadvertent export have a zero-coincidence factor. ESA proposes the following options to define inadvertent export for inclusion in Michigan’s interconnection standards:

From Maryland (RM 68):<sup>4</sup>

“Inadvertent Export”: means the unscheduled export of power from a small generator facility, beyond a specified magnitude and for a limited duration, generally due to fluctuations in load-following behavior.

From Nevada (Rule 15):<sup>5</sup>

Inadvertent Export: The unplanned, uncompensated transfer of electrical energy from a Generator or Generating Facility to the Utility’s Distribution System across the Point of Common Coupling

In Maryland, the Public Service Commission has finalized interconnection rules (RM 68) for distributed generation and has included the following rules governing inadvertent exports, net system capacity, and proposed use:<sup>6</sup>

O. Inadvertent Export, Net System Capacity, and Proposed Use for Small Generator Facilities with Energy Storage Devices. Utilities shall approve interconnection requests for inadvertent export, net system capacity, and proposed use for small generator facilities subject to the following requirements:

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<sup>4</sup> Maryland Division of State Documents. “Code of Maryland Regulations Sec 20.50.09.02, Definitions.” March 31, 2020. <http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.02.htm>

<sup>5</sup> Nevada Public Utilities Commission. “Docket No. 17-06014 Application of Nevada Power Company d/b/a NV Energy filed under Advice Letter No. 479 to revise Tariff no. 1-B to modify Generating Facility Interconnections Rule No. 15.” April 18, 2018. [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2015\\_THRU\\_PRESENT/2017-6/29210.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-6/29210.pdf)

<sup>6</sup> Maryland Division of State Documents. “Code of Maryland Regulations Sec 20.50.09.02, General Requirements.” March 31, 2020. <http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.06.htm>

- (1) Small generator facilities using Level 3 interconnection requests are by definition nonexporting systems, and are not allowed to utilize inadvertent exports.
- (2) Small generator facilities may inadvertently export power of a magnitude and duration as evaluated and allowed by the utility and as specified in their interconnection agreement. 30 seconds shall be used as a default inadvertent export duration unless the utility determines that this level duration will violate utility evaluation criteria.
- (3) There are no limits on the number of times inadvertent exports occur in any given customer billing cycle.
- (4) Small generator facilities may not have total inadvertent exports greater than the generating facility nameplate capacity multiplied by 1 hour per customer in each billing cycle.
- (5) In the event that a small generator facility exceeds approved inadvertent export magnitude or duration limits, the small generator facility shall immediately cease to export real power to the grid until acceptable output control has been reestablished.
- (6) If required by the utility, the small generator facility shall be subject to a verification reporting plan to monitor the small generator facility's compliance with any inadvertent export or net system capacity requirements as documented in the interconnection agreement. A verification reporting plan may include periodic reports, online monitoring, or other verification methods, or it may be waived as agreed by the utility and interconnection customer.
- (7) Failure of a small generator facility to demonstrate compliance with the facility's verification reporting plan may result in the suspension of utility approvals in this section until the small generator facility agrees and implements an acceptable corrective action plan with the utility.

While we propose the Maryland approach in our redlines, ESA welcomes further discussion to clarify acceptable export schemes and a process for determining whether inadvertent export will “violate utility evaluation criteria.”

### **III. CONCLUSION**

ESA respectfully submits these proposals to enhance the outcomes of the Commission's Interconnection, Distributed Generation, and Legally Enforceable Obligation Standards, so that customers may more ably interconnect energy storage resources in a transparent, affordable, and streamlined fashion. ESA appreciates having this comment opportunity and looks forward to continuing to work with the Commission and Staff to update its interconnection standards.

RESPECTFULLY SUBMITTED this 1st day of May 2020.

A handwritten signature in black ink, appearing to read 'JB', with a long horizontal flourish extending to the right.

Jason Burwen  
Vice President, Policy  
Energy Storage Association



**STAFF PROPOSAL – SUBJECT TO CHANGE  
February 28, 2020**

**Stakeholder comments are due April 17, 2020**

**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS**

**PUBLIC SERVICE COMMISSION**

**INTERCONNECTION, DISTRIBUTED GENERATION, AND LEGALLY  
ENFORCEABLE OBLIGATION STANDARDS**

(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.)

**PART 1. GENERAL PROVISIONS**

**R 460.901a Definitions; A-I.**

Rule 1a. As used in these rules:

- (a) “AC” means alternating current at 60 Hertz.
- (b) “Affected system” means another electric utility’s distribution system, a municipal electric utility’s distribution system, the transmission system, or transmission system- connected generation which may be affected by the proposed interconnection.
- (c) “Affiliate” means that term as defined in R 460.10102 subrule (1) part (a).
- (d) "Alternative electric supplier" means that term as defined in section 10g of 2000 PA 141, MCL 460.10g.
- (e) "Alternative electric supplier distributed generation program plan" means a document supplied by an alternative electric supplier that provides detailed information to an applicant about the alternative electric supplier's distributed generation program.
- (f) "Alternative electric supplier legacy 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 legacy net metering program.
- (g) “Applicant” means the person or entity submitting an interconnection application, a legacy net metering program application or a distributed generation program application. An applicant is not required to be an existing or future customer of an electric utility.
- (h) “Application” means an interconnection application, a legacy net metering program application, or a distributed generation program application.
- (i) “Approved power purchase agreement” means pursuant to MCL 460.6v(e), upon approval by the Commission, the electric utility must publish on its website templates for power purchase agreements for qualifying facilities that need not include terms for either price or duration of the power purchase agreement.

(j) "Area network" means a location on the distribution system served by multiple transformers interconnected in an electrical network circuit.

(k) "Avoided cost" means the incremental cost to an electric utility of electric energy or capacity which, but for the purchase from the qualifying facility, such utility would generate itself or purchase from another source.

(l) "Business day" means Monday through Friday, starting at 12:00:00 a.m. and ending at 11:59:59 p.m., excluding the following holidays: New Year's Day, Martin Luther King Jr. Day, Presidents Day, Memorial Day, Fourth of July, Labor Day, Election Day, Veterans Day, Thanksgiving Day, Christmas Eve, Christmas Day, and New Year's Eve. Any day that meets the criteria of catastrophic conditions as defined in R 460.702 part (f) may also be excluded.

(m) "Certified" means an inverter-based system has met acceptable safety and reliability standards by a nationally recognized testing laboratory in conformance with IEEE 1547.1 and **the associated UL standard.**

(n) "Cogeneration facility" means a generating facility that sequentially produces electricity and another form of useful thermal energy, such as heat or steam, in a way that is more efficient than the separate production of both forms of energy.

(o) "Commission" means the Michigan public service commission.

(p) "Commissioning test" means the test and verification procedure that is performed on a device or combination of devices forming a system to confirm that the device or system - as designed, delivered and installed - meets the interconnection and interoperability requirements of IEEE 1547-2018. A commissioning test shall include visual inspections and may include, as applicable, an operability and functional performance test.

(q) "Consistent" means the information in an interconnection application conforms with the general principles of distribution system operation and DER characteristics.

(r) "Construction agreement" means an agreement between an interconnection customer and an electric utility that contains timelines and cost estimates for construction of facilities and distribution upgrades to interconnect a DER into the distribution system, and identifies design, procurement, installation and construction requirements associated with installation of the DER.

(s) "Customer" means a person or entity who receives electric service from an electric utility's distribution system or a person who participates in a legacy net metering or distributed generation program through an alternative electric supplier or electric utility.

(t) "DC" means "direct current."

(u) "Distributed energy resource" or DER means a source of electric power and its associated facilities that is connected to a distribution system. DER includes both generators and energy storage technologies capable of exporting active power to a distribution system.

(v) "Distributed generation program" means the distributed generation program approved by the Commission and included in an electric utility's tariff pursuant to Section 6a(14) of 1939 PA 3, or established in an alternative electric supplier distributed generation program plan.

(w) "Distribution system" means the structures, equipment, and facilities operated by an electric utility to deliver electricity to end users, not including transmission and

generation facilities that are subject to the jurisdiction of the federal energy regulatory commission.

(x) "Distribution system study" means a study, conducted under the interconnection standards superseded by R 460.901a – R 460.992, that determined if a distribution system upgrade is needed to accommodate the proposed project and to determine the cost of a distribution upgrade if required.

(y) "Distribution upgrades" means the additions, modifications, or improvements to the distribution system necessary to accommodate a DER's connection to the distribution system.

(z) "Electric utility" means any person or entity whose rates are regulated by the commission for selling electricity to retail customers in this state. For purposes of rules R 460.901a through R460.1001 only, "electric utility" includes cooperative electric utilities who are member regulated as provided in 2008 PA 167.

(aa) "Electrically coincident" means that two or more DERs have operating characteristics and nameplate capacities such that distribution upgrades will be necessary if the DERs are to be installed in physical proximity with each other on a distribution system.

(bb) "Electrically remote" means a DER that is not electrically coincident with any other DER.

(cc) "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 kWac of aggregate generation at a single site for a renewable energy system.

(ii) 550 kWac of aggregate generation at a single site for a methane digester.

(dd) "Engineering review" means a study, conducted under the interconnection standards superseded by R 460.901a – R 460.992, that determined the suitability of the interconnection equipment including any safety and reliability complications arising from equipment saturation, multiple technologies, and proximity to synchronous motor loads.

(ee) "Facilities study" means a study to specify and estimate the cost of the equipment, engineering, procurement and construction work if distribution upgrades are required.

(ff) "Fast track" means the procedure used for evaluating a proposed interconnection that makes use of screening processes, as described in R 460.944 – R 460.950.

(gg) "Force majeure event" means an act of God; labor disturbance; act of the public enemy; war; insurrection; riot; fire, storm or flood; explosion, breakage or accident to machinery or equipment; an emergency order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities; or another cause beyond a party's control. A force majeure event does not include an act of negligence or intentional wrongdoing.

(hh) "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, premise or customer basis.

(ii) "Good standing" means an applicant and all affiliated companies have paid in full all bills rendered by the interconnecting electric utility and any alternative electric supplier in a timely manner and no such bills are in arrears.

(jj) "Governmental authority" means 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 applicant, interconnection customer, electric utility, or any affiliate thereof.

(kk) "GPS" means global positioning system.

(ll) "Grid network" means a configuration of a distribution system or an area of a distribution system in which each customer is supplied electric energy at the secondary voltage by more than one transformer.

(mm) "High voltage distribution" means those parts of a distribution system that operate within a voltage range specified in electric utility's interconnection procedures. For purposes of these rules, the term "subtransmission" means the same as high voltage distribution.

(nn) "IEEE" means institute of electrical and electronics engineers.

(oo) "IEEE 1547-2018" means "IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces.

(pp) "IEEE 1547.1" means IEEE "Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."

(qq) "Inadvertent export" means the unscheduled export of power from a small generator facility, beyond a specified magnitude and for a limited duration, generally due to fluctuations in load-following behavior.

~~(pp)~~(rr) "Independent system operator" means an independent, federally-regulated entity established to coordinate regional transmission in a non-discriminatory manner and ensure the safety and reliability of the transmission and distribution systems.

~~(qq)~~(ss) "Interconnection" means the process undertaken by an electric utility to construct the electrical facilities necessary to connect a DER with a distribution system so that parallel operation can occur.

~~(rr)~~(tt) "Interconnection agreement" means the terms and conditions governing the electrical interconnection between the electric utility and the applicant or interconnection customer.

~~(ss)~~(uu) "Interconnection coordinator" means a person or persons designated by the electric utility who shall serve as the point of contact from which general information on the application process and on affected system(s) can be obtained through informal request from the applicant or interconnection customer.

~~(tt)~~(vv) "Interconnection customer" means the person or entity, which may include the electric utility, responsible for ensuring a DER(s) is operated and maintained in compliance with all local, state and federal laws, as well as with all rules, standards, and interconnection procedures.

~~(uu)~~(ww) "Interconnection facilities" means any equipment required for the sole purpose of connecting a DER with a distribution system.

