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**MISS. PUBLIC SERVICE
COMMISSION**

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSISSIPPI**

MISSISSIPPI PUBLIC SERVICE COMMISSION

2021-AD-19

**IN RE: ORDER ESTABLISHING DOCKET TO REVIEW THE EFFICACY AND FAIRNESS OF
THE NET METERING AND INTERCONNECTION RULES**

**SIERRA CLUB'S RESPONSES TO REQUEST FOR COMMENTS ON NET METERING &
INTERCONNECTION RULES**

Introduction

Sierra Club respectfully submits the following responses to the Commission's questions in response to the Mississippi Public Service Commission's Order Seeking Comment in Docket No. 2021-AD-19, regarding the Docket to Review the Efficacy and Fairness of the Net Metering and Interconnection Rules.

Sierra Club's comments and responses to the Commission's questions should be read in conjunction with Attachments A, A-1, B, & C to these comments.

Attachment A is a Joint Redline of the Commission's existing rule that incorporates the policies and other changes set out in these comments and those of other community interest intervenors. The intervenors who join in this redline are noted in Attachment A and in the footnote below.¹ Sierra Club has also attached a version of the Attachment A redline as Attachment A-1 with all changes accepted, to permit easier reading of the text as revised.

Attachment B is a proposed chapter for the Commission's net metering rule which provides for Mississippi Shared Renewable Energy Systems. Attachment B is based on national best practices and successful program provisions in other states. Attachment C is an explanatory companion document which provides background and references for our suggestions in Attachment B. The intervenors who join in the proposed Shared Renewable Energy Systems proposal are noted in Attachment B and the footnote below.²

¹ City of Jackson, Education, Economics, Environmental, Climate, and Health Organization (EEECHO), Gulf States Renewable Energy Industry Association, NAACP, Posigen, Scenic Hill Solar, Sierra Club, Solar Energy Industries Association (SEIA), Steps Coalition, Inc., Sundial Solar Developers, Inc., Solar Alternatives, Inc., and Mississippi Solar Energy Society.

² 2CMississippi, City of Jackson, Dimension Renewable Energy LLC, EEECHO, Entegritty, Gulf States Renewable Energy Industry Association, NAACP, Steps Coalition, Inc., Sundial Solar Developers, Inc., Solar Alternatives, Inc., Mississippi Solar Energy Society and Audubon Mississippi. GRID Alternatives is a national leader in helping economic and environmental justice communities nationwide get clean,

Securing a fair net metering policy that incentivizes investment is the key component to scaling up distributed renewable energy in the state. A fair and effective net metering rule will help bring clean energy and energy independence to Mississippians, diversify the state's power mix and reduce pollution and greenhouse gas emissions of fossil-fuel resources, protect against fuel price fluctuations, reduce regulatory compliance costs of conventional generation, increase resilience, and jump-start the state's clean energy economy. A fair and effective shared solar rule will ensure that the benefits of distributed generation reach customers at all income levels.

Tapping into the state's vast solar potential³ with net metering will provide net benefits to the state and put downward pressure on rates for all ratepayers, not only those who choose to install rooftop solar. By ramping up utility scale projects over the last five years, the utilities have demonstrated the tremendous value of solar and the state's significant solar potential.⁴ A sound net metering rule will also position the state to take advantage of other emerging distributed generation technologies. Importantly, residents of Mississippi will also experience additional health and environmental benefits when clean distributed generation displaces peaking generation at fossil fuel units.

A Fair Net Metering Rule Will Create Jobs

The Mississippi Public Utilities Act charges the Public Service Commission "to foster, encourage, enable and facilitate economic development in the State of Mississippi, and to support and augment economic development activities, and to authorize and empower the Public Service Commission, in carrying out its statutory responsibilities, to take every opportunity to advance the economic development of the state." A fair net metering rule is an aspect of public utility regulation that encourages growth and will usher clean energy jobs and dollars into the state. Investments in solar power create jobs in construction, manufacturing, operations and maintenance, and support sectors. As of 2019, the solar industry employed 250,000 workers.⁵ Solar makes up just under 2% of overall U.S. energy generation, yet it employs twice as many workers as the coal industry, almost five times as many as nuclear power, and nearly as many workers as the natural gas industry.⁶ Solar industry wages remain competitive with similar industries and above the national average. The median reported wage for non-electrician photovoltaic (PV) installers is \$16.00 for entry-level workers and \$23.00 for mid-level workers. The median reported wage for electrician PV installers is \$20.00 for entry-

affordable solar power and solar jobs, also supports the shared solar rules. See <https://gridalternatives.org/what-we-do>.

³ Anthony Lopez et al., *U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis* at 10-12, 15, 16, 18 (Nat'l Renewable Energy Lab July 2012), available at <http://www.nrel.gov/docs/fy12osti/51946.pdf> [hereinafter "NREL, Renewable Energy Technical Report"].

⁴ U.S. EIA, *Mississippi State Profile and Energy Estimates*, <https://www.eia.gov/state/analysis.php?sid=MS> (last updated July 16, 2020).

⁵ The Solar Foundation, *10th Annual National Solar Jobs Census 2019* at 11 (Feb. 2020), available at <https://www.thesolarfoundation.org/wp-content/uploads/2020/03/SolarJobsCensus2019.pdf> [hereinafter "2019 Solar Jobs Census"].

⁶ *Id.* (These numbers are based on 2016 data, the most recent available for comparison between industries.)

level workers and \$28.00 for mid-level workers.

The southeastern U.S. is a hot spot for American solar job growth. Neighboring southeastern states have created thousands of well-paid jobs in the solar industry, as the Table from the 2019 Solar Jobs Census shows below. Mississippi can do the same with appropriate incentives in a net metering rule that encourages growth in the solar market.

Table 13 SOLAR JOBS AND CAPACITY IN THE SOUTHEAST

State	SOLAR JOBS						SOLAR CAPACITY	
	2018 Jobs	2019 Jobs	Growth 18-19	National Rank	Jobs per Capita Rank	2020 Projected Growth	Cumulative Installed Capacity (MW)	National Rank
AL	614	707	15.2%	42	50	9.7%	283	26
DC	1,092	1,051	-3.8%	35	7	4.2%	81	41
DE	468	495	5.7%	45	29	5.6%	132	35
FL	10,358	12,202	17.8%	2	25	10.0%	3,414	5
GA	3,696	4,798	29.8%	15	36	1.0%	1,762	10
KY	1,410	1,362	-3.4%	32	40	9.1%	45	44
MD	4,515	4,854	7.5%	14	13	1.3%	1,160	15
MS	770	847	10.0%	41	45	4.0%	241	29
NC	6,719	6,617	-1.5%	11	20	10.2%	5,662	2
SC	2,983	3,307	10.9%	25	19	0.0%	1,050	16
TN	4,690	4,194	-10.6%	19	24	8.4%	341	24
VA	3,890	4,489	15.4%	16	28	7.9%	843	17
WV	341	340	0.0%	47	49	0.0%	8	48

Sources: The Solar Foundation, National Solar Jobs Census; Wood Mackenzie, Limited, and the Solar Energy Industries Association, U.S. Solar Market Insight (capacity data through Q3 2019).

The number of solar industry intervenors in this docket should send a clear message to the Commission that companies are very excited at the possibility of securing a fair net metering rule that will allow them to expand their operations into Mississippi.

Providing a fair net metering rule is also necessary to allow the State of Mississippi to take advantage of the opportunities for federal and other funding that will become available in the future. For example, the United States Department of Agriculture is currently seeking input on

developing a \$10 million rural renewable energy pilot program.⁷ Pending legislation could vastly increase the funding available for renewable energy expansion.⁸ Without a regulatory infrastructure and a renewable workforce in Mississippi, these opportunities will go elsewhere.

Request for Additional Comment Opportunities and Public Hearing

In the original net metering docket, Docket No. 2011-AD-2, the Commission held a public hearing, and allowed each intervenor who submitted comments 10 minutes to speak, intervenors who did not submit comments 5 minutes and public witnesses 5 minutes.⁹

Sierra Club understands that any new net metering rule will be subject to the requirements of Miss. Code Ann. 25-43-1, et seq. Sierra Club also understands that the Commission intends to hold a public hearing allowing the public the opportunity to comment on the proposed rule. To the extent necessary, Sierra Club formally requests a public hearing with the opportunity for comment by any interested party.

Sierra Club further submits that this process and the Commission would be best served by a formal opportunity for intervenors to submit comments in response to utility comments on the Commission's questions.

Allowing the parties an opportunity to file responsive comments will help clarify the issues raised for the Commission and facilitate a robust record. Sierra Club therefore requests that the Commission issue an order allowing all parties who submitted initial comments to submit brief comments in response to the comments submitted by other parties, as the Commission allowed in the initial net metering docket, 2011-AD-2.

Responses to the Commission's Questions:

1. Have the Net Metering and Interconnection Rules been effective in creating meaningful access to renewable self-supply opportunities for Mississippi electric customers?