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

**Commented [ST1]:** From MD Rules (Definitions section):  
<http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.02.htm>

**R 460.901b Definitions; J-Z.**

Rule 1b. As used in these rules

- (a) "kW" means kilowatt.
- (b) "kWac" means the electric power, in kilowatts, associated with the alternating current output of a DER at unity power factor.
- (c) "kWh" means kilowatt-hours.
- (d) "Legacy net metering program" means the true net metering or modified net metering programs in place prior to Commission approval of a distributed generation program tariff pursuant to Section 6a(14) of 1939 PA 3 and prior to the establishment of an alternative electric supplier distributed generation plan.
- (e) "Level 1" means a certified inverter-based project of 20 kWac or less.
- (f) "Level 2" means a project of 20 kWac or less that is not certified and not inverter-based or a project of greater than 20 kWac and not more than 150 kWac.
- (g) "Level 3" means a project of greater than 150 kWac and not more than 550 kWac.
- (h) "Level 4" means a project of greater than 550 kWac and not more than 1 MWac.
- (i) "Level 5" means a project of greater than 1 MWac and not more than 3 MWac.
- (j) "Level 6" means a project of greater than 3 MWac.
- (k) "Mainline" means a conductor that serves as the three-phase backbone of a circuit.
- (l) "Material modification" means a modification to DER nameplate rating, electrical size of components, bill of materials, machine data, equipment configuration or the interconnection site of the DER at any time after receiving notification by the electric utility of a complete interconnection application that has a material impact on one or more of the following: 1) the cost, timing, or design of any equipment located between the point of common coupling and the DER; 2) the cost, timing or design of any other application; 3) the electric utility's distribution system or an affected system; or 4) the safety or reliability of the distribution system.
- (m) "Methane digester" means a renewable energy system that uses animal or agricultural waste for the production of fuel gas that can be burned for the generation of electricity or steam.
- (n) "Modified net metering" means an electric 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 electric utility's distribution system during a billing period or time-of-use pricing period.
- (o) "MW" means megawatt.
- (p) "MWac" means the electric power, in megawatts, associated with the alternating current output of a DER at unity power factor.
- (q) "Nameplate rating" means nominal voltage (V), current (A), maximum active power (kWac), apparent power (kVA), and reactive power (kvar) at which a DER is capable of sustained operation.
- (r) "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.

~~(s)~~ (s) "Net system capacity" means the total export capacity at a point of common coupling of a small generator facility as measured by the nameplate capacities of all power production units and energy storage devices minus their consumption of electrical power, if applicable, as limited through the use of a control system, power relays, or other similar device settings or adjustments.

~~(s)(t)~~ (t) "Network protector" means those devices used on the distribution system to automatically disconnect a transformer when reverse power flow occurs.

~~(t)(u)~~ (u) "Non-export track" means the procedure for evaluating a proposed interconnection that will not inject electric energy into an electric utility's distribution system, as described in R 460.942.

~~(u)(v)~~ (v) "Parallel operation" means the operation, for longer than 100 milliseconds, of a DER while connected to the energized distribution system.

~~(v)(w)~~ (w) "Party" or "parties" means the electric utility, applicant or the interconnection customer.

~~(w)(x)~~ (x) "Point of common coupling" means the point where the DER connects with the electric utility's distribution system.

~~(y)~~ (y) "Proposed use" means the operational control modes of a small generator facility upon which the applicant's technical review is based and under which the small generator facility is bound to operate upon the execution of the interconnection agreement. Proposed use for a small generator facility includes a combination of electric generators and energy storage devices operating in specified operational control modes during specified time periods.

~~(z)~~ (z) "Qualifying facility" means a small power production facility or cogeneration facility per the Public Utility Regulatory Policies Act (16 U.S.C. 2601).

~~(aa)~~ (aa) "Radial supply" means a configuration of a distribution system or an area of a distribution system in which each customer can only be supplied electric energy by one substation.

~~(bb)~~ (bb) "Readily available" means no creation of data is required, and little or no computation or analysis of data is required.

~~(cc)~~ (cc) "Reasonable efforts" means, with respect to an action required to be attempted or taken by a party under these interconnection rules, efforts that are as timely as possible and consistent with those a party would take to protect its own interests.

~~(dd)~~ (dd) "Regional transmission operator" means a voluntary organization of electric transmission owners, transmission users and other entities approved by the federal energy regulatory commission to efficiently coordinate electric transmission planning, expansion, operation and use on a regional and interregional basis.

~~(ee)~~ (ee) "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.

~~(ff)~~ (ff) "Renewable energy resource" means that term as defined in section 11(i) of 2008 PA 295, MCL 460.1011(i).

~~(gg)~~ (gg) "Renewable energy system" means that term as defined in section 11(k) of 2008 PA 295, MCL 460.1011(k).

~~(hh)~~ (hh) "Secondary network" means those areas of a distribution system that operate at a secondary voltage level.

**Commented [ST2]:** From MD Rules (Definitions section): <http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.02.htm>

**Commented [ST3]:** From MD Rules (Definitions section): <http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.02.htm>

MD's rules state "Proposed Use" as two separate sentences (under a "Proposed Use" section in the definitions). The only change made here was to consolidate the two sentences.

- ~~(gg)~~(ii) "Simplified track" means the procedure for evaluating a Level 1 proposed interconnection, as described in R 460.940.
- ~~(hh)~~(jj) "Small power production facility" means a generating facility of 80 MW or less whose primary energy source is renewable, including hydro, wind, solar, biomass, waste, or geothermal resources.
- ~~(ii)~~(kk) "Spot network" means a location on the distribution system that uses 2 or more inter-tied transformers to supply an electrical network circuit, such as a network circuit in a large building.
- ~~(jj)~~(ll) "Standard offer power purchase agreement" means a contract for qualifying facilities that meet commission-established criteria and are approved by the commission.
- ~~(kk)~~(mm) "Standard offer rate" means a tariffed rate paid to qualifying facilities through a standard offer power purchase agreement with the electric utility.
- ~~(ll)~~(nn) "Study track" means the procedure for evaluating a proposed interconnection that is ineligible for, or did not pass, the fast track, and which includes, at a minimum, a scoping meeting, a system impact study, and a facilities study.
- ~~(mm)~~(oo) "System impact study" means a study to identify and describe the impacts to the electric utility's distribution system that would occur if the proposed DER were interconnected exactly as proposed and without any modifications to the electric utility's distribution system. A system impact study also identifies affected systems.
- ~~(nn)~~(pp) "True net metering" means an electric 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 electric utility's distribution system, during a billing period or time-of-use pricing period.
- ~~(oo)~~(qq) "UL" means underwriters laboratory.
- ~~(pp)~~(rr) "UL 1741" means the "Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources."

**R 460.902 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, January 28, 2010 revision, is available from COMM 2000, 151 Eastern Avenue, Bensenville, IL 60106, USA, telephone number: 1-888-853-3512 or via the internet website: [www.shopulstandards.com](http://www.shopulstandards.com) at a cost of \$716.00 - \$897.00 at the time of adoption of these rules.

(b) ANSI C84.1 – 2016 Electric Power Systems and Equipment – Voltage Ratings (60 Hz), 6/9/2016, is available from the American National Standards Institute, Inc. at the internet website <https://webstore.ansi.org/> at a cost of \$111.24 at the time of adoption of these rules.

(c) The following standards are available from IEEE at the internet website <https://standards.ieee.org> at the time of adoption of these rules.

(i) The IEEE 1453-2015, IEEE Recommended Practice for the Analysis of Fluctuating Installations on Power Systems, 10/30/2015, is available at a cost of \$99.00 - \$147.00 at the time of adoption of these rules.

(ii) The IEEE 1547 - 2018, IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power System Interfaces, 4/6/2018, is available at a cost of \$149.00 - \$224.00 at the time of adoption of these rules.

(iii) The IEEE 1547.1, IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems, 7/1/2005, is available at a cost of \$81.00 - \$95.00 at the time of adoption of these rules.

(iv) The IEEE 519-2014 IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems, 6/11/2014, is available at a cost of \$52.00 - \$66.00 at the time of adoption of these rules.

(2) The commission has copies of the standards specified in subrule (1) available for inspection and distribution at cost at its offices located at 7109 W. Saginaw Hwy., Lansing, Michigan 48917-1120. The mailing address is Michigan Public Service Commission, P.O. Box 30221, Lansing, Michigan 48909-0221.

#### **R 460.904 Informal mediation.**

Rule 4. (1) The parties shall attempt to resolve all disputes arising out of the interconnection process, as defined by R 460.901a through R 460.992, according to the provisions of this rule.

(2) Prior to formal mediation, as discussed in R 460.906, the parties must attempt to resolve any conflict without commission intervention through direct discussion and informal negotiation.

(3) In the event that parties are unable to resolve the dispute privately, the parties may, by mutual agreement, make a written request for informal mediation to the commission staff. The informal mediation shall be conducted by an interconnection ombudsperson who shall be a member of the commission staff and designated by the commission. Both parties may choose to have attorneys or appropriate representation present.

(4) Both parties will discuss relevant facts pertaining to the dispute and the relief being sought. The interconnection ombudsperson and relevant commission staff shall be present to facilitate the discussion and provide guidance between the parties. Parties shall operate in good faith and use best efforts to resolve the dispute.

(5) If a resolution is reached by the end of the meeting or meetings, the parties may draft a resolution of the dispute.

(6) If the parties reach impasse and are unable to resolve the dispute, the parties shall proceed to the formal mediation process described in Rule 906.

#### **R 460.906. Formal mediation.**



Rule 6. If parties have been unable to resolve a dispute through the informal mediation process per R 460.904, the parties shall then attempt to resolve the dispute in the following manner:

(a) The complaining party shall file a written notice of dispute with the commission. The notice of dispute shall state the rules the party alleges have been violated, sufficient facts to support the allegations, the relief requested, and shall further contain all information, testimony, exhibits, or other documents and information within the moving party's possession on which the party intends to rely to support the party's position.

(b) The complaining party shall give notice that it is invoking the procedures in this rule. The complaining party shall send the notice to the non-complaining party's email address and shall file the notice with the commission.

(c) The non-complaining party shall acknowledge the notice of dispute within five (5) business days of its receipt and identify a representative with the authority to make decisions on its behalf with respect to the dispute.

(d) An administrative law judge shall serve as the mediator in these proceedings. The administrative law judge may request and receive assistance from commission staff.

(e) Within 60 business days from the date the non-complaining party acknowledges the dispute, the mediator shall issue a recommended settlement.

(f) Within five (5) business days after the date the recommended settlement is issued, each party shall file with the commission a written acceptance or rejection of the recommended settlement. If the parties accept the recommendation, then the recommendation shall become an order. If a party rejects or fails to respond within five (5) business days to the recommended settlement, then the dispute shall proceed to a contested case hearing before the commission as provided under R 460.17101 to R 460.17701.

#### **R 460.908 Appointment of experts.**

Rule 8. (1) If a complaint is filed against an electric utility regarding a technical issue, the commission may, at its discretion, appoint 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 appointed pursuant to subrule (1), including a reasonable hourly fee or fee determined by the commission, shall be submitted by such experts 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 460.910 Waivers.**

Rule 10. (1) An electric utility, qualifying facility, customer, alternative electric supplier, applicant or interconnection customer may apply for a waiver from 1 or more

provisions of these rules and may request expeditious processing. The commission may grant a waiver upon a showing of good cause and a finding that the waiver is in the public interest.

(2) In the event an electric utility is experiencing an inordinate volume of applications, the electric utility may apply for a waiver and the commission may consider such a waiver in an expeditious manner including granting interim relief as appropriate.

## **PART 2. INTERCONNECTION STANDARDS**

### **R 460.912 Applicability**

Rule 12. (1) Rules governing interconnection standards do not apply to DERs already interconnected prior to the effective date of these rules. These rules apply to applications to modify existing DERs if the application to modify is submitted on or after the effective date of these rules.

(2) The electric utility may withdraw interconnection applications that are incomplete on the effective date of these rules. The electric utility may also, after corrections are made, include such interconnection applications in transition batch 2.

### **R 460.914. Transition non-study group.**

Rule 14. (1) Interconnection applications that were accepted before the effective date of these rules and do not meet the eligibility criteria of transition batch 1 or transition batch 2 shall be placed into the transition non-study group.

(2) The electric utility shall determine whether an interconnection application in the transition non-study group is eligible to go through the simplified track, the non-export track or the fast track within twenty (20) business days of the effective date of these rules.

(3) Interconnection applications in the transition non-study group may be processed in conjunction with transition batch 1 and 2. The timelines for the electric utility to review an application in the simplified track, the non-study track, and the fast track shall be waived for interconnection applications in the transition non-study group.

### **R 460.916. Advanced legacy applications**

Rule 16. (1) For applicants with interconnection applications that have complete distribution studies as of the effective date of these rules, the interconnection shall be completed according to existing contractual arrangements.

(2) For those interconnection applications that have complete distribution studies but no contractual arrangements, the interconnection application shall proceed to R 460.964 if construction is required or R 460.966 if no construction is required.

(3) If the applicant has taken no meaningful action to begin completing the interconnection process within sixty (60) business days of the effective date of these rules, the electric utility may consider the application withdrawn.

### **R 460.918. Transition batch**

Rule 18. (1) The transition batch shall begin eighty (80) business days after the effective date of these rules.

- (2) Interconnection applications shall be eligible to join the transition batch if the following requirements are met:
- (a) The application does not qualify for simplified track, non-export track or fast track.
  - (b) The application was accepted at any time prior to the start of transition batch, including prior to the effective date of these rules.
- (3) The applicant with an eligible interconnection application pursuant to subrule (2) may join the transition batch by signing a transition batch agreement and paying the required fee before the start of the transition batch.
- (4) Pre-application reports are not required for interconnection applications accepted before the effective date of these rules.
- (5) Eligible applicants with interconnection applications accepted before the effective date of these rules and do not join the transition batch shall have their applications terminated by the electric utility.
- (6) The interconnection applications in the transition batch shall be studied simultaneously by the electric utility.
- (7) The electric utility shall process the transition batch in one year or less. The start date for the transition batch shall be specified in the electric utility's interconnection procedures and shall be published on the electric utility's public website.
- (8) The electric utility shall hold a scoping meeting, either in-person or via telecommunications, with every applicant in the transition batch. The scoping meetings and the electric utility shall meet the following requirements:
- (a) All meetings shall take place within the first 30 days of the transition batch.
  - (b) An electric utility shall not begin studies within the transition batch until it has held a scoping meeting with every applicant. The electric utility may begin the batch study in the event that one or more applicants is unreasonably delaying a meeting.
  - (c) Scoping meetings are limited to one (1) hour per application. Multiple applications by the same applicant may be addressed in the same meeting.
  - (d) During the scoping meeting, the electric utility shall identify and communicate to each applicant the studies it plans to perform and provide the cost of the batch study, using the prevailing fees in the interconnection procedures and with the assumption that all applicants will stay in the transition batch throughout the batch study.
- (9) Any DERs that are installed on the electric utility's distribution system, under construction or associated with signed interconnection agreements at the start of the transition batch study may be considered as preconditions for the transition batch study.
- (10) The transition batch process shall consist of a system impact study and a facilities study. The electric utility may specify additional studies it may perform on the transition batch in its interconnection procedures. The initial review screens and supplemental review screens may be considered additional studies.
- (11) Interconnection applications within the transition batch shall be considered equal priority with each other.
- (12) The electric utility shall follow R 460.960 subrules (1) and (2) when conducting a system impact study. However, applicants that have a completed engineering review shall not have to pay for a system impact study.

(13) The electric utility shall follow R 460.962 subrule (1) when conducting a facilities study.

(14) The electric utility shall provide written study results to each applicant at the completion of each study during the transition batch. At least one conference call shall be held with each transition batch applicant at the completion of each study, with the electric utility taking reasonable efforts to accommodate applicants' availability when scheduling the call. The electric utility may choose to group the consultation of multiple projects by one applicant and its affiliates into the same conference call. This conference call shall provide a summary of outcomes and answer questions from applicants.

(15) Within fifteen (15) business days following the phone conference, the applicant shall choose to either continue in the transition batch or withdraw. The fee for the next study in the transition batch shall be due by the end of the fifteen (15) business day period, unless extended by the electric utility. Applicants that withdraw from the transition batch may reapply with a new interconnection application to the next batch study.

(16) Applicants may reduce the capacity of the DER by up to 20% during the decision period between studies, up through the system impact study. If the applicant wishes to increase the capacity of the DER, the applicant may be required to submit a new interconnection application for a future batch study and pay the appropriate fees.

(17) At the completion of the transition batch:

(a) A construction agreement, if needed, shall be provided with the final report and the applicant shall proceed to R 460.964.

(b) If the study indicates that no construction or modification is required, the applicant shall proceed to R 460.966.

(18) A transition batch study is considered complete when all transition batch applicants, except those applicants whose DERs are still causing unresolved affected system issues, have withdrawn, signed a construction agreement, or proceeded to R 460.966.

#### **R 460.920 Electric utility interconnection procedures.**

Rule 20. (1) Each electric utility shall file applications for approval of interconnection procedures and forms, following input from interested parties, within ten (10) business days of the effective date of these rules. The commission shall conduct a contested case hearing on the proposed interconnection procedures pursuant to the administrative procedures act of 1969, 1969 PA 306, MCL 24.201- 24.328.

(2) Interconnection procedures and forms shall be approved by the commission within 360 days of the effective date of these rules. If the commission finds the procedures and forms proposed by the electric utility to be inadequate or unacceptable, the commission may adopt procedures and forms proposed by another party in the contested case.

(3) Until the commission accepts or rejects the interconnection procedures and forms, the electric utility may use the proposed interconnection procedures and forms when processing interconnection applications.

(4) Two or more electric utilities may file a joint application proposing interconnection procedures for use by the joint applicants. The proposed interconnection procedures shall ensure compliance with these rules.

(5) The proposed interconnection procedures shall, at a minimum, include the following:

- (i) All necessary applications, forms, and boilerplate agreements.
  - (ii) Schedule of all applicable fees.
  - (iii) Voltage ranges for high voltage distribution.
  - (iv) Required initial review screens
  - (v) Additional initial review screens proposed by the electric utility.
  - (vi) Required supplemental review screens
  - (vii) Additional supplemental review screens proposed by the electric utility.
  - (viii) Start and end dates of a batch study.
  - (ix) The process for conducting system impact studies on DERs when there is an affected system.
  - (x) Testing and certification requirements of DER telecommunications, cybersecurity, data exchange, and remote controls operation.
  - (xi) Parallel operation requirements
  - (xii) An estimate of the expected annual kWh output of the generator(s).
  - (xiii) Details describing how energy storage equipment may be integrated into an existing legacy net metering program system without impacting the 10-year grandfathering period.
  - (xiv) For electric utilities that are member regulated electric cooperatives, a procedure for fairly processing applications in instances in which the number of applications exceed the capacity of the electric cooperative to timely meet the deadlines in these rules.
- (6) An electric utility must obtain commission approval to revise its interconnection procedures.

**R 460.922 Online applications and electronic submission**

Rule 22. (1) Each electric utility shall allow pre-application report requests and interconnection applications to be submitted electronically; such as, through the electric utility's website or via email. The electric utility shall allow the interconnection agreement to be submitted electronically.

(2) Each electric utility shall dedicate a page on their website or direct customers to a website with generic information on these rules. The relevant information that shall be available to the applicant or interconnection customer via a website includes:

- (a) These rules and interconnection procedures in an electronically searchable format;
- (b) The electric utility's applications and all associated forms in a format that allows for electronic entry of data;
- (c) Example documents; including, at a minimum, a one-line diagram with required labels;
- (d) Contact information for the electric utility's DER interconnection coordinator(s), including email and phone number.
- (e) Directions for the submission of applications.

**R 460.924 Communications**

Rule 24. (1) The electric utility shall designate one or more interconnection coordinators. The telephone number, and e-mail address of such interconnection coordinator(s) shall be made available on the electric utility's website. The interconnection coordinator(s) shall be available to provide assistance to the applicant or interconnection customer, but is not responsible to directly answer or resolve all of the issues that may arise in the interconnection process.

(2) The applicant may designate an application agent. An application agent may serve as the single point of contact for the applicant and may coordinate with the electric utility on the applicant's behalf. Designation of an application agent does not absolve the applicant from signing interconnection documents and from the responsibilities outlined in these rules and interconnection agreement.

(3) The electric utility shall be indemnified by the applicant and its application agent with respect to any and all assistance provided by the interconnection coordinator(s).

#### **R 460.926 Initial fees**

Rule 26. (1) After adoption of these rules, fees for the pre-application report, the simplified track evaluation, and the fast track initial review shall be set at initial fee amounts that shall remain in effect until modified by the commission per the provisions of R 460.920. All other fees and costs may be actual costs until the commission sets fixed fees for such fees and costs per the provisions of R 460.920.

(2) The initial fee amounts are as follows:

(a) The pre-application report fee shall be \$300.

(b) The simplified track fee shall be \$50.

(c) The fee for an initial review, when performed as part of fast track, shall be up to \$100 + \$1/kWac.

(3) The initial fees listed in subrule (2) shall be displayed prominently on the electric utility's interconnection website.

#### **R 460.928 Fee modifications**

Rule 28. (1) The initial fees specified in R 460.926 may be reviewed by the electric utility after adoption of these rules and adjusted, if necessary, subject to commission review and approval. The adjusted fees shall be listed in the electric utility's interconnection procedures.

(2) The prevailing fees may be reviewed at any time by the electric utility and adjusted, if necessary, subject to commission review and approval.

(3) The adjusted fees shall be specific to level size and be based on estimates of reasonable costs to perform the applicable service or study.

#### **R 460.930 Pre-application report request form**

Rule 30. (1) An applicant may submit a completed pre-application report request form along with an associated fee for a pre-application report on a proposed level 1 or level 2-sized DER.

(2) An applicant shall submit a completed pre-application report request form along with an associated fee for a pre-application report on a proposed level 3, level 4, level 5, or level 6-sized DER.

(3) The pre-application report request form shall include the following information:

- (a) Project contact information, including name, address, phone number, and email address.
- (b) Project location, which may be given by street address with nearby cross streets and town; an aerial map with location clearly marked; or GPS coordinates.
- (c) Meter number, structure number, or other equivalent information identifying the proposed point of common coupling, if available.
- (d) Whether the DER is solar, wind, cogeneration, storage, solar with storage, or some other type.
- (e) Nameplate rating of the DER in alternating current kW.
- (f) Whether the DER configuration is single or three phase.
- (g) Whether the DER will be a stand-alone generator, meaning no onsite load other than station service.
- (h) Whether new service is requested. If there is existing service, the customer account number and site minimum and maximum current or proposed electric loads in kW, if available, shall be included. In addition, how the load is expected to change shall be specified.

**R 460.932 Pre-application report**

Rule 32. (1) Using the information provided in the pre-application report request form described in R 460.930, the electric utility will identify the substation bus, bank or circuit most likely to serve the point of common coupling. This selection by the electric utility does not necessarily indicate that this would be the circuit to which the project ultimately connects.

(2) The applicant may request additional pre-application reports if information about multiple points of common coupling is desired. No more than ten (10) pre-application report requests may be submitted by a applicant and its affiliates during a one-week period. Additional pre-application report requests may be rejected by the electric utility.

(3) The pre-application report shall include the following information:

- (a) Total capacity, in MW, of substation bus, bank or circuit based on normal or operating ratings likely to serve the proposed point of common coupling.
- (b) Existing aggregate generation capacity, in MW, interconnected to a substation bus, bank or circuit likely to serve the proposed point of common coupling.
- (c) Aggregate capacity, in MW, of generation not yet built but found in previously accepted interconnection applications, for a substation bus, bank or circuit likely to serve the proposed point of common coupling.
- (d) Available capacity, in MW, of substation bus, bank or circuit likely to serve the proposed point of common coupling.
- (e) Substation nominal distribution voltage.
- (f) Nominal distribution circuit voltage at the proposed point of common coupling.
- (g) Label, name, or identifier of the distribution circuit on which the proposed point of common coupling is located.

(h) Approximate circuit distance between the proposed point of common coupling and the substation.

(i) The actual or estimated peak load and minimum load data at any relevant line section(s), including daytime minimum load and absolute minimum load, when available. If not readily available, whether the generator is expected to exceed minimum load on the circuit.

(j) Whether the point of common coupling is located behind a line voltage regulator and whether the substation has a load tap changer.

(k) Limiting conductor ratings from the proposed point of common coupling to the distribution substation.

(l) Number of phases available at the primary voltage level at the proposed point of common coupling. If a single phase, distance from the three-phase circuit.

(m) Whether the point of common coupling is located on a spot network, grid network, radial supply, or secondary network.

(n) Based on the proposed point of common coupling, if power quality issues may be present on the circuit.

(o) Whether or not the area has been identified as having a prior affected system.

(p) Whether or not the site will require a system impact study for high voltage distribution based on size, location and existing system configuration.

(4) The pre-application report need only include existing and readily available data. A request for a pre-application report does not obligate the electric utility to conduct a study or other analysis of the proposed DER in the event that data is not readily available. If the electric utility cannot complete all or some of a pre-application report due to lack of available data, the electric utility shall provide the applicant with a pre-application report that includes the data that is readily available. The pre-application report shall also list any information in subrule (3) parts (a) – (p) that are not readily available. The electric utility may, at its discretion, return any of the pre-application report fee on the basis that some or all information does not exist.

(5) Pre-application report requests shall be processed in the order in which the electric utility received the requests.

(6) The electric utility shall provide the data required in the pre-application report to the applicant within twenty-five (25) business days of receipt of the completed request form and payment of the fee. The pre-application report produced by the electric utility is non-binding, does not confer any rights, and the applicant must still successfully apply to interconnect to the electric utility's distribution system.

#### **R 460.934 Site control.**

Rule 34. (1) Documentation of site control must be submitted with the application.

(2) For DERs with greater than 150 kWac nameplate capacity, site control may be demonstrated through providing documentation showing any of the following:

(a) Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing and operating the DER; or

(b) An option to purchase or acquire a leasehold site for such purpose; or



(c) A legally binding agreement transferring a present real property right to specified real property along with the right to construct and operate a DER on the specified real property for a period of time not less than 5 years.

(3) For DERs with 150 kWac or less nameplate capacity, proof of site control may be demonstrated by the site owner's signature on the application.

(4) An applicant may redact sensitive information from site control documents.

#### **R 460.936 Interconnection applications**

Rule 36. (1) The electric utility shall provide an interconnection application for an applicant to complete, including for those applicants whose DERs will be configured to not inject electric energy into the distribution system.

(2) All documents required for a complete interconnection application must be listed on the interconnection application itself.