The Commission's 2015 order adopting the present two channel net metering rule found a need for net metering because it "supports consumers' right to self-supply..., provides increased consumer choice and introduces innovation into a market dominated by monopolies, has the potential to put downward pressure on rates and provide benefits to all ratepayers, and constitutes a substantial step toward creating a viable solar market in Mississippi," among other

⁷ <https://www.usda.gov/media/press-releases/2021/04/01/usda-seeks-public-input-help-create-new-rural-renewable-energy>

⁸ <https://www.washingtonpost.com/climate-environment/2021/03/31/biden-climate-infrastructure/>

⁹ Order Setting Hearing Procedures, Docket No. 2011-AD-2 (Miss. Pub. Serv. Comm'n Sept. 22, 2015), available at https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=359020

benefits.¹⁰ The order also cited concerns regarding cost-shifting in states with very high penetration of distributed solar, or levels of subsidies. The Commission stated that it intended to proceed incrementally, citing concerns about unintended consequences. The Commission further expressed that “the Commission can, over time, determine whether it may be appropriate to increase compensation to net metering customers, update rate designs, or otherwise modify the rules to encourage customer participation, all while minimizing any adverse consequences for those customers that choose not to install self-generation.”¹¹

At this time, it is clear that the present 2 channel system and compensation structure have not achieved the Commission’s objectives of supporting customer’s ability to self-supply and tapping into Mississippi’s substantial solar potential. This is evident from the miniscule number of customer connections documented in the utilities’ reports.

By any reasonable standard, in Mississippi, the residential and commercial solar industry remains in its infancy. As Commissioner Baily reported in his April 21, 2020 newsletter, in 2019, a total of seventy-five (75) Entergy customers have executed Net Metering Interconnection Agreements since 2016, which represents 0.016% of Entergy’s customer base. For Mississippi Power, one hundred sixty-three (163) customers have executed Net Metering Interconnection Agreements since 2016, which represents 0.0871% of MPC’s customer base. The utilities are due to report the 2020 numbers this month in dockets 2016-UN-32 & 2016-UN-33.

As Synapse’s 2014 report for the Commission accurately predicted, distributed solar will not achieve significant adoption in Mississippi if the costs of adoption are not offset by reduced energy bills. Five years of data is more than enough time to definitively conclude that the existing rule is not providing an adequate structure for customers to self-supply. As set out in the response to Question 2 below, the Commission can revise the rule to achieve significant solar adoption, avoid any quantifiable cost-shifting as to any customers, and allow ample opportunity to timely address any technical issues that arise as penetration increases.

2. What, if any, modifications to the Net Metering and Interconnection Rules could meaningfully increase customer access to renewable self-supply?

To meaningfully increase customer access, four changes are needed to Mississippi’s net metering rules:

1. Compensation at the full retail rate;
2. Allowing customers, especially low-income residential customers, to offset high monthly fixed charges with net metering bill credits;

¹⁰ Order Adopting Net Metering Rule at 3-4, Docket No. 2011-AD-2 (Miss. Pub. Serv. Comm’n Nov. 28, 2017), *available at* https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=562242.

¹¹ *Id.* at 11.

3. Allowing for third-party ownership through power purchase agreements; and
4. Broadening access by allowing for shared renewable energy systems.

These four requisites to a successful rule are discussed briefly below and in detail in response to the Commission's other questions.

The miniscule number of net metering customers evidences that the compensation mechanism in Mississippi's net metering rule does not provide an appropriate incentive for self-supply. Synapse's 2014 study for the Commission found that, in order to fairly compensate net metering customers and encourage growth in distributed generation, net metering customers should be compensated at a rate slightly above the retail rate.¹² The Total Benefits of Distributed Generation rate does not adequately compensate customers for the benefits of the system,¹³ and it discourages self-supply because it does not allow customers to offset the costs of adoption on a schedule that makes distributed generation a desirable investment.¹⁴ It is also complicated and difficult to understand compared to the simplicity of the 1:1 retail compensation.¹⁵ Additionally, the rule unfairly denies net metering customers the seasonal benefits of solar energy generation by netting on a monthly instead of an annual basis. An effective net metering rule would allow solar customers to optimize their investment by installing systems that take advantage of summer sunshine to help offset winter consumption.

Utilities and special interests have claimed that net metering unfairly subsidizes solar and other renewable users but in fact the data shows the opposite is true: that distributed generation customers are unjustly subsidizing the utilities because they are not receiving fair compensation. Net metering studies around the country have consistently reached the same

¹² Synapse Net Metering in Mississippi at 39, Docket No. 2011-AD-2 (Sept. 29, 2014) ("Synapse study"), available at https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=337867.

¹³ Synapse Study at 43-44.

¹⁴ The 2019 Acadian study reviewing the benefits adder does not merit further attention. The Commission found the low net metering participation impeded the ability to "truly gauge the benefits that have been and will be achieved by net metering in Mississippi." Order Deferring Adoption of Actual Benefits Adder at para. 8, Docket No. 2011-AD-2 (Miss. Pub. Serv. Comm'n June 11, 2019) available at https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=637696. See also Sierra Club's Comments Regarding Acadian Consulting LLC's Draft Reporting Regarding Benefits of Net Metering, Docket No. 2011-AD-2 (Miss. Pub. Serv. Comm'n Feb. 4, 2019), available at https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=563020.

¹⁵ See e.g. Melissa Whited et al., *Distributed Solar in the District of Columbia* (Synapse Energy Economics Apr. 12, 2017), available at <https://www.synapse-energy.com/sites/default/files/Distributed-Solar-in-DC-16-041.pdf>.

conclusion as the Synapse Study in Mississippi: net metering amounts to a net benefit for customers.¹⁶

- A published 2020 review of value of solar studies concluded that net metering customers are “grossly under-compensated” because the value of solar far exceeds the compensation they receive under the net metering rate.¹⁷
- A 2017 Arkansas study examined the benefits and costs using the full set of cost effectiveness tests, and found the benefits of solar equal or exceed the costs under all tests.¹⁸ A 2017 meta-study from Michigan also found net metering represents a net benefit to the grid.¹⁹
- In December, 2020 Vibrant Clean Energy, LLC employed the WIS:dom-P combined capacity expansion and production cost model software to look at the value of distributed energy systems nationwide and found that distributed energy resources can save customers up to \$473 billion on electricity and create 2 million local jobs by 2050.²⁰ The study found that the cleanest, lowest cost grid requires 223 GW more local solar by 2050.²¹

As ICF found in its meta-analysis of cost-benefit studies from 15 states, the overall value of solar depends substantially on which costs and benefits are included and monetized in a study.²² The utilities’ studies that estimate low values for solar undervalue or ignore important

¹⁶ Mark Muro & Devashree Saha, *Rooftop solar: Net metering is a net benefit* (Brookings Inst. May 23, 2016), available at <https://www.brookings.edu/research/rooftop-solar-net-metering-is-a-net-benefit/#>; Solar Energy Industries Association (SEIA) maintains a website including links to Solar Cost-Benefit Studies around the country at <https://www.seia.org/initiatives/solar-cost-benefit-studies>; Gideon Weismann & Bret Fanshaw, *Shining Rewards: The Value of Rooftop Solar Power for Consumers and Society (2016 Edition)* (Environment Am. Oct. 2016), available at <https://environmentamerica.org/sites/environment/files/reports/AME%20ShiningRewards%20Rpt%20Oct16%201.1.pdf> [hereinafter “The Value of Rooftop Solar”].

¹⁷ Koami Soulemane Hayibo & Joshua M. Pearce, *A review of the value of solar methodology with a case study of the U.S. VOS*, 137 Renewable and Sustainable Energy Reviews 1 (Mar. 2021), available at <https://doi.org/10.1016/j.rser.2020.110599>.

¹⁸ R. Thomas Beach & Patrick G. McGuire, Crossborder Energy, *The Benefits and Costs of Net Metering Solar Distributed Generation on the System of Entergy Arkansas, Inc.* (Sept. 15, 2017), available at <https://drive.google.com/file/d/0BzTHARzy2TINbHVITmRsM2VCQUU/view>.

¹⁹ Inst. for Energy Innovation, *Solar Energy in Michigan: The Economic Impact of Distributed Generation on Non-Solar Customers* at 2 (June 2017), available at https://docs.wixstatic.com/ugd/371a41_664a0e0b41f24b5388603d6354a32829.pdf.

²⁰ Christopher Clack et al., Vibrant Clean Energy, *Why Local Solar for All Costs Less* at 3, 14 (Dec. 1, 2020), available at https://www.vibrantcleanenergy.com/wp-content/uploads/2020/12/WhyDERs_ES_Final.pdf.

²¹ *Id.*

²² ICF, *Review of Recent Cost-Benefit Studies Related to Net Metering and Distributed Solar* at 3, (U.S. DOE May 2018), available at https://www.energy.gov/sites/prod/files/2020/06/f75/ICF%20NEM%20Meta%20Analysis_Formatted%20FINAL_Revised%208-27-18.pdf.

environmental and societal benefits that comes from switching from polluting fossil-fuels to the sun.²³

Ignoring these benefits runs counter to scientific consensus as well as public opinion. There is strong scientific consensus that damage from climate change is presently occurring, and if anthropogenic greenhouse gas emissions are not controlled, impacts will become increasingly severe.²⁴ Public opinion strongly supports action to control climate change.²⁵ Short and mid-term deployment of non-emitting technologies are critical to addressing the climate crisis on any effective timeframe.²⁶

Sierra Club notes that Mississippi Power's high fixed charges also present a serious impediment to customer's adoption of net metering. Sierra Club refers the Commission to other intervenors who have addressed this issue and present recommendations for determining a different minimum charge for distributed generation customers.

Allowing for third-party ownership and shared systems are critical modifications to ensure equitable and broad access to the benefits of solar since most households do not have the upfront capital to invest in a solar system. See Response to Questions 4, 9, & 13. Sierra Club and other intervenors have submitted a proposed Shared Distributed Generation provision for inclusion in the Commission's rule. See Attachments B & C.

Sierra Club recognizes the Commission's concern regarding cost-shifting among ratepayers at very high levels of distributed generation penetration. To address this concern, as detailed in Sierra Club's response to Question 7, the Commission can provide for a mechanism to revisit the rule at specified levels of penetration, which will allow identification of any potential issues well before they become significant.