(3) For interconnection applications with proposed DERs that fall into level 1, the applicant shall provide a one-line diagram and site diagram.

(4) For interconnection applications with proposed DERs that fall into levels 2 and 3, the applicant shall provide a one-line diagram that is sealed by a licensed professional engineer licensed in the state of Michigan or signed by an electrical contractor licensed by the state of Michigan with the electrical contractor's license number noted on the diagram. The applicant shall also provide a site diagram.

(5) For interconnection applications with proposed DERs that fall into levels 4 and above, the applicant shall provide a one-line diagram that is sealed by a professional engineer licensed in the state of Michigan. The applicant shall also provide a site diagram.

(6) Applications shall be reviewed for completeness and consistency in the order in which they were received. An application is considered received when the application, the application's attachments, and the application fee is received by the electric utility. The application will be date-stamped for the first business day when the electric utility has the interconnection application, the application attachments and payment of the application fee. The applicant shall be notified of receipt by the electric utility by the end of the third business day following the date of the date stamp.

(7) The electric utility shall notify the applicant as to whether the interconnection application is complete and consistent or incomplete and inconsistent within ten (10) business days of the date stamp.

(a) If an interconnection application is determined to be complete and consistent by the electric utility, the applicant shall be notified that the interconnection application is considered accepted. The electric utility shall also indicate whether the interconnection application is eligible for simplified track, non-export track, fast track or study track.

(b) If the application is incomplete or inconsistent, the electric utility will provide a written list of all deficiencies to the applicant with the notification. The applicant shall have sixty (60) business days to resolve deficiencies and may submit information to the electric utility in piecemeal fashion during this period. After each attempt, the electric utility shall have ten (10) business days to evaluate the newly submitted information and inform the applicant that the interconnection application is either accepted or not accepted due to continuing deficiencies.

(8) The electric utility shall use the same reasonable efforts when processing and studying interconnection applications from all applicants, whether the DER is owned or operated by the electric utility, its subsidiaries or affiliates, or others, with the exception of temporary DER such as emergency generation and battery storage.

(9) The electric utility shall review and update interconnection applications periodically to reflect new information required to properly review DERs, subject to commission review and approval.

(10) ~~Inadvertent Export, Net System Capacity, and Proposed Use for Small Generator Facilities with Energy Storage Devices. Utilities shall approve interconnection requests for inadvertent export, net system capacity, and proposed use for small generator facilities subject to the following requirements:~~

- (a) ~~Small generator facilities using Rule 42 for interconnection requests are by definition nonexporting systems, and are not allowed to utilize inadvertent exports.~~
- (b) ~~Small generator facilities may inadvertently export power of a magnitude and duration as evaluated and allowed by the utility and as specified in their interconnection agreement. 30 seconds shall be used as a default inadvertent export duration unless the utility determines that this level duration will violate utility evaluation criteria.~~
- (c) ~~There are no limits on the number of times inadvertent exports occur in any given customer billing cycle.~~
- (d) ~~Small generator facilities may not have total inadvertent exports greater than the generating facility nameplate capacity multiplied by 1 hour per customer in each billing cycle.~~
- (e) ~~In the event that a small generator facility exceeds approved inadvertent export magnitude or duration limits, the small generator facility shall immediately cease to export real power to the grid until acceptable output control has been reestablished.~~
- (f) ~~If required by the utility, the small generator facility shall be subject to a verification reporting plan to monitor the small generator facility's compliance with any inadvertent export or net system capacity requirements as documented in the interconnection agreement. A verification reporting plan may include periodic reports, online monitoring, or other verification methods, or it may be waived as agreed by the utility and interconnection customer.~~
- (g) ~~Failure of a small generator facility to demonstrate compliance with the facility's verification reporting plan may result in the suspension of utility approvals in this section until the small generator facility agrees and implements an acceptable corrective action plan with the utility.~~
- ~~(a)~~

**Commented [ST4]:** From MD Rules (General Requirements section):  
<http://www.dsd.state.md.us/comar/comarhtml/20/20.50.09.06.htm>

The only modification made was changing "Level 3" in MD's rules to "Rule 42" so it would be consistent with MI's rules.

**R 460.938. Public interconnection list.**

Rule 38. (1) Each electric utility that has received at least one-hundred (100) complete interconnection applications in a year shall maintain a public interconnection list, available in a sortable spreadsheet format on its website, which it shall update on at

least a monthly basis unless no changes to the spreadsheet have occurred in that month. The date of the most recent update shall be clearly indicated.

(2) At a minimum, the following shall be included in the public interconnection list:

- (a) application identifier
- (b) date of application receipt
- (c) date application deemed complete
- (d) whether the application is fast track or study track
- (e) proposed DER nameplate capacity
- (f) proposed DER interconnection size level
- (g) DER type
- (h) the county and township in which the proposed point of common coupling will be located.
- (i) current status of the application's progress in the interconnection process

(3) The labels, names or identifiers of the distribution circuit and substation may also be included in the public interconnection list.

#### **R 460.940. Simplified track review**

Rule 40. (1) Level 1 applications shall be eligible for simplified track review.

(2) Within ten (10) business days after the notification of application acceptance, the electric utility shall perform a review using some or all of the initial review screens set forth in the electric utility's interconnection procedures and notify the applicant if any distribution upgrades, further study or application modifications are required for safe and reliable interconnection to the electric utility's distribution system or for tariff compliance.

(3) If the notification indicates that no interconnection facilities, distribution upgrades, further study, or application modifications are required, the applicant shall proceed to R 460.966.

(4) If application modification is an option or is required by the electric utility, the applicant shall have the lesser of sixty (60) business days from the date of electric utility notification or two (2) resubmissions to provide a modified application to address the issues identified by the electric utility prior to the application being automatically withdrawn. Once the applicant provides a modified application, the electric utility shall follow the procedure set forth in subrule (2).

(5) If interconnection facilities or distribution upgrades are required, the applicant shall proceed to R 460.964.

(6) If further study is required, the electric utility and the applicant shall decide whether to proceed to a supplemental review per R 460.950 or the study track per R 460.952, or withdraw. The applicant shall have twenty (20) business days to decide on a course of action and notify the electric utility or the application shall be automatically withdrawn.

#### **R 460.942. Non-export track review**

Rule 42. (1) Interconnection applications for DERs that will not inject electric energy into an electric utility's distribution system shall be eligible to be evaluated under the

non-export track. Non-export eligibility requires an existing electrical service at the applicant premise.

(2) A non-export track applicant, prior to submitting an interconnection application, may contact the electric utility for assistance in determining whether a non-export interconnection can be performed at their site. The electric utility shall provide the applicant assistance based on information that is readily available. Should the applicant choose to proceed, an interconnection application shall be submitted pursuant to R 460.936.

(3) Within twenty (20) business days after the notification of application acceptance, the electric utility shall perform an initial review using some or all of the initial review screens set forth in the electric utility's interconnection procedures and notify the applicant of the results.

(a) If the notification indicates that no distribution upgrades, further study, or application modifications are required, the electric utility shall provide specifications for any equipment the applicant will be required to install, such as reverse power relaying, within ten (10) business days of notifying the applicant. The applicant shall then proceed to R 460.966.

(b) If interconnection application modification is an option or is required by the electric utility, the applicant shall have the lesser of sixty (60) business days from the date of electric utility notification or two (2) resubmissions to provide a modified interconnection application to address the issues identified by the electric utility prior to the application being automatically withdrawn. Once the applicant provides a modified application, the electric utility shall follow the procedure set forth in subrule (3).

(c) If distribution upgrades are required, the applicant shall proceed to R 460.964.

(d) If further study is required, the electric utility and the applicant shall decide whether to proceed to a supplemental review per R 460.950 or the study track per R 460.952, or withdraw. The applicant shall have twenty (20) business days to decide on a course of action and notify the electric utility or the application shall be automatically withdrawn.

(4) Changing from non-exporting to an exporting system will require a new interconnection application to be submitted.

#### **R 460.944. Fast track applicability.**

Rule 44. (1) The fast track shall be available to an applicant proposing to interconnect a DER with the electric utility's distribution system if all of the following requirements are met:

- a) The DER is a level 2, level 3, or level 4 interconnection;
- b) The applicant is not proposing to interconnect the DER with the electric utility's high voltage distribution system or the transmission system.

(2) An applicant eligible for fast track may forgo the fast track and proceed directly to the study track.

(3) An applicant may petition the electric utility to evaluate under fast track a DER that is outside the limitations set forth in subrule (1). The electric utility may approve or deny this request at its discretion.

(4) In determining fast track eligibility, an electric utility may aggregate all generation on a site regardless of the existence of a shared point of common coupling or multiple points of common coupling.

**R 460.946. Fast track - initial review**

Rule 46. (1) The electric utility shall list in its interconnection procedures the initial review screens shown in subrule (4).

(2) The electric utility may waive application of one, some, or all of the initial review screens based on the characteristics of the DER and the distribution system. The electric utility shall not require a supplemental review, a system impact study or a facilities study if the DER passes the limited set of initial review screens.

(3) The electric utility may include additional initial review screens in its interconnection procedures that are distinct from the initial review screens shown in subrule (4).

(a) In its application requesting approval of interconnection procedures, the electric utility shall provide a detailed technical rationale for including each additional screen.

(b) Any additional screen proposed by the electric utility shall not negate or undermine any of the initial review screens shown in subrule (4).

(4) Within twenty (20) business days after the applicant pays the initial review fee, the electric utility shall perform an initial review using one, some or all of the initial review screens shown in subrule (4) and notify the applicant of the results.

(5) The initial review screens are as follows:

(a) The proposed DER in its entirety, including all aggregated site generation and point(s) of interconnection, must be located within the electric utility's service territory.

(b) For interconnection of a proposed DER to a radial distribution circuit, the aggregated generation, including the proposed DER, on the circuit shall not exceed 15% of the line section annual peak load as most recently measured. A line section is that portion of an electric utility's distribution system connected to a customer bounded by automatic sectionalizing devices or the end of the distribution line. The electric utility may consider 100% of applicable loading, if available, instead of 15% of line section peak load.

(c) For interconnection of a proposed DER to the load side of network protectors, the proposed DER must utilize an inverter-based equipment package and, together with the aggregated other inverter-based DERs, shall not exceed the smaller of 5% of a network's maximum load or 50 kWac.

(d) The proposed DER, in aggregation with other DERs on the distribution circuit, shall not contribute more than 10% to the distribution circuit's maximum fault current at the point on the primary voltage nearest the proposed point of interconnection.

(e) The proposed DER, in aggregate with other DERs on the distribution circuit, shall not cause any distribution protective devices and equipment or interconnection customer equipment on the system to exceed 87.5% of the short circuit interrupting capability; nor shall the interconnection be proposed for a circuit that already exceeds 87.5% of the short circuit interrupting capability.

Distribution protective devices and equipment includes, but is not limited to, substation breakers, fuse cutouts, and line reclosers.

(f) Using the table below, determine the type of interconnection to a primary distribution line. This screen includes a review of the type of electrical service provided to the interconnection customer, including line configuration and the transformer connection to limit the potential for creating over-voltages on the electric utility's distribution system due to a loss of ground during the operating time of any anti-islanding function.

<b>Primary Distribution Line Type</b>	<b>Type of Interconnection to Primary Distribution Line</b>	<b>Result/Criteria</b>
Three-phase, three wire	Three-phase or single phase, phase-to-phase	Pass screen
Three-phase, four wire	Effectively-grounded three phase or single-phase, line-to-neutral	Pass screen

(g) If the proposed DER is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed DER, shall not exceed 20 kWac or 65% of the transformer nameplate rating.

(h) If the proposed DER is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall 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.

(i) If the proposed DER is single-phase and is to be interconnected to a three-phase service, its nameplate rating shall not exceed 10% of the service transformer nameplate rating.

(j) If the DER's point of interconnection is behind a line voltage regulator, the DER's nameplate rating shall be less than 250 kWac. This screen does not include substation voltage regulators.

(6) If the proposed interconnection passes the initial review screens, or if the proposed interconnection fails the screens but the electric utility determines that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the electric utility shall notify the applicant, and the interconnection application shall proceed with one of the following:

(a) If the proposed interconnection does not require distribution upgrades, the interconnection application shall proceed to R 460.966.

(b) If the proposed interconnection requires distribution upgrades but the interconnection does not require a facilities study, the interconnection application shall proceed to R 460.964.

(c) If the proposed interconnection requires distribution upgrades and a facilities study, the interconnection application shall proceed to R 460.962.

(7) If the proposed interconnection fails any of the initial review screens, and the electric utility does not or cannot determine that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the electric

utility shall notify the applicant, provide the applicant with the results of the application of the initial review screens, and offer the following options:

(a) to attend a customer options meeting, as described in R 460.948;

(b) to proceed to supplemental review under R 460.950.

(c) submit, not more than one (1) time, a revised interconnection application that mitigates or eliminates the factors that caused the interconnection application to fail one or more of the initial review screens. After submission, the revised interconnection application shall proceed to subrule (3);

(d) withdraw the interconnection application.

(8) For subrule (6), if the applicant does not select a course of action within ten (10) business days of notice from the electric utility, the interconnection application shall be deemed withdrawn.

#### **R 460.948 Fast track – customer options meeting**

Rule 48. (1) Upon request by the applicant, the electric utility and the applicant shall schedule a customer options meeting between the electric utility and the applicant to review possible facility modifications, screen analysis and related results to determine what further steps are needed to permit the DER to be connected safely and reliably to the distribution system. The customer options meeting shall take place within thirty (30) business days of the date of notification pursuant to R 460.946 subrule (5).

(2) At the customer options meeting, the electric utility shall offer the following options

(a) Proceed to a supplemental review in accordance with R 460.950; or

(b) Continue evaluating the interconnection application under the study track per R 460.952; or

(c) Withdraw the interconnection application.

(3) Following the meeting, the applicant shall have no more than twenty (20) business days to decide on a course of action. Failure to inform the electric utility within twenty (20) business days will deem the application withdrawn.

(4) The customer options meeting may happen in person or via telecommunications.

#### **R 460.950 Fast track - supplemental review**

Rule 50. (1) The electric utility shall list in its interconnection procedures the supplemental review screens shown in subrule (6).

(2) The electric utility may waive application of one, some, or all of the supplemental review screens based on the characteristics of the DER and the distribution system. The electric utility shall not require a system impact study or a facilities study if the DER passes the limited set of supplemental review screens.

(3) The electric utility may include additional supplemental review screens in its interconnection procedures that are distinct from the supplemental review screens shown in subrule (6).

(a) In its application requesting approval of interconnection procedures, the electric utility shall provide a detailed technical rationale for including each additional screen.

(b) Any additional screen proposed by the electric utility shall not negate or undermine any of the supplemental review screens shown in subrule (6).

(4) To receive a supplemental review, the applicant shall submit payment of the supplemental review fee within twenty (20) business days of agreeing to a supplemental review. If payment of the fee has not been received by the electric utility within twenty (20) business days, the interconnection application shall be deemed withdrawn.

(5) Within thirty (30) business days following receipt of the payment for a supplemental review, the electric utility shall perform a supplemental review using one, some or all of the supplemental review screens and notify, in writing, the applicant of the results.

(6) The supplemental review screens are as follows:

(a) Minimum load screen: Where 12 months of line section minimum load data, including onsite load but not station service load served by the proposed DER, are available, can be calculated, can be estimated from existing data, or determined from a power flow model, the aggregate DER capacity on the line section is less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the proposed DER. If minimum load data is not available, or cannot be calculated, estimated or determined, the electric utility shall include the reason(s) that it is unable to calculate, estimate or determine minimum load in its supplemental review results notification under subrules (7) and (8).

(i) The type of generation used by the proposed DER will be taken into account when calculating, estimating, or determining circuit or line section minimum load relevant for the application of the minimum load screen described in part (a) of subrule (5). Solar photovoltaic generation systems with no battery storage use daytime minimum load, while all other generation uses absolute minimum load.

(ii) When this screen is being applied to a DER that serves some station service load, only the net injection of electric energy into the electric utility's distribution system will be considered as part of the aggregate generation.

(iii) The electric utility will not consider as part of the aggregate generation, for purposes of this supplemental screen, DER capacity known to be already reflected in the minimum load data.

(b) Voltage and power quality screen: In aggregate with existing generation on the line section, the following conditions shall all be met:

(i) the voltage regulation on the line section can be maintained in compliance with relevant requirements under all system conditions;

(ii) the voltage fluctuation is within acceptable limits as defined by the IEEE Standard 1453; and

(iii) the harmonic levels meet IEEE Standard 513 limits.

(c) Safety and reliability screen: The location of the proposed DER and the aggregate generation capacity on the line section do not create impacts to safety or reliability that require application of the study track to address. The electric utility shall give due consideration to the following and other factors in determining potential impacts to safety and reliability in applying this screen:



(i) Whether the line section has significant minimum loading levels dominated by a small number of customers, such as several large commercial customers.

(ii) Whether the loading along the line section is uniform.

(iii) Whether the proposed DER is located less than 0.5 electrical circuit miles for <5 kV or less than 2.5 electrical circuit miles for >5 kV. In addition, whether the line section from the substation to the point of common coupling is a mainline rated for normal and emergency ampacity.

(iv) Whether the proposed DER incorporates a time delay function to prevent reconnection of the DER to the distribution system until distribution system voltage and frequency are within normal limits for a prescribed time.

(v) Whether operational flexibility is reduced by the proposed DER, such that transfer of the line section(s) of the DER to a neighboring distribution circuit or substation may trigger overloads, power quality issues or voltage issues.

(vi) Whether the proposed DER employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, islanding, reverse power flow, or voltage quality.

(7) If the proposed interconnection passes the supplemental review, or if the proposed interconnection fails the review but the electric utility determines that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the electric utility shall notify the applicant and the interconnection application shall proceed with one of the following:

(a) If the proposed interconnection does not require distribution upgrades, the interconnection application shall proceed to R 460.966.

(b) If the proposed interconnection requires distribution upgrades but the interconnection does not require a facilities study, the interconnection application shall proceed to R 460.964.

(c) If the proposed interconnection requires distribution upgrades and a facilities study, the interconnection application shall proceed to R 460.962.

(8) If the proposed interconnection fails any of the supplemental review screens or the electrical utility is unable to perform a supplemental review screen, and the electric utility does not or cannot determine that the DER may nevertheless be interconnected consistent with safety, reliability, and power quality standards, the electric utility shall notify the applicant, provide the applicant with the results of the application of the supplemental review screens, and offer the following options:

(a) stop the supplemental review and continue evaluating the proposed interconnection under the study track per R 460.952; or

(b) withdraw the interconnection application.

(9) For subrules (7) and (8), if the applicant does not select a course of action within ten (10) business days of notice from the electric utility, the interconnection application shall be deemed withdrawn.

**R 460.952 Study track**

Rule 52. (1) The study track shall be used by an applicant proposing to interconnect its DER with the electric utility's distribution system if at least one of the following conditions are met:

- (a) The DER is not eligible for the simplified track or the non-export track.
- (b) The DER is not eligible for, or did not pass, the initial review screens.
- (c) The electric utility declined to evaluate the DER using the initial review screens.
- (d) The DER did not pass the supplemental review screens.
- (e) The DER was evaluated under the simplified track or the non-export track and further study is required.
- (f) The application has been accepted by the electric utility per R 460.936.

(2) Within ten (10) business days after the electric utility notifies the applicant that the interconnection application has been accepted per R 460.936, the electric utility shall provide either an individual study agreement or a batch study agreement to the applicant, whichever is applicable pursuant to subrule (3).

(3) Each electric utility may elect to study all interconnection applications that qualify for study track individually or in a batch study process. An electric utility shall not study one or more applications individually and at the same time study one or more applications as part of a batch.

**R 460.954 Individual study**

Rule 54. (1) Each electric utility that is evaluating DERs in the study track individually shall process the applications in the order in which the applications were placed into the study track, taking in account withdrawn interconnection applications.

(2) The individual study process shall consist of a system impact study and a facilities study, even though one or both studies may be waived for a particular applicant. The electric utility may specify additional studies it may perform on an interconnection application in its interconnection procedures, provided the electric utility will still be able to meet all applicable timelines associated with an individual study process. The initial review screens and supplemental review screens may be considered additional studies.

(3) Interconnection applications that meet all of the following requirements may be admitted into an individual study:

- (a) The electric utility has elected to study all interconnection applications that qualify for study track individually.
- (b) The application was deemed accepted by the electric utility;
- (c) The accepted application qualifies for study track per R 460.952.
- (d) The interconnection application has a pre-application report;
- (e) The applicant has paid all required fees;

(4) Any DERs that are installed on the electric utility's distribution system, further along in the individual study process, under construction or associated with signed interconnection agreements at the start of a given individual study may be considered as preconditions for that DER's study.

(5) If an electric utility anticipated that it would use a batch study process, but only received one interconnection application that qualified for the study track, the electric utility shall consider the first day of what would have been the batch study process to be

the day the application was deemed complete and use the individual study process to evaluate the application with all applicable timelines.

**R 460.956 Batch study process**

Rule 56. (1) This rule shall only apply to those electric utilities that have elected to study DERs that qualify for study track in a batch process.

(2) A batch shall consist of two or more interconnection applications that will be studied simultaneously by the electric utility.

(3) The electric utility shall process at least one batch per year. The start and end dates for a batch study shall be specified in the electric utility's interconnection procedures and shall be published on the electric utility's public website.

(4) Interconnection applications that meet all of the following requirements may be admitted into a batch study:

(a) The electric utility has elected to study all interconnection applications that qualify for study track in a batch study process.

(b) The application was deemed accepted by the electric utility within a one-year period immediately prior to the batch study commencing.

(c) The accepted application qualifies for study track per R 460.952;

(d) The interconnection application has a pre-application report;

(e) The applicant has paid all required fees.

(f) The applicant has signed a batch study agreement.

(5) The electric utility shall hold a scoping meeting, either in-person or via telecommunications, with every applicant in a batch. The scoping meetings and the electric utility shall meet the following requirements:

(a) All meetings shall take place within the first 30 days of the batch.

(b) An electric utility shall not begin studies within a batch until it has held a scoping meeting with every applicant. The electric utility may begin the batch study in the event that one or more applicants is unreasonably delaying a meeting.

(c) Scoping meetings are limited to one (1) hour per application. Multiple applications by the same applicant may be addressed in the same meeting.

(d) During the scoping meeting, the electric utility shall identify and communicate to each applicant the studies it plans to perform and provide the cost of the batch study, using the prevailing fees in the interconnection procedures and with the assumption that all applicants will stay in the batch throughout the batch study.

(6) Any DERs that are installed on the electric utility's distribution system, under construction or associated with signed interconnection agreements at the start of a given batch study may be considered as preconditions for that batch study.

(7) The batch process shall consist of a system impact study and a facilities study. The electric utility may specify additional studies it may perform on a batch in its interconnection procedures. The initial review screens and supplemental review screens may be considered additional studies.

(8) Interconnection applications within a batch shall be considered equal priority with each other.

(9) The electric utility shall follow R 460.960 subrules (1) and (2) when conducting a system impact study.

(10) The electric utility shall follow R 460.962 subrule (1) when conducting a facilities study.

(11) The electric utility shall provide written study results to each applicant at the completion of each study during the batch study. At least one conference call shall be held with each batch applicant at the completion of each study, with the electric utility taking reasonable efforts to accommodate applicants' availability when scheduling the call. The electric utility may choose to group the consultation of multiple projects by the applicant and their affiliates into the same conference call. This conference call shall provide a summary of outcomes and answer questions from applicants.

(12) Within fifteen (15) business days following the phone conference, the applicant shall choose to either continue the batch study or withdraw. The fee for the next study in the batch study shall be due by the end of the fifteen (15) business day period, unless extended by the electric utility. Applicants that withdraw from the study may reapply with a new interconnection application to the next batch study.

(13) Applicants may reduce the capacity of the DER by up to 20% during the decision period between studies, up through the system impact study. If the applicant wishes to increase the capacity of the DER, the applicant may be required to submit a new interconnection application for a future batch study and pay the appropriate fees.

(14) At the completion of the batch study:

(a) A construction agreement, if needed, shall be provided with the final report and the applicant shall proceed to R 460.964.

(b) If the study indicates that no construction or modification is required, the applicant shall proceed to R 460.966.

(15) A batch study is considered complete when all batch applicants, except those applicants whose DERs are still causing unresolved affected system issues, have withdrawn, signed a construction agreement, or proceeded to R 460.966.

**R 460.958 Scoping meeting for interconnection applications that are to be studied individually.**

Rule 58. (1) This rule shall only apply to those electric utilities that have elected to individually study DERs that qualify for study track.

(2) The electric utility and the applicant shall, acting in good faith and with best efforts, schedule a scoping meeting between the electric utility and the applicant to discuss the interconnection application and review existing fast track results, if any. The scoping meeting shall take place within twenty (20) business days after the interconnection application is deemed complete by the electric utility or, if applicable, the fast track has been completed and the applicant has elected to continue with the system impact study or facilities study.

(3) Scoping meetings are limited to two (2) hours per application. Multiple applications by the same applicant may be addressed in the same meeting.

(4) The scoping meeting may happen in-person or via telecommunications.

(5) During the scoping meeting, the electric utility shall identify and communicate to the applicant whether the applicant should proceed to a system impact study, a facilities study, a construction agreement, or installation of the DER.

(a) If a system impact study should be performed, the applicant shall proceed to R 460.960.

(b) If a facilities study should be performed, the applicant shall proceed to R 460.962.

(c) If the interconnection requires distribution upgrades but no studies, the electric utility shall provide the applicant with a construction agreement pursuant to R 460.964 within ten (10) business days.