3. What, if any, modifications to the Net Metering and Interconnection Rules would incentivize increased participation by both net metering customers and industry providers such as developers, designers, installers and maintenance providers for distributed generation facilities?

²³ The Value of Rooftop Solar.

²⁴ V. Masson-Delmotte et al., IPCC, *Summary for Policymakers: Global warming of 1.5°C* (World Meteorological Org. Oct. 2018), available at https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf; James Powell, *Scientists Reach 100% Consensus on Anthropogenic Global Warming*, 37 *Bulletin of Science, Technology & Society* 183–184 (2017), available at <https://journals.sagepub.com/doi/10.1177/0270467619886266>.

²⁵ Alec Tyson & Brian Kennedy, *Two Thirds of Americans Think Government Should Do More on Climate Change* (Pew Research Center June 23, 2020), available at <https://www.pewresearch.org/science/2020/06/23/two-thirds-of-americans-think-government-should-do-more-on-climate/>.

²⁶ National Academies of Sciences, Engineering, and Medicine, *Accelerating Decarbonization of the U.S. Energy System* (The National Academies Press 2021), available at <https://doi.org/10.17226/25932>.

Sierra Club refers the Commission to the comments submitted by distributed generation system installers.

4. What, if any, modifications to the Net Metering and Interconnection Rules should the Commission consider to increase low-income access to, and participation in, net metering?

Sierra Club appreciates the Commission's focus on low-income access to the benefits of net metering. As the Commissioners are well-aware, Mississippi has the lowest median income of all 50 states,²⁷ residential customers have some of the highest bills in the country (MS ranks 42 of 51 states and Washington DC) and Mississippians carry the highest energy burden of any other state in the country except Alabama.²⁸ Approximately one third of Mississippi Power's residential customers are below the federal poverty level.²⁹ Although the Commission previously attempted to address low-income access through the low-income adder, because the compensation scheme is insufficient even with the adder, and because of the other flaws in the rule, it does not appear that any low income customers have taken advantage of net metering under the current Mississippi rules.

Sierra Club has two recommendations. First, to create opportunities for all income levels to participate in net metering, the Commission should adopt a shared renewable energy rule. Second, Sierra Club adopts PosiGen's recommendations for modifying the low-income adder by expanding access and reducing barriers.

A shared renewable energy program will expand access to a broad group of customers who may not be able to take advantage of net metering, including low-income customers. See Response to Question 13, Attachment B (proposed Mississippi Shared Renewable Energy Systems program) & C (companion document providing background and references for the Shared proposal). Shared renewable programs allow customers who are renters, or have homes which are not suitable due to construction or location for renewable installation, to participate.

A shared renewable energy program with appropriate incentives could help reduce bills for low income households. Lower income households have been slower to adopt solar because they face a range of barriers including: not owning their own roofs because they live in multi-family buildings or rental properties; limited access to financing; or living in buildings that require other structural or energy efficiency upgrades before solar investments make sense.³⁰ In fact, a report from the National Renewable Energy Laboratory (NREL) estimated that only about one-quarter of U.S. residential buildings are physically suitable for installing solar on their roofs, a

²⁷ World Population, *Median Household Income by State 2021*, <https://worldpopulationreview.com/state-rankings/median-household-income-by-state> (last accessed Apr. 1, 2021).

²⁸ Josh Daniel, *How Affordable is Your Electricity? Comparing Electric Rates, Bills, and Burden*, Union of Concerned Scientists, Oct. 26, 2018, available at <https://blog.ucsusa.org/joseph-daniel/state-electricity-affordability-rates-vs-bills-vs-burden>.

²⁹ Testimony of Nicole Faulk, Docket No. 2003-UN-0898, filed November 15, 2017.

³⁰ James Mueller & Amit Ronen, *Bridging the Solar Income Gap* at 2 (GW Solar Institute Jan. 2015), available at <https://solar.gwu.edu/bridging-solar-income-gap>.

figure that does not even take into account the ownership status of the building.³¹ Because electricity costs make up a much larger share of low-income household budgets compared to more affluent households, rooftop solar or other community solar programs can help these households save money on their bills and use their income to cover other basic needs.³²

Reaching renters is particularly significant for low income households. Renter households in Mississippi have approximately 50% of the median income of owner households, but their median monthly housing cost is actually higher than that of owner households.³³ A large majority of low-income renters in Mississippi, including areas served by Entergy and Mississippi Power Company, are defined as cost-burdened, spending more than 30% of their household income on rent.³⁴

Renewable energy provides other broad benefits to low-income communities, including local jobs and cleaner air. Ramping up renewable energy with shared renewables will displace polluting fossil fuel-fired plants that are often located close to low income and communities of color.³⁵ Prioritizing access to these communities will ensure that the benefits of Mississippi's net metering program are shared among all ratepayers.

The Low-Income Benefits Adder is now only available to the first 1,000 qualifying customers whose household income is at or below 200% of the federal poverty level. Double the federal poverty level is not the best marker in Mississippi given its median income level.³⁶ To expand access, the Commission should consider modifying the "200% of the federal poverty level" threshold and replacing it with a metric that would allow a broader group of LMI customers to be eligible. Sierra Club suggests an alternative definition that includes several means of qualification:

a household income at or below 120 percent of State Median Income, as published by the U.S. Department of Housing and Urban Development, 200 percent of the current federal poverty level, as published each year in the federal register by the U.S.

³¹ J Paidipati et al., *Rooftop Photovoltaics Market Penetration Scenarios* (Nat'l Renewable Energy Lab Feb. 2008), available at <http://www.nrel.gov/docs/fy08osti/42306.pdf>.

³² Energy assistance programs to fund efficiency and solar measures can reduce energy costs for low-income households permanently. Sierra Club encourages the Commission to explore how Mississippi utilities can encourage solar investments as part of their energy efficiency outreach programs.

³³ Affordable Housing Online, *Low Income Housing Data for Mississippi*, <https://affordablehousingonline.com/advocacy/Mississippi> (last accessed Apr. 1, 2021) (summarizing U.S. Census Bureau figures).

³⁴ Ann Carpenter et al., Federal Reserve Bank of Atlanta, *Rental Housing Affordability in the Southeast: Data from the Sixth District* at 15 (July 2018), available at <https://www.frbatlanta.org/-/media/documents/community-development/publications/discussion-papers/2018/02-rental-housing-affordability-in-the-southeast-2018-07-19.pdf>.

³⁵ U.S. EPA, *Children's Environmental Health Disparities: Black and African American Children and Asthma* (2014), available at http://www.epa.gov/epahome/sciencenb/asthma/HD_AA_Asthma.pdf.

³⁶ 200% of the federal poverty level in 2021 is approximately \$35,000 for a household of two persons and \$53,000 for a family of four. Annual Update of the HHS Poverty Guidelines, 86 Fed. Reg. 7,732, 7,733 (Feb. 1, 2021). Mississippi's median household income is \$45,081. World Population, *Median Household Income by State 2021*, <https://worldpopulationreview.com/state-rankings/median-household-income-by-state> (last accessed Apr. 1, 2021).

Department of Health and Human Services, or that is enrolled in a low-income program facilitated by the state or an EU. The EU or the Mississippi Public Service Commission may on an ongoing basis approve additional categorical eligibility thresholds to automatically qualify customers as low-income.

See Attachment A, Title 39, Part IV, Subpart II, Chapter 2, § 101 "Low-Income Benefits Adder". In addition, the Commission should eliminate the 1,000 customer cap to allow for more low-income customers to participate.

5. What, if any, modifications to the Net Metering and Interconnection Rules should the Commission consider to better enable commercial and industrial enterprises to self-supply?

No response.

6. What, if any, modifications should be made to the annual reporting requirements of the current Net Metering Rule?

Annual reports are useful data points for understanding whether or not the rule is encouraging customers to adopt distributed generation. The Commission should expand the reporting to include the total number of customers that are being compensated under the Low Income Benefits Adder. This information will help the Commission and other stakeholders track the progress being made to boost low income participation in net metering.

Sierra Club notes that neither Mississippi Power or Entergy have filed their annual net metering reports in the original net metering docket. The utilities should be ordered to file these reports in the public docket, and also make them available on the utility's website.

7. Should the Commission modify or remove the existing cap(s) on total installed net metering capacity?

Yes, the Commission should remove the existing 3% cap on total installed net metering capacity and replace it with a mechanism that that will convene all interested stakeholders to make recommendations to the Commission, once a specified level of distributed generation is achieved. As explained below, such a mechanism is incorporated in the joint redline of the current net metering rule submitted by the Sierra Club and other intervenors. See Attachment A, Title 39, Part IV, Subpart II, Chapter 3, § 103. Net Metering caps are unnecessary in general and any cap would be especially counterproductive in Mississippi at this time given low renewable penetration and the Commission's intent to attract industry and jobs to the state.

As detailed in response to Question 2, the numerous meta-studies show solar generation creates value that exceeds costs. This obviates the need of any artificial limit on the growth of the distributed generation market through an aggregated market cap in the State.

Moreover, such a cap is not needed for grid stability reasons, as the interconnection procedures will prevent any instability due to distributed generation growth on the system. There is no evidence that technical integration problems arise at such a low level of market penetration as 3%.