(d) If the applicant should proceed directly to installation of the DER, followed by inspection, testing and commissioning, the applicant shall proceed to R 460.966.

**R 460.960 System impact study agreement, scope, procedure, and review meeting.**

Rule 60. (1) For all DERs, whether they are being studied individually or as part of a batch:

- (a) The electric utility shall provide the applicant a system impact study agreement within five (5) business days of the applicant's decision to proceed to a system impact study.
  - (b) The system impact study agreement shall include the following:
    - (i) an outline of the scope of the study
    - (ii) the applicable fee.
    - (iii) If necessary, a list of any additional and reasonable technical data needed from the applicant in order to perform the system impact study.
    - (iv) a timeline for completion of the system impact study.
    - (v) a list of the information that will be provided to the applicant in the system impact study report.
  - (c) In order to remain in consideration for interconnection, an applicant who has requested a system impact study must return the executed system impact study agreement, provide any additional and reasonable technical data requested by the electric utility, and pay the required fee within fifteen (15) business days. The electric utility may deem the application withdrawn if the system impact study agreement, payment, and required technical data are not returned within fifteen (15) business days.
  - (d) A system impact study shall identify and describe the electric system impacts that would result if the proposed DER(s) were interconnected without electric system modifications. A system impact study shall provide a non-binding good faith list of facilities that are required as a result of the application and estimates of costs and time to construct.
  - (e) The process for conducting system impact studies on DERs while there is an affected system status shall be explained in the electric utility's interconnection procedures.
- (2) For DERs being studied as part of a batch:
- (a) limited and reasonable additional data may be requested from the applicant by the electric utility during the system impact study. The electric utility and the applicant shall work together in good faith to resolve the additional data request such that the electric utility will be able to complete the batch study within the one-year timeframe specified in R 460.956.
- (3) For DERs being studied individually:

- (a) The system impact study and the system impact study report must be completed and the system impact study report and, if necessary, a facilities study agreement must be transmitted to the applicant within sixty (60) business days of receipt of the signed system impact study agreement, payment of all applicable fees, and any necessary technical data.
- (b) Limited and reasonable additional data may be requested from the applicant by the electric utility within the first twenty (20) business days of the system impact study. The electric utility and the applicant shall work together in good faith to resolve the additional data request such that the electric utility will be able to complete the system impact study within the sixty (60) business day timeframe specified in subrule (1).
- (c) Within fifteen (15) business days of receiving the system impact study report, the applicant shall either notify the electric utility that it plans to pursue a system impact study review meeting or withdraw the application. Failure to select a course of action will deem the application withdrawn.
- (d) Upon request by the applicant pursuant to subrule (3), part (c), the electric utility and the applicant shall schedule a system impact study review meeting between the electric utility and the applicant to review system impact study results and determine what further steps are needed to permit the DER to be connected safely and reliably to the distribution system. The system impact study review meeting shall take place within twenty-five (25) business days of the electric utility receiving notification that the applicant plans to attend a system impact study review meeting.
- (e) At the system impact study review meeting, the electric utility shall offer the following options:
  - (i) Proceed to a facilities study pursuant to R 460.962;
  - (ii) Proceed directly to installation of the DER pursuant to R 460.966;
  - (iii) Provide the applicant a draft construction agreement pursuant to R 460.964;
  - (iv) Withdraw the interconnection application.
- f) Following the meeting, the applicant shall have no more than twenty (20) business days to decide on a course of action. Failure to inform the electric utility within twenty (20) business days will deem the application withdrawn.
- (g) The system impact study review meeting may happen in-person or via telecommunications.

**R 460.962 Facilities study agreement, scope, procedure and review meeting.**

Rule 62. (1) For all DERs, whether they are being studied individually or as part of a batch:

- (a) If construction of facilities is required to provide interconnection and interoperability of the DER with electric utility's distribution system, the electric utility shall provide the applicant a facilities study agreement in tandem with the results of the applicant's system impact study pursuant to R 460.960, if applicable. If no system impact study was performed, the electric utility shall provide a facilities study agreement within ten (10) business days of the determination that a facilities study is needed.

- (b) The facilities study agreement shall include the following:
  - (i) an outline of the scope of the study;
  - (ii) the applicable fee;
  - (iii) a timeline for completion of the facilities study;
  - (iv) a list of the information that will be provided to the applicant in the facilities study report.

(c) The applicant shall return the signed facilities study agreement and pay the required facilities study fee within a period of time of not less than fifteen (15) business days. The electric utility may terminate the application if the facilities study agreement and payment are not returned within fifteen (15) business days.

(d) A facilities study shall specify and estimate the cost of the required equipment, engineering, procurement and construction work, including overheads, needed to interconnect the DER.

(e) The process for conducting facilities studies on DERs while there is an affected system status shall be explained in the electric utility's interconnection procedures.

(2) For DERs being studied individually:

(a) The facilities study and a facilities study report must be completed and the facilities study report and an interconnection agreement must be transmitted to the applicant within eighty (80) business days of the receipt of the signed facilities study agreement and payment of the facilities study fee.

(b) Within ten (10) business days of receiving a facilities study report from the electric utility, the applicant may request a facilities study review meeting with the electric utility.

(c) Upon request by the applicant pursuant to subrule (1), the electric utility and the applicant shall schedule a facilities study review meeting between the electric utility and the applicant to review facilities study results and determine what further steps are needed to permit the DER to be connected safely and reliably to the distribution system. The facilities study review meeting shall take place within twenty-five (25) business days of the electric utility receiving notification that the applicant plans to attend a facilities study review meeting.

(d) At the facilities study review meeting, the electric utility shall offer the following options:

- (i) Proceed directly to installation of the DER pursuant to R 460.966;
- (ii) Provide the applicant a draft construction agreement pursuant to R 460.964;
- (iii) Withdraw the interconnection application.

(e) Following the meeting, the applicant shall have no more than twenty (20) business days to decide on a course of action. Failure to inform the electric utility within twenty (20) business days will deem the application withdrawn.

(f) The facilities study review meeting may happen in-person or via telecommunications.

#### **R 460.964 Construction agreement.**

Rule 64. (1) For thirty (30) business days following the decision of the applicant to proceed with construction, the applicant and the electric utility may negotiate and revise the draft construction agreement. Before the end of the thirty (30) business day period,

the electric utility and the applicant shall both sign a construction agreement unless the parties could not come to agreement on the terms of the construction agreement.

(a) If the applicant and the electric utility fail to both sign a construction agreement, the applicant shall, within sixty (60) business days following receipt of the construction agreement, either file an unexecuted construction agreement with the commission pursuant to the complaint process under R 460.17101 – R 460.17701 or withdraw the application. Failure to select a course of action will deem the application withdrawn.

(2) The construction agreement shall contain timelines for completion of activities and estimates of construction costs. The construction agreement shall include a payment schedule that corresponds to the milestones established.

(3) To the greatest extent possible, the construction agreement will identify all design, procurement, installation and construction requirements associated with installation of the DER or establish a timetable for when these requirements can be determined.

(4) During the construction of any facilities, the electric utility and the applicant shall adhere to the requirements and timelines set forth in the construction agreement.

(5) The applicant shall pay the actual cost of the interconnection facilities and distribution upgrades. However, the cost to the applicant for interconnection facilities and distribution upgrades shall not exceed 110% of the estimate without an itemized summary of costs being provided to the applicant, and the cost shall not in any case exceed 125% of the estimate without the consent of the applicant.

(6) A party's obligations under this provision may be extended by agreement. If a party anticipates that it will be unable to meet a milestone for any reason other than a force majeure event, the party shall do the following:

(a) immediately notify the other party of the reason(s) for not meeting the milestone;

(b) propose the earliest reasonable alternate date by which it can attain this and future milestones; and

(c) request appropriate amendments to the construction agreement.

(7) The party affected by the failure to meet a milestone shall not unreasonably withhold agreement to any amendments proposed in subrule (6) part (c) unless one of the following applies:

(a) the party affected will suffer significant uncompensated economic or operational harm from the amendment(s);

(b) the milestone under question has been delayed before; or

(c) the party affected has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the party proposing the amendment.

(8) If the party affected by the failure to meet a milestone disputes the proposed extension, the affected party may pursue informal mediation as described in R 460.904 or arbitration as described in R 460.906.

(9) The electric utility shall provide the applicant with a final accounting report of any difference between the applicant's cost responsibilities and previous payments to the electric utility for interconnection facilities or distribution upgrades.

(a) If the applicant's cost responsibilities exceed its previous aggregate payments, the electric utility shall invoice the applicant for the amount due and the applicant shall make a payment to the electric utility within twenty (20) business days. Failure of the



applicant to pay its cost responsibility shall be cause for disconnection of applicant's DER.

(b) If the applicant's previous aggregate payments exceed its cost responsibility under the construction agreement, the electric utility shall refund to the applicant an amount equal to the difference within twenty (20) business days of the final accounting report.

**R 460.966 Inspection, testing, and commissioning.**

Rule 66. (1) If the interconnection application requires telecommunications, cybersecurity, data exchange or remote controls operation, successful testing and certification of these items shall be completed prior to or during testing. The electric utility's interconnection procedures shall describe the testing and certification requirements of these items.

(2) The applicant shall notify the electric utility when installation of a DER and any required local code inspection and approval is complete. The applicant shall also provide any test reports or configuration documents as defined in the interconnection procedures.

(3) The electric utility shall send the applicant an interconnection agreement within five (5) business days of receiving notification, test reports or configuration documents from the applicant. The applicant shall sign and return the interconnection agreement within twenty (20) business days of receiving the agreement.

(a) If the applicant does not sign and return the interconnection agreement, begin informal mediation per R 460.904, begin arbitration per R 460.906, or file a complaint with the commission within the twenty (20) business days, the electric utility shall notify the applicant of the missed deadline and grant an extension of ten (10) business days. After the ten (10) business day extension, the application shall be deemed withdrawn.

(4) If the electric utility intends to witness or perform commissioning tests required to meet compliance with interconnection procedures and inspect the DER, the electric utility shall witness or perform the commissioning tests and inspect the DER within either of the following:

(a) ten (10) business days of receiving the signed interconnection agreement from the applicant, for Level 1 and 2 applications.

(b) a mutually-agreed upon timeframe subsequent to receiving the signed interconnection agreement from the applicant for Level 3, 4 and 5 applications.

(5) The electric utility may waive its right to visit the site and inspect the DER or perform the commissioning tests.

(a) If the electric utility waives this right, it shall provide a written waiver to the applicant within ten (10) business days from receiving the signed interconnection agreement from the applicant pursuant to subrule (3).

(b) The applicant shall provide the electric utility the completed commissioning test report within twenty (20) business days of receipt of the electric utility's written waiver.

(6) If the electric utility attempts to conduct the inspection and testing per subrule (4) at the arranged time and is unable to access the DER or complete the testing, the DER shall remain disconnected until the applicant and the electric utility can complete the inspection and testing.

(7) If the electric utility witnessed or performed commissioning tests and inspected the DER pursuant to subrule (4), within five (5) business days of the receipt of the completed commissioning test report, the electric utility shall notify the applicant whether it has accepted or rejected the commissioning test report and found the site to be satisfactory or unsatisfactory.

(a) If the commissioning test report is accepted and the site was found satisfactory, the electric utility shall countersign the interconnection agreement and include it with the notification of acceptance, and the applicant shall proceed to R 460.968.

(b) If the electric utility rejects the commissioning test report or did not find the site satisfactory, the electric utility shall provide its reasons for doing so in writing and the applicant shall have a minimum of twenty (20) business days to implement corrections. The applicant, after taking corrective action, shall request the electric utility to reconsider its findings. The applicant may be billed the actual cost of any re-inspections.

(8) If the electric utility waived its right to witness or perform commissioning tests and inspect the DER pursuant to subrule (5), within five (5) business days of the receipt of the completed commissioning test report, the electric utility shall notify the applicant whether it has accepted or rejected the commissioning test report.

(a) If the commissioning test report is accepted, the electric utility shall countersign the interconnection agreement and include it with the notification of acceptance, and the applicant shall proceed to R 460.968.

(b) If the electric utility rejects the commissioning test report, the electric utility shall provide its reasons for doing so and the applicant shall have twenty (20) business days to implement corrections. The applicant, after taking corrective action, may then request the electric utility to reconsider its findings.

(9) The cost of testing and inspection for applicants participating in an electric utility's distributed generation program, as described in Part 3 of these rules, are considered a cost of operating a distributed generation program and shall be recovered pursuant to MCL 460.1175 subpart (1).

(10) Should the applicant not notify the electric utility that the DER is installed and ready to test pursuant to subrule (2), the electric utility may, in writing, query the status of the interconnection. If there is no written response within ten (10) business days or no progress is evident, the electric utility may withdraw the application and deny interconnection.

(11) The electric utility is responsible for putting appropriate requirements in interconnection agreements to support independent system operator regulations or regional transmission operator regulations.

(12) The electric utility may propose to the commission updating signed interconnection agreements based on changes to independent system operator, regional transmission operator, or state of Michigan regulations.

**R 460.968 Authorization required prior to parallel operation.**

Rule 68. (1) The electric utility shall provide to the applicant written authorization to operate in parallel with the electric utility within five (5) business days of the following conditions being met:

- (a) the applicant and the electric utility have signed an interconnection agreement;
  - (b) the applicant has complied with all applicable parallel operation requirements as set forth in the electric utility's interconnection procedures;
  - (c) the applicant has complied with all relevant local, state and federal requirements; and
  - (d) the electric utility has received full payments for any and all outstanding bills.
- (2) With the written authorization, interconnection of the DER shall be considered approved for parallel operation, the DER may begin operating, and the applicant shall henceforth be considered an interconnection customer.
- (3) The applicant shall not operate its DER in parallel with the electric utility's distribution system without prior written permission to operate from the electric utility.
- (4) Subject to reasonable timing and other conditions, including completion of conditions in the interconnection agreement or interconnection procedures, permission will be granted by the electric utility for reasonable but limited non-revenue testing before written authorization has occurred.

**R 460.970 Cost allocation of interconnection facilities and distribution upgrades.**

Rule 70. Costs for interconnection facilities and distribution upgrades shall be classified into one of three categories:

- (a) Site-specific costs – These costs include, but are not limited to, costs of interconnection facilities and distribution upgrades that are caused by one DER, whether or not that DER is electrically co-incident with other DERs. These costs shall be assigned to the cost-causing applicant.
- (b) Shared interconnection facilities costs – These costs are caused by DERs which together necessitate the construction of interconnection facilities. The interconnection facilities costs that should be shared shall be allocated to each applicant based on the nameplate capacity of the applicant's interconnecting DER.
- (c) Shared distribution upgrade costs – These costs are caused by electrically co-incident DERs which together necessitate a distribution upgrade. The distribution upgrade costs that should be shared shall be allocated to each applicant based on the nameplate capacity of the applicant's interconnecting DER.

**R 460.974 Interconnection metering and communications.**

Rule 74. (1) Any metering and communications requirements necessitated by use of the DER shall be installed at the applicant's expense. The electric utility may furnish this equipment at the applicant's expense.

(2) The electric utility may charge the interconnection customer ongoing fees to maintain the metering and communications equipment. These fees shall be listed in the interconnection agreement.

**R 460.976 Post commissioning remedy.**

Rule 76. (1) Should the electric utility find that the DER is operating outside the terms of the interconnection agreement but does not warrant immediate disconnection pursuant to R 460.978 parts (f) and (g), the electric utility shall inform the interconnection customer or their agent of this finding as soon as possible. The interconnection customer is then responsible for bringing the DER into compliance within thirty (30) business days

or a mutually agreed-upon time period. The electric utility may perform inspection of the DER after a remedy is applied.

(2) Should the DER not be brought into compliance within thirty (30) business days or the mutually agreed-upon time period, the electric utility may apply a remedy and bill the interconnection customer. The interconnection customer shall pay any such bill within five (5) business days.

**R 460.978 Disconnection.**

Rule 78. An electric utility may refuse to connect or may disconnect a project from the distribution system if any of the following conditions apply:

- (a) Failure of the interconnection customer to bring a DER into compliance pursuant to R 460.976 subrule (1).
- (b) Failure of the interconnection customer to pay costs of remedy pursuant to R 460.976 subrule (2).
- (c) Termination of interconnection by mutual agreement.
- (d) Distribution system emergency, but only for a reasonable length of time necessary to resolve the 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.
- (f) Noncompliance with technical or contractual requirements in the interconnection agreement that could lead to degradation of distribution system reliability, electric utility equipment, and electric customers' equipment.
- (g) Noncompliance with technical or contractual requirements in the interconnection agreement that presents a safety hazard.
- (h) Noncompliance with the interconnection agreement.

**R 460.980 Capacity of the distributed energy resource.**

Rule 80. (1) If the application is for an increase in capacity for an existing DER, the application shall be evaluated on the basis of the new nameplate capacity of the DER. The maximum capacity of a DER shall be the aggregate nameplate rating or may be limited as described in the electric utility's interconnection procedures.

(2) An application for a DER that includes a single or multiple energy production devices at a site for which the applicant seeks a single point of common coupling shall be evaluated on the basis of ~~the Net System Capacity, aggregate nameplate rating of the multiple DERs or as described in the utility's interconnection procedures.~~

**Commented [ST5]:** See redlines on pg. 18 regarding Net System Capacity.

**R 460.982 Modification of the interconnection application.**

Rule 82. (1) At any point after a an interconnection application is deemed accepted, but before the signing of an interconnection agreement, the applicant, the electric utility, or the affected system owner may propose modifications to the interconnection application that may improve the costs and benefits of the interconnection, and/or the ability of the electric utility to accommodate the interconnection. The applicant shall submit to the electric utility, in writing, all proposed modifications to any information

provided in the interconnection application and the electric utility shall evaluate the impacts of the modification.

(2) In no event shall the electric utility be required to accept or implement a modification to the electric utility's distribution system or generation assets that is proposed by an applicant or affected system.

(3) Neither the electric utility nor the affected system operator may unilaterally modify an accepted interconnection application. If the electric utility evaluates DERs using individual studies, the timelines specific to that interconnection application shall be placed on hold while the proposed modification is being evaluated by the electric utility.

(4) If the proposed modification is determined to be a material modification, then the electric utility shall notify the applicant in writing and the applicant may choose one of the following options:

- (a) withdraw the proposed modification;
- (b) proceed with a new interconnection application for such modification; or
- (c) request a one-hour consultation to discuss the proposed modification.

The applicant shall provide its determination in writing to the electric utility within ten (10) business days after being provided the material modification determination results.

(5) If the applicant chooses the one-hour consultation per subrule (4) part (c), the electric utility shall reconsider whether the modification is a material modification. Within three (3) business days, the electric utility shall notify the applicant its determination of whether the modification is no longer considered a material modification or is still considered a material modification.

(a) If the modification is determined to no longer be a material modification, then the application continues on the applicable track.

(b) If the modification is still considered a material modification, the applicant must either withdraw the proposed modification within five (5) business days or proceed with a new interconnection application for such modification. If the applicant does not provide its determination within the five (5) business days, the fast track or interconnection application shall be deemed withdrawn.

(6) If the proposed modification is determined not to be a material modification, then the electric utility shall notify the applicant in writing that the modification has been accepted. If the electric utility evaluates DERs using individual studies, the interconnection application's timelines shall resume at this point.

(7) Any modification to the DER that could affect the operation of the distribution system, including but not limited to changes to machine data, equipment configuration or the interconnection site of the DER, not agreed to in writing by the electric utility and the applicant may be deemed a withdrawal of the interconnection application and may require submission of a interconnection application.

(8) At any point prior to the execution of an interconnection agreement, changes to ownership will cause the interconnection application to be put on hold until the new owner signs all necessary agreements and documents.

**R 460.984 Modifications to DER.**

Rule 84. After the execution of the interconnection agreement, the applicant shall notify the electric utility of plans for any modifications to the DER that will occur. The utility shall then review the proposed modifications to determine if the modifications are considered a material modification or not. If the utility determines that the modification is a material modification, the applicant shall submit a new application and application fee along with all supporting materials that are reasonably requested by the electric utility. The applicant shall not begin any material modification to the DER until the electric utility has accepted the new interconnection application and completed one of, or some combination of, the following: an initial review, a supplemental review, a system impact study, or a facilities study.

**R 460.986 Insurance.**

Rule 86. (1) An applicant interconnecting a level 1 or level 2 project to the distribution system of an electric utility shall not be required by the utility to obtain any additional liability insurance.

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

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

**R 460.988 Easements and rights-of-way.**

Rule 88. If an electric utility line extension is required to accommodate an interconnection, the applicant is responsible for procurement of, and the cost of providing or obtaining easements or rights-of-way.

**R 460.990 Interconnection penalties.**

Rule 90. Pursuant to MCL 460.10e, an electric utility shall take all necessary steps to ensure that DERs are connected to the distribution systems within their operational control. If the commission finds, after notice and hearing, that an electric utility has prevented or unduly delayed the ability of a DER greater than 100 kW to connect to the distribution system of the electric utility, the commission shall order remedies designed to make whole the applicant proposing the DER, including, but not limited to, reasonable attorney fees. The commission may also order fines of not more than \$50,000.00 per day that the electric utility is in violation of this rule, commensurate with the demonstrated impact of any such violation.

**R 460.992 Electric utility annual reports**

Rule 92. Each electric utility shall file an annual interconnection report on a date and in a format determined by the commission.

**PART 3. DISTRIBUTED GENERATION PROGRAM STANDARDS**

**R 460.1002 Application process.**

Rule 102. (1) Each electric utility shall file initial distributed generation program tariff sheets in the first rate case filed after June 1, 2018.

(2) Within 30 days of an order approving an electric utility's initial distributed generation tariff, or within 30 days of the effective date of these rules, whichever is later; an alternative electric supplier serving customers in that utility's service territory shall file an updated distributed generation program plan applicable to its customers in the affected electric utility's service territory.

(3) Using report formats to be determined by the Commission, each electric utility and alternative electric supplier shall annually file a legacy net metering program report and, if applicable, a distributed generation program report not later than March 31 of each year.

(4) Each electric utility and alternative electric supplier shall maintain records of all applications and up-to-date records of all eligible electric generators participating in the legacy net metering program and distributed generation program.

(5) Selection of customers for participation in the legacy net metering program or distributed generation program shall be based on the order in which the applications are received.

(6) An electric utility 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 legacy net metering program or distributed generation program.

(7) The legacy net metering program and distributed generation program provided by electric utilities and alternative electric suppliers shall be designed for a period of not less than 10 years and limit each applicant to generation capacity designed to meet up to 100% of the customer's electricity consumption for the previous 12 months.

(a) The generation capacity shall be determined by an estimate of the expected annual kWh output of the generator(s) as determined in the electric utility's interconnection procedures and specified on the electric utility's legacy net metering program or distributed generation program tariff sheet or in the alternative electric supplier's legacy net metering program or distributed generation program plan.

(b) The customer's electric consumption shall be determined by one (1) of the following methods:

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

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

(c) Any net metering or distributed generation customer using energy storage equipment in conjunction with an eligible electric generator must not design or operate the energy storage equipment in a manner that results in the customer's electrical output exceeding 100% of the customer's electricity consumption for the previous 12 months. Any addition of energy storage equipment to an existing approved legacy net metering program system or distributed generation program system is considered a material modification as defined in these rules. The electric utility interconnection procedures shall include details describing how energy storage equipment may be integrated into an existing legacy net metering program system without impacting the 10-year grandfathering period.

(8) The applicant shall notify the electric utility of plans for any material modification to the project. The applicant shall re-apply for interconnection pursuant to Part 2 of these rules and submit revised legacy net metering program or distributed generation program application forms and associated fees. The applicant may be eligible to continue participation in the legacy net metering program or distributed generation program when a material modification is made to a customer's previously approved system and which does not violate the requirements of subrule (7). Additionally the applicant may not begin any material modification to the project until the electric utility has approved the revised application, including any necessary system impact study or facility study. The application shall be processed in accordance with Part 2 of these rules.

**R 460.1004 Legacy net metering program application and fees.**

Rule 104. (1) An electric utility or alternative electric supplier may use an online legacy net metering program application process. For electric utilities and alternative electric suppliers not using an online application process, a uniform legacy net metering program application form shall be utilized which shall be approved by the Commission.

(2) Legacy net metering program application processing for electric utilities shall be conducted in the following manner:

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

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

(c) As part of the review, the electric utility shall determine whether the appropriate meter(s) is installed for the legacy net metering program.

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

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

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

(g) The applicant has thirty (30) business days to respond to any additional follow-up necessary to complete application. Failure to respond within thirty (30) business days will result in the application being deemed withdrawn without refund of the application fee.

(3) Legacy net metering program 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 legacy net metering program application form to the alternative



electric supplier and a copy of the form to the electric utility that provides distribution services.

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

(c) The electric utility 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 ten (10) business days of notification, the alternative electric supplier shall complete changes to the applicant's account to permit legacy net metering program credit to be applied to the account.

(4) If an legacy net metering program application is not approved, the electric utility or alternative electric supplier shall notify the customer of the reasons. The customer shall have thirty (30) days from the date of electric utility notification to cure the deficiency within the legacy net metering program application. The application will be deemed withdrawn without refund of the application fees if not cured within the time frame above.

(5) If a customer's application for the legacy net metering program is deemed complete the customer shall have a completed and approved installation within 6 months from the date the customer's application is deemed complete, or else the electric utility may terminate the application without refund and shall have no further responsibility with respect to the application.

(6) Customers participating in a legacy net metering program approved by the Commission before the Commission establishes a tariff pursuant to section 6a(14) of 1939 PA 3, MCL 460.6a, may elect to continue to receive service under the terms and conditions of that program for up to ten (10) years from the date of enrollment. Customers whom have reached ten (10) years of enrollment may continue on the legacy net metering program until the electric utility has a Commission approved distributed generation program tariff and as directed by the Commission.