An aggregated market cap will distort market functioning and efficiencies and inhibit growth in the solar industry in Mississippi. In states with similarly low aggregate caps, markets prices can be inflated as the cap is approached, and boom and bust cycles can accompany the process of resetting cap levels. Thus, any cap would discourage solar installers from making long-term investments in offices and warehouses in Mississippi. Caps also create uncertainty for would-be net metering customers, since they do not know the cumulative capacity of other customers who have already submitted interconnection applications

The Joint Redline submitted by the intervenors provides a reasonable mechanism that will not cause market disruption, but permits the Commission to assess any potential problems before they occur. Attachment A, Title 39, Part IV, Subpart II, Chapter 3, § 102. Under this provision, a utility may petition the Commission to suspend new distributed generation connections when distributed generation reaches 10 percent of system peak demand in the prior calendar year.

Well before this threshold is reached, at 8 percent of system peak demand, the Commission's Net Metering Working Group would undertake a collaborative process to identify any issues, including grid stability, cost shifting in any direction, or administrative improvements. See Attachment A, Title 39, Part IV, Subpart II, Chapter 3, § 103. This will allow the Commission to assess the program in light of substantial data and experience.

This approach would comport with the principle of gradualism – i.e., that policy changes should be implemented gradually “without creating dramatic shifts in cost and benefits to individuals or groups.”³⁷ Programs that abruptly end create “regulatory uncertainty and reduce investor confidence.”³⁸ Nevada’s drastic decision to end net metering program in 2015 demonstrates the effects of ignoring the principles of gradualism. Overnight the booming rooftop solar installer companies shut down and left the state.³⁹

8. Should the Commission modify the timing or manner in which net metering customers are credited or compensate for excess energy exported to the Grid?

³⁷ Courtney Moran & Casey Ball, Structuring Better Caps for Sustainability Incentive Programs, 54 Idaho L. Rev. 177, 182 (2018), available at <https://digitalcommons.law.uidaho.edu/idaho-law-review/vol54/iss1/5>; See generally James Bonbright, *Principles of Public Utility Rates* at 291 (Columbia University Press 1961).

³⁸ *Id.*

³⁹ *Id.* at 192-93. Katie Fehrenbacher, *Nevada's New Solar Feed Have People Furious*, Fortune, Jan. 14, 2016, available at <http://fortune.com/2016/01/14/nevada-solar-battleground/>; Krysti Shallenberger, *Sunrun exists Nevada after net metering decision*, Utility Dive, Jan 7, 2016, available at <http://www.utilitydive.com/news/sunrun-exits-nevada-after-net-metering-decision/411728/>.

Yes. Sierra Club adopts PosiGen's response. The Commission should modify the existing compensation framework so that excess energy is compensated as kWh bill credits that offset energy purchased from the EU on a 1:1 basis, with unused credits during the billing month rolling over to the following month on an indefinite basis (i.e., retail rate net metering). Refer to PosiGen's response to Questions 1 and 2 for additional information and for specific changes proposed. Given Mississippi Power's high fixed charges, Sierra Club also recommends that low income customers be allowed to use net metering credits to offset fixed charges. See Attachment A, Title 39, Part IV, Subpart II, Chapter 3, § 107.

9. What measures or mechanisms could most equitably reduce the upfront cost burdens faced by customers interested in self-supply through net Metering?

In addition to a shared renewable program, see Response to Questions 4 & 13 and Attachments B & C, third-party ownership and free access to financing is essential to the success of a net metering program in Mississippi; it is also essential to allow for fair access to the benefits of rooftop solar to lower income households. Most low- and middle-class households and small businesses cannot afford to pay the upfront costs to install solar systems, which typically cost approximately \$20,000. With a third-party model, the third-party installer/owner pays the upfront costs and enters into a contract with the host under a power purchase or leasing model. Mississippi's current rule allows leases but does not allow third-party sales through a power purchase agreement. Under a power purchase model, the solar system offsets the host's electric utility bill, and the host pays the installer/owner a monthly fixed rate, typically lower than a typical month's electric bill. A leasing model works in a similar fashion to a car leasing model, where the host pays the installer/owner for the system over a period of time, instead of paying for the power produced. Allowing for third-party ownership will help spur the growth of distributed generation in Mississippi.

10. What role, if any, should the Mississippi Public Utilities Staff serve in reviewing facilities studies for Level 2 and/or 3 interconnections?

No response.

11. In light of the Commission's recent approval of advanced metering infrastructure (AMI) for Entergy and Mississippi Power Company, are bi-directional meters still needed for effective net metering?

No. The bi-directional metering system, along with the current compensation scheme, has only served to prevent the development of distributed generation resources and a viable distributed generation industry.

12. To the extent a commenter proposes a new or different compensation scheme, please explain how that proposal would directly affect a Mississippi customer's ability to self-supply. Answers to this question should include any relevant studies, surveys, financial modeling or other specific data-driven evidence

supporting the position.

Increasing the compensation rate will directly impact a Mississippi's customer ability to self-supply. The potential net metering customer or third-party solar owner is interested in the time period to recover the initial investment in solar panels – known as solar panel payback period or break-even point, which is a function of the equipment costs, incentives and the compensation rate. If the compensation rate is increased to the point where the investment offers an attractive return, it will attract the distributed generation industry that will allow Mississippians the option of self-supply. Although solar costs have declined significantly in the last five years, the miniscule rate of net metering adoption in Mississippi shows that the decline has not impacted the investment decision. See also studies referenced in response to Question 2.

13. Should the Net Metering Rule incorporate uniform rules or standards applicable to community solar projects and, if so, in what way and to what extent?

Yes, Sierra Club strongly encourages the Commission to adopt a shared renewable energy rule in order to allow a broader range of customers access to the benefits of net metering. Sierra Club and the Steps Coalition are joint advisors to a \$3 million fund, housed at the Mississippi Gulf Coast Community Foundation, which is focused on developing a shared renewable project. Adoption of a shared renewable

Shared renewable systems offer a range of benefits. A shared renewable program enables all utility customers to participate, including renters and those with homes not suitable for solar due to construction or location. See Response to Question 2. Sierra Club and the other parties joining it have provided the Commission with a best practices based framework in Attachments B & C, Mississippi Shared Renewable Energy Systems proposal and its companion explanatory document.

Shared renewable facilities are often larger than typical rooftop systems and can result in lower costs due to economies of scale.⁴⁰ The ability to site shared renewable energy facilities in optimal locations instead of being restricted to a particular customer's roof, the opportunity for new financing arrangements, and the potential simplicity of customer participation are other reasons shared renewable energy programs can help grow renewable energy resources.⁴¹

A shared renewable program would also increase solar industry jobs in Mississippi because it would allow renewable energy developers to tap into a larger market. For example, Synapse recently evaluated the macroeconomic impacts of the Rhode Island Community Remote Net Metering Program⁴² and found that the program would create 556 job-years over the 25-year

⁴⁰ Model Rules for Shared Renewable Energy Programs at 3.

⁴¹ *Ibid.*

⁴² National Grid, *Net Metering in Rhode Island* (Feb. 29, 2021), available at <https://ngus.force.com/s/article/Net-Metering-in-Rhode-Island>.

contract period, as well as millions of dollars in state taxes, business income and personal income.⁴³

Sixteen states and Washington D.C. have adopted community solar programs.⁴⁴ The Interstate Renewable Energy Council (IREC)'s Shared Renewables Policy Catalog provides comprehensive details about existing and proposed state shared renewable programs.⁴⁵ IREC reviewed these programs to compile its model shared renewable energy rules. The Coalition for Community Solar Access (CCSA) has also developed helpful policy resources, namely the Community Solar Policy Decision Matrix, which is designed to guide policymakers through program design questions.

The proposed Mississippi Shared Renewable Energy Systems provisions for the net metering rule in Attachment B draws from model rules and state rules for community solar/shared renewable energy programs. We reviewed IREC's Model Rules⁴⁶ and Shared Renewable Energy for Low- to Moderate-Income Consumers Policy Guidelines and Model Provisions,⁴⁷ the CCSA Community Solar Policy Decision Matrix,⁴⁸ as well as programs in Washington DC,⁴⁹ Maryland⁵⁰ and Colorado,⁵¹ and selected the provisions that could best achieve the goal of extending renewable benefits to low-income customers and fit Mississippi's unique needs. In Attachment C we explain some of our suggestions where some background may be helpful.

The Shared Renewable Rule includes several incentives for low-income participants that are based on best practices from other states. Please see Dimension Renewable Energy's Response to Question 4 for a list of state incentives for low-income customers.

⁴³ Tim Woolf et al., Synapse Energy Economics, *Macroeconomic Impacts of the Rhode Island Community Remote Net Metering Program* at 5 (Mar. 10, 2021), available at <http://www.ripuc.ri.gov/generalinfo/Synapse-CRNM-Macroeconomic-Report-2021.pdf>.

⁴⁴ IREC Shared Renewables, available at <https://irecusa.org/regulatory-reform/shared-renewables/>

⁴⁵ IREC National Shared Renewables Policy Catalog, available at <https://irecusa.org/regulatory-reform/shared-renewables/shared-renewables-policy-catalog/>

⁴⁶ Interstate Renewable Energy Council & Vote Solar, *Model Rules for Shared Renewable Energy Programs* (2013), available at <https://irecusa.org/publications/model-rules-for-shared-renewable-energy-programs/> [hereinafter "Model Rules for Shared Renewable Energy Programs"].

⁴⁷ Interstate Renewable Energy Council, *Shared Renewable Energy for Low-to Moderate-Income Consumers: Policy Guidelines and Model Provisions* (2016), available at <https://irecusa.org/publications/shared-renewable-energy-for-low-to-moderate-income-consumers-policy-guidelines-and-model-provisions/>.

⁴⁸ Coalition for Community Solar Access, *Community Solar Policy Decision Matrix: Guidance for Designing Community Solar Programs* (Mar. 2019), available at <http://www.communitysolaraccess.org/wp-content/uploads/2019/04/2019CommunitySolarPolicyMatrix-2.pdf>.

⁴⁹ DC has a series of rulemakings and amendments – DSIRE, *Net Metering: Program Overview*, <https://programs.dsireusa.org/system/program/detail/105> (last updated Mar. 11, 2021); Solar for All program established via D.C. ACT 21-466, available at https://lms.dccouncil.us/downloads/LIMS/35409/Signed_Act/B21-0650-SignedAct.pdf, D.C. ACT 21-466 mostly sets up funding for the program.

⁵⁰ http://www.dsd.state.md.us/comar/subtitle_chapters/20_Chapters.aspx#Subtitle62

⁵¹ <https://leg.colorado.gov/bills/hb19-1003>

14. Should the Commission continue to condition a customer's receipt of the additional compensation allowed by the non-quantifiable benefits adder on the customer's voluntary transfer of their REC ownership?

No. Participation in net metering should not be conditioned on transferring RECs to the EU as provided in the existing net metering rule. The existing net metering rules provide that "Any renewable energy credits (RECs) created by the RENMIC are the property of the RENMIC." However, the Commission's order adopting the rule found that "any net metering customers who receive the additional compensation allowed by the adder shall voluntarily transfer RECs to their electric utility as a condition to receiving the Non-quantifiable Expected Benefits adder to the avoided cost."⁵²

This requirement runs directly counter to national best practices, as the majority of states with net metering policies have specified that RECs are owned by the net metering customer.⁵³ For Southeastern examples, Arkansas⁵⁴ and Kentucky⁵⁵ specify that RECs associated with a net metering system are owned by the customer. The Commission should follow suit and explicitly provide that RECs are both owned by the net metering customer and that the net metering customer is not required to transfer RECs to the utility as a condition of receiving the full benefits of participating in net metering.

15. Should the Commission permit meter aggregation by a single net metering customers' owners?

Meter aggregation should be allowed. As described in response to Questions 2 & 13 the typical rooftop solar model does not work for all customers. Certain types of customers may have more than one meter installed on their property or properties, such as school districts, and meter aggregation would allow these customers to offset loads associated with multiple meters. Other customers like renters may only be able to participate through a shared renewable energy rule. Aggregation arrangements improve the economics of a distributed system so that a more diverse set of customers can participate. There is no valid reason to exclude these customers from the benefits of net metering.

⁵² Order Adopting Net Metering Rule at 17-18, Docket No. 2011-AD-2 Order (Miss. Pub. Serv. Comm'n Dec. 3, 2015), *available at* https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=362179.

⁵³ National Conference of State Legislatures, *Net Metering Policies* (Nov. 20, 2017), *available at* <https://www.ncsl.org/research/energy/net-metering-policy-overview-and-state-legislative-updates.aspx#:~:text=REC%20Ownership,excess%20electricity%2C%20owns%20the%20REC>.

⁵⁴ SB 145, 92nd Gen. Assemb., Reg. Sess. (Ark. 2019). *And see*, Order No. 7 at 93-95, Docket No. 20-015-U (Ark. Pub. Serv. Comm'n Dec. 16, 2020), *available at* (the first NEM application final order since SB 145, affirming that a net metering customer owns the RECs and may sell them).

⁵⁵ Interconnection and Net Metering Guidelines, Administrative Case No. 2008-00169 (Ky. Pub. Serv. Comm'n) *available at* <http://www.psc.ky.gov/agencies/psc/Industry/Electric/Final%20Net%20Metering-Interconnection%20Guidelines%201-8-09.pdf>.

16. How could the Net Metering Rule most effectively and accurately incorporate new or developing distributed energy resources, such as battery Storage?

Sierra Club recommends that the Commission open a separate docket to consider incentives and rate structures to encourage development of utility and distributed storage in Mississippi. As Sierra Club explains in greater technical detail in its recent comments on Mississippi Power's IRP technical conference, battery storage costs have declined at a striking rate over the last number of years and are predicted to continue to steeply decline.⁵⁶ These price declines are enabling renewable plus storage projects to be viable to replace fossil-fuel plants. For example, Florida is building a 409 MW storage system to replace two existing gas units, which will save customers \$100 million dollars.⁵⁷

Distributed storage has the potential to address grid integration challenges should high renewable penetration be achieved, and storage also provides high value to the grid and customers.⁵⁸ These include grid and community resiliency, a particularly important consideration for Mississippi Power customers vulnerable to periodic lengthy outages due to tropical weather. IREC's 2015 working paper offers policy considerations to help regulators and stakeholders identify best practices in the emerging area of distributed energy storage.⁵⁹

17. What role, if any, should the Commission's Joint Solar Safety and Net Metering Working Group Continue Going forward?

The Commission should continue convening the working group but it should be rebranded as a general working group that works to address all issues related to net metering, interconnection and shared renewable energy.

18. What measures and mechanisms should the Commission consider to better enable schools, state and local government bodies, and other non-profit or tax-exempt entities to participate in net metering?

The Commission should allow meter aggregation and shared renewable energy systems. See Response to Question 2, 13 & 15 and Attachments B & C.

⁵⁶ Sierra Club Comments at 13, Docket No. 2019-UA-231 (Mar. 22, 2021). HJ Mai, *Electricity costs from battery storage down 76 percent since 2012: BNEF*, Utility Dive, Mar. 26, 2019, available at <https://www.utilitydive.com/news/electricity-costs-from-battery-storage-down-76-since-2012-bnef/551337/>.

⁵⁷ John Parnell, *FPL to replace aging gas power plants with the world's largest battery*, Forbes, Mar. 31, 2019, available at <https://www.forbes.com/sites/johnparnell/2019/03/31/fpl-to-replace-aging-gas-powerplants-with-the-worlds-largest-battery/#640ab4812ebb>.

⁵⁸ Sky Stanfield & Amanda Vanega, Interstate Renewable Energy Council, *Deploying Distributed Energy Storage: Near-Term Regulatory Considerations to Maximize Benefits* (Feb. 2015), available at <https://irecusa.org/publications/deploying-distributed-energy-storage/>.

⁵⁹ *Id.*

CERTIFICATE OF SERVICE

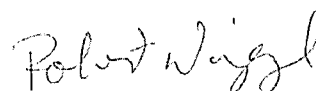
I, Robert B. Wiygul, counsel for Sierra Club do hereby certify that in compliance with RP6.122(2) of the Commission's Public Utilities Rules of Practice and Procedure (the "Rules").

(1) An electronic copy of the filing has been filed with the Commission via e-mail to the following address: efile.psc@psc.state.ms.us

(3) An electronic copy of the filing has been served via e-mail to the following address:

See attached Exhibit A

This the 5th day of April, 2021.



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**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSISSIPPI**

MISSISSIPPI PUBLIC SERVICE COMMISSION

2021-AD-19

**IN RE: ORDER ESTABLISHING DOCKET TO REVIEW THE EFFICACY AND
FAIRNESS OF THE NET METERING AND INTERCONNECTION RULES**

INDEX

- Attachment A: Community Intervenors Joint Redline Interconnection and Net Metering Rules
- Attachment A-1: Community Intervenors Joint Redline Interconnection and Net Metering Rules – Changes Accepted
- Attachment B: Mississippi Shared Renewable Energy Systems
- Attachment C: Explanatory Appendix to Mississippi Shared Renewable Energy Systems

ATTACHMENT A TO SIERRA CLUB RESPONSES – DOCKET NO. 2021-AD-19
COMMUNITY INTERVENORS JOINT REDLINE

City of Jackson - EEECHO (Education, Economics, Environmental, Climate, and Health Organization) -
Gulf States Renewable Energy Industry Association – Mississippi NAACP – Posigen, Inc. - Scenic Hill
Solar - Sierra Club - Solar Energy Industries Association (SEIA) - Steps Coalition, Inc. - Sundial Solar
Developers, Inc. – Solar Alternatives, Inc. – Mississippi Solar Energy Society

TITLE 39: UTILITIES

PART IV: Mississippi Distributed Generator Interconnection and Net Metering

Subpart I: Mississippi Distributed Generator Interconnection Rule

Chapter 01: Introduction

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

Chapter 02: Definitions

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

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

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- b. Underwriters Laboratories (“UL”), UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems;
2. The Interconnection Equipment shall meet the requirements of the most current approved version of each code and standard listed above, as amended and supplemented at the time the Interconnection Request is submitted to be deemed Certified;
3. The Interconnection Equipment has been labeled and is publicly listed by such NRTL at the time of the interconnection application;
4. The Interconnection Customer verifies that the intended use of the Interconnection Equipment falls within the use or uses for which the Interconnection Equipment is labeled and is listed by the NRTL;
5. If the Interconnection Equipment is an integrated equipment package such as an inverter, then the Interconnection Customer shall show that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment;
6. If the Interconnection Equipment includes only interface components (switchgear, multi-function relays, or other interface devices), an Interconnection Customer shall demonstrate that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment; and
7. Certified Interconnection Equipment shall not require further design testing or Production Testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2 or other nationally accepted standards, or additional Interconnection Equipment modification to meet the requirements. ~~However, nothing herein shall preclude the need for an on-site Witness Test or operational test by the Interconnection Customer.~~

104 “Commission” means the Mississippi Public Service Commission.