(7) The legacy net metering program application fee for electric utilities and alternative electric suppliers shall not exceed \$50. The fee shall be specified on the electric utility's legacy net metering tariff sheet or in the alternative electric supplier's legacy net metering program plan.

**R 460.1006 Distributed generation program application and fees.**

Rule 106. (1) An electric utility or alternative electric supplier may use an online distributed generation program application process. For electric utilities and alternative electric suppliers not using an online application process, a uniform distributed generation program application form shall be utilized which shall be approved by the Commission.

(2) Distributed generation program application processing for electric utilities shall be conducted in the following manner:

(a) An applicant applying for the distributed generation program shall at the same time apply for an electric utility interconnection or shall indicate on the distributed generation program application that the applicant has applied for interconnection with the electric utility.

(b) If an applicant has an executed interconnection agreement at the time of filing the distributed generation program application, the electric utility shall have ten (10) business

days to complete its review of the distributed generation program application. All other distributed generation program applications shall be processed within ten (10) days after the applicant's interconnection agreement is executed.

(c) As part of the review, the electric utility shall determine whether the appropriate meter(s) is installed for the distributed generation program.

(d) After completing the review, the electric utility shall notify the customer whether the distributed generation program application is approved or disapproved.

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

(f) Within ten (10) business days after the necessary meters are installed, the electric utility shall complete changes to the applicant's account to permit distributed generation program credit to be applied to the account.

(g) The applicant has thirty (30) business days from electric utility notification to respond to any additional follow-up necessary to complete the application. Failure to respond within thirty (30) business days will result in the application being deemed withdrawn without refund of the application fee.

(3) Distributed generation program 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 distributed generation program application form to the alternative electric supplier and a copy of the form to the electric utility that provides distribution services.

(b) Within the time periods in subrule (2) of this rule, the electric utility shall determine whether the appropriate meter(s) is installed for the distributed generation program and, if necessary, contact the customer to arrange for meter installation.

(c) The electric utility 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 ten (10) business days of notification, the alternative electric supplier shall complete changes to the applicant's account to permit distributed generation program credit to be applied to the account.

(4) If a distributed generation program application is not approved, the electric utility or alternative electric supplier shall notify the customer of the reasons. The customer shall have thirty (30) business days from electric utility notification to cure the deficiency within the distributed generation program application. The application will be deemed withdrawn without refund of the application fees if not cured within the time frame above.

(5) The distributed generation program application fee for electric utilities and alternative electric suppliers shall not exceed \$50. The fee shall be specified on the electric utility's distributed generation program tariff sheet or in the alternative electric supplier's distributed generation program plan.

(6) The customer shall pay all interconnection costs pursuant to Part 2 of these rules which shall include all electric utility costs associated with that customer's interconnection that are not a distributed generation program application fee, excluding meter costs as described in Rule 460.1012 and Rule 460.1014.

**R 460.1008 Legacy net metering program and distributed generation program size.**

Rule 108. (1) If an electric utility or alternative electric supplier reaches the program sizes as defined in section 173(3) of 2008 PA 295, MCL 460.1173(3), as determined by combining both the distributed generation program and the legacy net metering program customer enrollments, the electric utility or alternative electric supplier shall provide notice to the Commission.

(2) The electric utility or alternative electric supplier will notify the Commission of its plans to either close the program to new applicants or expand the program.

(3) The electric utility shall file corresponding revised legacy net metering program or distributed generation program tariff sheets.

(4) The alternative electric supplier shall file a revised legacy net metering program plan or distributed generation program plan.

**R 460.1010 Generation and legacy net metering program or distributed generation program equipment.**

Rule 110. New legacy net metering program or distributed generation program equipment and its installation must meet all current local and state electric and construction code requirements, and other standards as specified in Part 2 of these rules.

**R 460.1012 Meters for legacy net metering program.**

Rule 112. (1) For a customer with a generation system capable of generating 20 kWac or less, the electric utility may determine the customer's net usage using the customer's existing meter if it is capable of reverse registration or may install a single meter with separate registers measuring power flow in each direction. If the electric utility uses the customer's existing meter, the electric utility shall test and calibrate the meter to assure accuracy in both directions. If the customer's meter is not capable of reverse registration and if meter upgrades or modifications are required, the following apply:

(a) An electric utility 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 legacy net metering program customer. The cost of the meter(s) or meter modification shall be considered a cost of operating the legacy net metering program.

(b) An electric utility 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 utility to similarly situated non-generating customers shall be paid by the eligible customer.

(c) An electric utility 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 kWac and not more than 150 kWac, the electric utility 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 utility 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 legacy net metering program customer. The cost of the meter(s) shall be considered a cost of operating the legacy net metering program.

(b) An electric utility 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 utility to similarly situated non-generating customers shall be paid by the eligible customer.

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

(3) For a customer with a generation system capable of generating more than 150 kWac, the utility 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 utility deploying advanced metering infrastructure shall not charge the cost of advanced meters to a legacy net metering program participant, or the legacy net metering program.

**R 460.1014 Meters for distributed generation program.**

Rule 114. (1) For a customer with a generation system capable of generating 20 kWac or less, the electric utility shall determine the customer's power flow in each direction using the customer's existing meter if it is capable of measuring and recording power flow in each direction. If the customer's meter is not capable of measuring and recording the customer's power flow in each direction and if meter upgrades or modifications are required, the following apply:

(a) An electric utility serving over 1,000,000 customers in this state shall provide a meter or meters capable of measuring and recording the customer's power flow in each direction at no additional charge to the distributed generation program customer. The cost of the meter(s) or meter modification shall be considered a cost of operating the distributed generation program.

(b) An electric utility serving fewer than 1,000,000 customers in this state shall provide a meter or meters capable of measuring and recording the power flow in each direction to customers at cost. Only the incremental cost above that for meter(s) provided by the electric utility to similarly situated non-generating customers shall be paid by the eligible customer.

(c) An electric utility 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 kWac and not more than 150 kWac, the electric utility shall utilize a meter or meters capable of measuring and recording power flow in each direction and the generator output. If the customer's meter is not capable of measuring and recording the customer's power flow in each direction and the generator output and if meter upgrades or modifications are required, the following apply:

(a) An electric utility 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 distributed generation program customer. If the electric utility 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 distributed generation program.

(b) An electric utility 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 utility to similarly situated non-generating customers shall be paid by the eligible customer.

(c) An electric utility shall provide a generator meter. The cost of the meter shall be considered a cost of operating the distributed generation program.

(3) For a customer with a methane digester generation system capable of generating more than 150 kWac, the utility 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 utility deploying advanced metering infrastructure shall not charge the cost of advanced meters to a distributed generation program customer, or the distributed generation program.

**R 460.1016 Billing and credit for legacy net metering program customers taking service under true net metering.**

Rule 116. (1) Legacy net metering program customers with a system capable of generating 20 kWac 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 electric 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.

**R 460.1018 Billing and credit for legacy net metering program customers taking service under modified net metering.**

Rule 118. (1) Legacy net metering program customers with a system capable of generating more than 20 kWac 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 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 customers on demand-based rate schedules that provide an equivalent contribution to utility system costs. Standby charges shall not be applied to customers with systems capable of generating 150 kWac 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 legacy net metering program credits applied to distribution charges.

(4) The credit per kWh for kWh delivered into the utility's distribution system shall be one (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 utility's distribution service territory, or for a legacy net metering program 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 utility's distribution service territory during the time-of-use pricing period.

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

**R 460.1020 Billing and credit for distributed generation program customers.**

Rule 120. As part of an electric utility's rate case filed after June 1, 2018, the Commission shall approve a tariff for a distributed generation program under the Clean and Renewable Energy and Energy Waste Reduction Act, 2008 PA 295, MCL 460.1001 to 460.1211. A tariff established under this section does not apply to customers participating in a legacy net metering program under the Clean and Renewable Energy and Energy Waste Reduction Act, 2008 PA 295, MCL 460.1001 to 460.1211, before the date that the Commission establishes a tariff under this section, who continue to participate in the program at their current site or facility.

**R 460.1022 Renewable energy credits.**

Rule 122. (1) An eligible electric generator shall own any renewable energy credits granted for electricity generated under the legacy net metering program and distributed generation program.

(2) An electric utility may purchase or trade renewable energy credits from a legacy net metering program or distributed generation program customer if agreed to by the customer.

(3) The Commission may develop a program for aggregating renewable energy credits from legacy net metering program and distributed generation program customers.

**R 460.1024 Penalties.**

Rule 124. Upon a complaint or on the Commission's own motion, if the Commission finds after notice and hearing that an electric utility 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.

**R 460.1026 Legacy Net Metering Grandfathering Provision**

Rule 126. A customer participating in a legacy net metering program approved by the commission before the commission establishes the initial distributed generation program tariff referred to in Rule 120 may elect to continue to receive service under the terms and conditions of that program for up to ten (10) years from the date of initial enrollment. Initial enrollment as used in this section means the date a customer or site initially enrolled

in a legacy net metering program as described in the electric utility's tariff. Any customer participating in a legacy net metering program who expands their generation system after the effective date of an electric utility's distributed generation program tariff will no longer be eligible to participate in the legacy net metering program.

#### **PART 4. LEGALLY ENFORCABLE OBLIGATION**

##### **460.1050 Applicability.**

Rule 50. The rules in this subpart apply to an electric utility whose rates are regulated by the Commission.

##### **460.1052 Requirements for the creation of a legally enforceable obligation.**

Rule 52. (1) A legally enforceable obligation is established between the qualifying facility and the electric utility when a qualifying facility has:

(a) Provided an electric utility with documentation demonstrating that, under 18 C.F.R. § 292:

- (i) The facility is a "qualifying facility;" and
- (ii) The facility has been certified as a qualifying facility with or by the Federal Energy Regulatory Commission.

(b) Provided the electric utility all of the following:

- (i) A description of the location of the project and its proximity to other projects within one (1) mile of the project, which are owned or controlled by the same developer, and
- (ii) An estimated, non-binding, good faith estimate of the energy production for the project that includes the kilowatt-hours to be produced by the qualifying facility for each month and year of the entire term of the project's anticipated power purchase agreement.

(c) Obtained and provided to the electric utility written documents confirming control of the site for the entire term of the project's anticipated power purchase pursuant to R 460.934.

(d) If qualifying as a "cogeneration facility" under R 460.1052(1)(a) provided the electric utility with written proof of a steam host that is willing to contract for steam over the full term of the project's anticipated power purchase agreement for a cogeneration facility.

(e) Returned a signed facilities study agreement and associated facility study fee, if required under R 460.962.

(f) If required under R 460.974 executed a construction agreement with the electric utility and either (i) remitted the full payment of the good faith estimated cost of any interconnection facilities or distribution upgrades, or (ii) is in good standing with all milestone payments pursuant to the agreement.

(g) Unilaterally signed and tendered a proposed power purchase agreement ("PPA") to the purchasing utility with a price term equal to either:

- (i) the existing standard offer rate in accordance with the applicable standard tariff provisions as approved by the commission for qualifying facilities eligible for standard offer rates; or
- (ii) a price term consistent with the purchasing utility's avoided costs, with

specified beginning and ending dates for delivery of energy, capacity, or both to be purchased by the utility

**460.1054 Power purchase agreement.**

Rule 54. (1) Pursuant to MCL 460.6v(e), upon approval by the Commission, the electric utility must publish on its website templates for power purchase agreements for qualifying facilities of less than 3 MW that need not include terms for either price or duration of the power purchase agreement.

(2) Within five (5) business days of the qualifying facility returning a signed facilities study agreement and associated payment, the electric utility shall provide a draft power purchase agreement without terms for either price or duration.

(3) Within ten (10) business days of the qualifying facility signing a construction agreement, the electric utility must update rates in the power purchase agreement, required pursuant to subrule (2), to reflect the currently effective rates.

(4) A qualifying facility has six (6) months from the receipt of the power purchase agreement, pursuant to subrule (3), to negotiate and sign the final power purchase agreement. During this six (6) month period, the qualifying facility must continue making milestone payments pursuant to the construction agreement and remain in good standing with the terms of the construction agreement. If a final power purchase agreement is not executed within the six (6) month period:

(a) The qualifying facility or the electric utility may file an unexecuted power purchase agreement with the Commission within forty (40) business days of the expiration of the six (6) month period, pursuant to the complaint process under R 460.17101 to R 460.17701, or

(b) The legally enforceable obligation terminates.

(i) Upon termination of the legally enforceable obligation, in the event of incomplete construction, the qualifying facility is responsible for any electric utility costs to mitigate any distribution system issues caused by the qualifying facility.

(ii) The unspent portion of the milestone payments shall be refunded to the qualifying facility.

**460.1056 Standard offer tariff.**

Rule 56. Upon approval by the Commission, the electric utility must publish on its website a standard offer tariff applicable to qualifying facilities corresponding to the standard offer project size approved by the commission.