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

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- 106 **“Distributed Generator Facility” or “DGF”** means the equipment used by an Interconnection Customer to generate or store electricity that operates in Parallel with the EDS. A DGF typically includes an electric generator, prime mover, and the Interconnection Equipment required to safely interconnect with the EDS or local electric power system.
- 107 **“Distribution System Upgrade”** means a required addition or modification to the EU's EDS at or beyond the Point of Common Coupling (PCC) to accommodate the interconnection of a DGF. Distribution System Upgrades do not include Interconnection Facilities.
- 108 **“Electric Utility” or “EU”** means an electric public utility that distributes electricity to customers and is subject to the jurisdiction of the Commission pursuant to the provisions of Mississippi Code Annotated §§ 77-3-1, *et seq* A third-party owner of a DGF or DGFs that is not otherwise an EU is not an EU under the Commission’s rules if the third-party only distributes electricity from a DGF or DGFs to or on behalf of a single customer per DGF pursuant to a Renewable Energy Net-Metering Services Agreement under the Commission’s Net-Metering Rule, or generates electricity and credits for the beneficial use of customers participating in a Shared Renewable Energy System in accordance with the Commission’s rules.
- 109 **“Electric Distribution System” or “EDS”** means the facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which EDSs operate differ among areas but generally carry less than 69 kilovolts of electricity. EDS has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.
- 110 **“Facilities Study”** means an engineering study conducted by the EU to determine the required modifications to the EU’s EDS, including the cost and the time required to build and install such modifications as necessary to accommodate an Interconnection Request.
- 111 **“Fault Current”** means the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase.
- 112 **“Feasibility Study”** means a study performed to identify the existence of obvious adverse impacts before additional studies are undertaken for the proposed project to continue in the process.
- 113 **“Governmental Authority”** mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other

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governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, EU or any affiliate thereof.

114 “Hosting Capacity” means the amount of generation that can be accommodated at a point on the distribution system without requiring significant Distribution System Upgrades.

114115 –“Hosting Capacity Map” means a graphical and tabular representation of a high-level estimate of the available Hosting Capacity for additional distributed generation.

115116 “IEEE Standard 1547” means the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 (20032018) “IEEE Standard for Interconnection and Interoperability of Interconnecting Distributed Energy Resources with Electric Power Systems Interfaces,” as amended and supplemented at the time the Interconnection Request is submitted.

116117 “IEEE Standard 1547.1” means the IEEE Standard 1547.1 (20052020) “IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces,” as amended and supplemented at the time the Interconnection Request is submitted.

117118 “Interconnection Agreement” or “Agreement” means a form of interconnection agreement approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. The agreement between the Interconnection Customer and the EU governs the connection of the DGF to the EU’s EDS, as well as the ongoing operation of the DGF after it is connected to the EU’s EDS.

118119 “Interconnection Application” or “Application” means a form of interconnection application approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. This application provides the information needed by the EU to review the request for interconnection. For the Level 1 review process, the Application and Agreement are part of the same document.

119120 “Interconnection Customer” means an entity that submits an Interconnection Request for a DGF to an EU’s EDS.

120121 “Interconnection Equipment” means a group of equipment, components, or an integrated system connecting an electric generator with a local electric power system or an EDS that includes all interface equipment including switchgear, protective devices,

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inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

~~121~~122 **“Interconnection Facilities”** means facilities and equipment required by the EU to accommodate the interconnection of a DGF. Collectively, Interconnection Facilities include all facilities and equipment between the DGF and the PCC, including modification, additions, or upgrades that are necessary to physically and electrically interconnect the DGF to the EDS. Interconnection facilities are sole use facilities and do not include Distribution System Upgrades.

~~122~~123 **“Interconnection Request”** means an Interconnection Customer's request, in the form of an Application approved by the Commission, requesting the interconnection of a new DGF, or to increase the capacity or modify operating characteristics of an existing approved DGF that is interconnected with the EU's EDS.

~~123~~124 **“Line Section”** means that portion of an EU's distribution system connected to an Interconnection Customer, bounded by automatic sectionalizing devices or the end of the distribution line.

~~124~~125 **“Local Electric Power System” or “Local EPS”** means facilities that deliver electric power to a load that are contained entirely within a single premises or group of premises. Local electric power system has the same meaning as the term local electric power system defined in 3.1.6.2 of IEEE Standard 1547.

~~125~~126 **“Minor Equipment Modification”** means changes to the DGF that do not have a material impact on safety or reliability of the EDS.

~~126~~127 **“Mississippi Distributed Generation Interconnection Rule (MDGIR)”** means the most current version of the procedures for interconnecting Distributed Generator Facilities adopted by the Mississippi Public Service Commission.

~~127~~128 **“Nameplate Capacity”** means the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and is usually indicated on a nameplate physically attached to the power production equipment.

~~128~~129 **“Nationally Recognized Testing Laboratory” or “NRTL”** means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in the NRTL program.

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~~129~~130 **“Parallel Operation” or “Parallel”** means the sustained state of operation over 100 milliseconds, which occurs when a DGF is connected electrically to the EDS and thus has the ability for electricity to flow from the DGF to the EDS.

~~130~~131 **“Point of Common Coupling” or “PCC”** means the point where the DGF is electrically connected to the EDS. Point of common coupling has the same meaning as defined in 3.1.13 of IEEE Standard 1547.

~~131~~132 **“Primary Line”** means a distribution line rated at greater than 600 volts.

~~132~~133 **“Production Test”** means production test as defined in IEEE Standard 1547.

~~133~~134 **“Queue Position”** means the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the EU.

~~134~~135 **“Radial Distribution Circuit”** means a circuit configuration where independent feeders branch out radially from a common source of supply. From the standpoint of a utility system, the area described is between the generating source or intervening substations and the customer’s entrance equipment. A radial distribution system is the most common type of connection between a utility and load in which power flows in one direction from the utility to the load.

~~135~~136 **“Scoping Meeting”** means a meeting between representatives of the Interconnection Customer and EU conducted for the purpose of discussing alternative interconnection options, exchanging information including any EDS data and earlier study evaluations that would be reasonably expected to impact interconnection options, analyzing information, and determining the potential feasible points of interconnection.

~~136~~137 **“Secondary Line”** means a service line subsequent to the Primary Line that is rated for 600 volts or less, also referred to as the customer’s service line.

~~137~~138 **“System Impact Study”** means a study that identifies the electric system impacts that would result if the proposed DGF were interconnected without DGF modifications or EDS modifications, focusing on the Adverse System Impacts identified in the Feasibility Study.

~~138~~139 **“UL Standard 1741”** means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems,” as amended and supplemented at the time the Interconnection Request is submitted.

~~139~~140 **“Witness Test”** means verification (~~through on-site observation~~) by the EU that the installation evaluation required by IEEE Standard 1547 Section 5.3 and the

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Commissioning Test required by IEEE Standard 1547 Section 5.4, have been adequately performed. For Interconnection Equipment that has not been Certified, the Witness Test shall also include the verification by the EU of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification by the EU of Production Tests required by IEEE Standard 1547 Section 5.2. All tests verified by the EU are to be performed in accordance with the applicable test procedures specified by IEEE Standard 1547.1.

Chapter 03: INTERCONNECTION REQUESTS, FEES, AND FORMS

- 100** To facilitate the efficiency of Interconnection Requests, each EU shall publish Hosting Capacity Maps on its website that demonstrate the Hosting Capacity for accommodating generation at every feeder on the distribution system without requiring mitigations such as significant Distribution System Upgrades.
- 101** Interconnection Customers seeking to interconnect a DGF shall submit an Interconnection Request to the EU that owns the EDS to which interconnection is sought, using an application approved by the Commission. Electronic versions of such Commission-proved Application forms shall be posted on the EU's website. The EU shall establish processes for accepting Interconnection Requests electronically and for posting updates and other information relevant to the processing of the Interconnection Request.
- 102** When an Interconnection Customer is not currently a customer of the EU at the proposed PCC, upon request from the EU, the Interconnection Customer shall provide proof of site control evidenced by a property tax bill, deed, lease agreement, or other legally binding contract.
- 103** Interconnection fees shall be governed as follows for all Interconnection Requests and shall be published on each EU's website:
1. An EU may not charge an application, or other fee, to an applicant that requests Level 1 interconnection review. ~~However, if an application for Level 1 interconnection review is denied because it does not meet the requirements for Level 1 interconnection review and the applicant resubmits the application under another review procedure in accordance with the MDGIR, the EU may impose a fee for the resubmitted application, consistent with this section.~~
 2. For a Level 2 interconnection review, the EU may charge fees of up to \$50.00 plus \$1.00 per kilowatt of the customer-generator facility's capacity, plus the reasonable cost of any required minor modifications to the electric distribution system or additional review. Costs for such minor modifications or additional review will be based on the EU's non-binding, good faith estimates and the ultimate actual installed costs. Costs for engineering work done as part of any additional review will not exceed \$100.00 per hour.

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3. For a Level 3 interconnection review, the EU may charge fees of up to \$100.00 plus \$2.00 per kilowatt of the customer-generator facility's capacity, as well as charges for actual time spent on any required impact or facilities studies. Costs for engineering work done as part of an impact study or interconnection facilities study will not exceed \$100.00 per hour. If the EU must install facilities in order to accommodate the interconnection of the customer generating facility, the cost of such facilities will be the responsibility of the applicant.

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

Chapter 04: INTERCONNECTION REVIEW LEVELS

- 100 The EU shall review Interconnection Requests using one of the three levels of review procedures established below. The EU shall first use the level of DGF Agreement specified by the Interconnection Customer in the Application. The EU may not impose additional requirements not specifically authorized unless the EU and the Interconnection Customer mutually agree to do so in writing.
- 101 When an Interconnection Request is for an increase in capacity for an existing DGF, the Interconnection Request shall be evaluated on the basis of the new total Nameplate Capacity of the DGF.
- 102 When an Interconnection Request is for a DGF that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single PCC, the Interconnection Request shall be evaluated on the basis of the aggregate Nameplate Capacity of the multiple devices.

Chapter 05: LEVEL 1 INTERCONNECTION REVIEWS

- 100 The EU shall use Level 1 review procedures to evaluate Interconnection Requests when:
 1. The DGF is inverter-based;
 2. The DGF has a Nameplate Capacity of ~~2520~~ kW or less; and
 3. The Interconnection Equipment proposed for the DGF is Certified.
- 101 For Level 1 Interconnection Review, the EU shall first evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:

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1. For interconnection of a proposed DGF to a Line Section on a Radial Distribution Circuit, the aggregated generation on the Line Section, including the proposed DGF, shall not exceed 15% of the Line Section annual peak load.
 2. When a proposed DGF is to be interconnected to a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, may not exceed 65 percent of the transformer nameplate power rating~~20 kW~~.
 3. When a proposed DGF is single-phase and is to be interconnected to a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
 4. Construction of facilities by the EU on its own system is not required to accommodate the DGF.
- 102** The Level 1 Interconnection Review shall then be conducted in accordance with the following procedures:
1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing. An EU shall, within 3 business days of submission, provide written confirmation to the Interconnection Customer of receipt of the Interconnection Request.
 2. When an Interconnection Request is complete, the EU shall assign a Queue Position.
 3. The EU shall, within ~~seven (7)~~ 15 business days after notifying a Level 1 applicant that the application is complete, indicate that the DGF equipment meets all Level 1 criteria, verify the DG can be interconnected safely and reliably using Level 1 screens, and provide a conditionally approved Level 1 Interconnection Application Form and Agreement to the Interconnection Customer.
- 103** Unless the EU determines and demonstrates to the Interconnection Customer that a DGF cannot be interconnected safely or reliably to its system and provides a letter to the Interconnection Customer explaining its reasons for denying an Interconnection Request, the EU's final approval of the Interconnection Agreement is subject to the following conditions:

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

Chapter 06: LEVEL 2 INTERCONNECTION REVIEWS

- 100** The EU shall use the Level 2 Interconnection Review procedure to evaluate an Interconnection Request when:
1. The DGF has a Nameplate Capacity rating of 25 MW or less;
 2. The Interconnection Equipment proposed for the DGF is Certified; and
 3. The aggregated total of the Nameplate Capacity of all of the generators on the circuit, including the proposed DGF, is 25 MW or less.
- 101** No construction of facilities by an EU shall be required to accommodate the DGF, except as permitted by an additional review for minimal modifications of the EDS, as described in these Level 2 procedures.
- 102** For Level 2 Interconnection Review, the EU first shall evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:
1. For interconnection of a proposed DGF to a radial distribution circuit, the aggregated generation on the Line Section, including the proposed DGF, may not exceed 15% of the Line Section annual peak load.

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2. The proposed DGF, in aggregation with other generation on the distribution circuit, may not contribute more than 10% to the distribution circuit's maximum Fault Current at the point on the Primary Line nearest the Point of Common Coupling (PCC).
3. The proposed DGF, in aggregate with other generation on the distribution circuit, may not cause any distribution protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers), or other customer equipment on the EDS to be exposed to Fault Currents exceeding 87.5% of the short circuit interrupting capability. The Interconnection Request may not receive approval for interconnection on a circuit that already exceeds 87.5% of the short circuit interrupting capability.
4. When a DGF is to be connected to three-phase, three-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected phase-to-phase.
5. When a DGF is to be connected to three-phase, four-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected line-to-neutral and shall be effectively grounded.
6. When the proposed DGF is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, shall not exceed 65 percent of the transformer nameplate power rating 20 kW.
7. When a proposed DGF is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
8. A DGF, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the DGF proposes to interconnect, may not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
9. No construction of facilities by an EU on its own system shall be required to accommodate the DGF.

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

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1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing. As part of this process, the EU shall assign a Queue Position. The Queue Position of the Interconnection Request shall be used to determine the potential Adverse System Impact of the DGF based on the relevant screening criteria. If there are higher queued Interconnection Requests on the same radial line circuit, the EU shall evaluate the Interconnection Requests by performing any Level 2 screens requiring aggregate capacity calculations and determine if the DGF in combination with the higher queued Interconnection Requests exceeds any of the aggregate capacity requirements. If an aggregate capacity requirement is exceeded, the EU shall notify the Interconnection Customer and shall not be obligated to meet the timeline for reviewing the Interconnection Request until such time as the EU has completed the review of all other Interconnection Requests that have a higher Queue Position and impact the aggregate capacity calculation that has been exceeded.
2. At the time an EU determines additional information is required to complete an evaluation, the EU shall request the information. The time necessary to complete the evaluation may be extended by mutual agreement of the parties, but only to the extent of the time required for receipt of the additional information. During an extension of time to submit additional information, the EU may not alter the Interconnection Customer's Queue Position.
3. Within 20 business days after the EU notifies the Interconnection Customer that it has received a completed Interconnection Request, the EU shall:
 - a. Evaluate the Interconnection Request using the Level 2 screening criteria;
 - b. Review any analysis provided by the Interconnection Customer, using the same criteria used by the customer; and
 - c. Provide the Interconnection Customer with the EU's evaluation, including a comparison of the results of its own analyses with those of Interconnection Customer, if applicable. When an EU does not have a record of receipt of the Interconnection Request and the Interconnection Customer can demonstrate that the original Interconnection Request was delivered, the EU shall expedite its review to complete the evaluation of the Interconnection Request within 20 business days of the Interconnection Customer's re-submittal.

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- 104** The EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of its determination that the Interconnection Request passes the Level 2 screening criteria.
- 105** When a DGF has failed to meet one or more of the Level 2 screens, the EU shall offer to perform additional review for minimal modifications of the EDS to determine whether minimal modifications to the EDS would enable the interconnection to be made consistent with safety, reliability and power quality criteria. The EU shall provide the Interconnection Customer with a nonbinding, good faith estimate of the costs of additional review for minimal modifications of the EDS. The EU shall undertake the additional review for minimal modifications of the EDS or the modifications only after the Interconnection Customer consents to pay for the review and modifications.
- 106** If the DGF fails one or more of the Level 2 screening criteria but the EU determines that minimal modifications to the EDS would enable the DGF to interconnect safely and reliably, the EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of making that determination.
- 107** If the EU finds that the DGF cannot be interconnected with minimal modifications to the EDS, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review.
- 108** An Interconnection Customer shall have 30 business days to sign and return the Agreement. When an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing prior to the expiration of the 30 business day period to extend the deadline. The EU may not unreasonably deny the request for extension.
- 109** The DGF Interconnection Agreement shall not become final until:
1. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
 2. The DGF is approved by electric code officials with jurisdiction over the interconnection;
 3. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 4. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

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

Chapter 07: LEVEL 3 INTERCONNECTION REVIEWS

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

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

1. An EU shall, within 10 business days of receipt of an Interconnection Request, inform the Interconnection Customer in writing or by electronic means that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.
2. When the Interconnection Request is deemed not complete, the EU shall provide the Interconnection Customer with a written list detailing information required to complete the Interconnection Request. The Interconnection Customer shall have 10 business days to provide appropriate data in order to complete the Interconnection Request, or the Interconnection Request shall be considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The Interconnection Request shall be deemed complete when the required information has been provided by the Interconnection Customer, or the parties have agreed that the Interconnection Customer may provide additional information at a later time.
3. When an Interconnection Request is complete, the EU shall assign a Queue Position. The Queue Position of an Interconnection Request shall be used to determine the cost responsibility necessary for the facilities to accommodate the interconnection. The EU shall notify the Interconnection Customer about other higher-queued Interconnection Customers that have the potential to impact the cost responsibility.
4. Level 3 Scoping Meetings shall be conducted as follows:

- a. —By mutual agreement of the parties, the Scoping Meeting, interconnection Feasibility Study, interconnection System Impact Study,

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or interconnection Facilities Study provided for in a Level 3 review may be waived;

- b. If agreed to by the parties, a Scoping Meeting shall be held within 10 business days, or other mutually agreed to time, after the EU has notified the Interconnection Customer that the Interconnection Request is deemed complete. The purpose of the meeting shall be to review the Interconnection Request, existing studies relevant to the Interconnection Request, and the results of the Level 1 or Level 2 screening criteria;
 - c. –When the parties agree at a Scoping Meeting that an interconnection Feasibility Study shall be performed, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Feasibility Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;
 - d. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study is not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection System Impact Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study; and
 - e. –When the parties agree at the Scoping Meeting that an interconnection Feasibility Study and System Impact Study are not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Facilities Study agreement including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
5. Any required interconnection studies shall be carried out using the following guidelines:
- a. –An interconnection Feasibility Study shall include the following analyses and conditions for the purpose of identifying and addressing potential Adverse System Impacts to the EU's EDS that would result from the interconnection:
 - b. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;

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- c. —Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
 - d. Initial review of grounding requirements and system protection;
 - e. —Description and nonbinding estimated cost of facilities required to interconnect the DGF to the EU's EDS in a safe and reliable manner; and
 - f. —Additional evaluations at the expense of the Interconnection Customer, when an Interconnection Customer requests that the interconnection Feasibility Study evaluate multiple potential points of interconnection.
6. An interconnection System Impact Study shall evaluate the impact of the proposed interconnection on both the safety and reliability of the EU's EDS. The study shall identify and detail the system impacts that result when the proposed DGF is interconnected without project or system modifications, focusing on the Adverse System Impacts identified in the interconnection Feasibility Study and potential impacts including those identified in the Scoping Meeting. The study shall consider all generating facilities that, on the date the interconnection System Impact Study is commenced, are directly interconnected with the EU's system, have a pending higher Queue Position to interconnect to the system, and have a signed a DGF Interconnection Agreement.
- a. —An interconnection System Impact Study shall be performed when the interconnection Feasibility Study identifies a potential distribution system Adverse System Impact. The EU shall send the Interconnection Customer an interconnection System Impact Study agreement within 5 business days of transmittal of the interconnection Feasibility Study report. The agreement shall include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The System Impact Study shall include:
 - i. A load flow study;
 - ii. Identification of affected systems;
 - iii. An analysis of equipment interrupting ratings;
 - iv. A protection coordination study;
 - v. Voltage drop and flicker studies;
 - vi. Protection and set point coordination studies;
 - vii. Grounding reviews; and
 - viii. Impact on system operation.
 - b. An interconnection System Impact Study shall consider the following criteria:

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

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

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

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

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

a. Within 5 business days of completion of the interconnection System Impact Study, the EU shall send a report to the Interconnection Customer with an interconnection Facilities Study agreement, which includes an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;

b. The interconnection Facilities Study shall estimate the cost of the equipment, engineering, procurement and construction work including overheads needed to implement the conclusions of the interconnection Feasibility Study and the interconnection System Impact Study to interconnect the DGF. The interconnection Facilities Study shall identify:

- i. The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
- ii. The nature and estimated cost of the EU's Interconnection Facilities and Distribution System Upgrades necessary to accomplish the interconnection; and

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- iii. An estimate of the time required to complete the construction and installation of the facilities;
 - c. The parties may agree to permit an Interconnection Customer to separately arrange for a third party to design and construct the required Interconnection Facilities. The EU may review the design of the facilities under the interconnection Facilities Study agreement. When the parties agree to separately arrange for design and construction and to comply with security and confidentiality requirements, the EU shall make all relevant information and required specifications available to the Interconnection Customer to permit the Interconnection Customer to obtain an independent design and cost estimate for the facilities, which shall be built in accordance with the specifications;
 - d. Upon completion of the interconnection Facilities Study, and with the agreement of the Interconnection Customer to pay for the Interconnection Facilities and Distribution System Upgrades identified in the interconnection Facilities Study, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement within 5 business days; and
8. When an EU determines, as a result of the interconnection studies conducted under a Level 3 review, that it is appropriate to interconnect the DGF, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement. If the Interconnection Request is denied, the EU shall provide a written explanation setting forth the reasons for denial;
9. An Interconnection Customer shall have 30 business days from receipt of the DGF Interconnection Agreement, unless another mutually agreeable time frame is reached, to sign and return the DGF Interconnection Agreement to the EU. If an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing, prior to the expiration of the 30 business-day period, to extend the deadline. The EU may not unreasonably deny the request for extension. When construction is required, the interconnection of the DGF shall proceed according to milestones agreed to by the parties in the DGF Interconnection Agreement. The DGF Interconnection Agreement may not be final until:
- a. —The milestones agreed to in the DGF Interconnection Agreement are satisfied;

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- b. The DGF is approved by electric code officials with jurisdiction over the interconnection;
 - c. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 - d. The Witness Test was successfully completed per the terms and conditions found in the Agreement.
- 102 An interconnection System Impact Study is not required when the interconnection Feasibility Study concludes there is no Adverse System Impact, or when the study identifies an Adverse System Impact, but the EU is able to identify a remedy without the need for an interconnection System Impact Study.
- 103 The parties shall use a form of interconnection Feasibility Study agreement approved by the Commission.

Chapter 08: TECHNICAL STANDARDS

- 100 The technical standard to be used in evaluating all Interconnection Requests under Level_1, Level 2, and Level 3 reviews, unless otherwise provided for in these procedures, is IEEE Standard 1547. IEEE 1547.2, “Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems,” shall be used as a guide (but not a requirement) to detail and illustrate the interconnection protection requirements that are provided in IEEE 1547.

Chapter 09: POINT OF COMMON COUPLING

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

Chapter 10: RECORDS AND REPORTS

- 100 An EU shall maintain records of the following for a minimum of 3 years:
- 1. The total number of and the Nameplate Capacity of the Interconnection Requests received, approved and denied under Level 1, Level 2, and Level 3 reviews;

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

101. An EU shall provide a report to the Commission containing the information required in paragraphs (a1)-(d5) above within 90 calendar days of the close of each year. An EU shall provide quarterly reports containing this information to the public on its website.

1

Chapter 11: INFORMATION FOR PROSPECTIVE INTERCONNECTION CUSTOMERS

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

Chapter 12: ADDITIONAL TECHNICAL REQUIREMENTS

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

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

- 101 A Level 2 or Level 3 Interconnection Customer may elect to provide the EU access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the EU, by installing a lockbox provided by the EU that shall provide ready access to the isolation device. The Interconnection Customer shall install the lockbox in a location that is readily accessible by the EU, and the Interconnection Customer shall permit the EU to affix a placard in a location of its choosing that provides clear instructions to EU operating personnel on access to the isolation device. In the event that the Interconnection Customer fails to comply with the terms of this subsection and the EU needs to gain access to the isolation device, the EU shall not be held liable for any damages resulting from any necessary EU action to isolate the Interconnection Customer.
- 102 Any metering necessitated by a DGF shall be installed, operated and maintained in accordance with applicable tariffs. Any such metering requirements shall be clearly identified as part of the DGF Interconnection Agreement executed by the Interconnection Customer and the EU.
- 103 The EU shall design, procure, construct, install, and own any Distribution System Upgrades. The actual cost of the Distribution System Upgrades, including overheads, shall be directly assigned to the Interconnection Customer. The Interconnection Customer may be entitled to financial contribution from any other EU customers who may in the future utilize the upgrades paid for by the Interconnection Customer. Such contributions shall be governed by the rules, regulations, and decisions of the Commission.
- 104 The Interconnection Customer shall design its DGF to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the power factor range required by the EU's applicable tariff for a comparable load customer. EU may also require the Interconnection Customer to follow a voltage or VAR schedule if such schedules are applicable to similarly situated generators in the control area on a comparable basis and have been approved by the Commission. The specific requirements for meeting a voltage or VAR schedule shall be clearly specified in Attachment 3 of the "Mississippi Distributed Generator Interconnection Rule Level 2 and Level 3 Agreement for Interconnection of Distributed

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Generator Facilities.” Under no circumstance shall these additional requirements for voltage support or reactive power exceed the normal operating capabilities of the DGF. The requirements in this paragraph may be additional to requirements in IEEE 1547.

Chapter 13: DISPUTES

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

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TITLE 39: UTILITIES

PART IV: Mississippi Distributed Generator Interconnection and Net Metering

Subpart II: Mississippi Renewable Energy Net Metering Rule

Chapter 01: ~~Introduction~~ INTRODUCTION

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

Chapter 02: DEFINITIONS

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

- 100** **“Billing Period”** means the monthly billing period used by an Electric Utility (EU) to measure usage and any excess energy exported by a DGF to the EU, and to bill customers.

- ~~100~~** **“Biomass”** means a power source that is comprised of combustible solids or gases from forest products, manufacturing waste, or byproducts; products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing; urban wood waste; municipal liquid waste treatment operations; and landfill gas.

101

- 102** **“Exit Fee”** means a fee that is paid by a customer that reduces load by using a DGF and is intended to compensate the EU in whole or part for the loss of fixed cost contribution from that customer. Exit fees are not allowed under this Rule, unless otherwise approved by the Commission.

- 103** **“Legacy Rights”** means the rules, terms, conditions, compensation rate, and rate design applicable to the RENMIC in effect at the time a RENMIC submits an Interconnection Agreement to the EU.

- ~~101~~** **“Avoided Cost of Wholesale Power”** means the cost to an EU¹ of electric energy that the EU would generate itself or purchase from another source, such as from an organized

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

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~~wholesale power market, but for the purchase from a Renewable Energy Net Metered Interconnection Customer (RENMIC). In essence, the avoided cost is the marginal cost to produce or purchase one more unit of electrical energy. When a RENMIC delivers electricity to an EU, the EU will reduce the equivalent amount of electricity that either is generated at its most expensive operating plant that is not running for reliability purposes or is purchased from an organized wholesale power market. For power generated by an EU, the cost avoided consists of the cost of fuel needed to produce that electricity and the corresponding portion of the plant's operation and maintenance costs and shall include an appropriate average line loss adjustment. No capacity credit is given as part of the calculation of Avoided Cost of Wholesale Power. For an EU that is a member of a regional transmission organization (RTO), the Avoided Cost of Wholesale Power shall be the average real-time locational marginal price (LMP) calculated by the RTO for the EU's load zone(s). Such LMP may be adjusted to reflect the daytime energy production of a solar PV system and shall include an appropriate average line loss adjustment.~~

~~102 “Non-Quantifiable Expected Benefits” means a temporary adjustment to be included in the Total Benefits of Distributed Generation for benefits of distributed generation that, while expected to occur, are currently non-quantifiable. The Non-Quantifiable Expected Benefits shall be no more than 2.5 cents per kilowatt hour for no longer than three (3) years after the effective date of this rule, which shall serve as a proxy for the Actual Benefits of Distributed Generation further defined below.~~

~~103 “Actual Benefits of Distributed Generation” means actual, quantifiable benefits realized by installed distributed generation over and above the Avoided Cost of Wholesale Power, which shall be calculated based upon information derived from the report of a third party consultant chosen by the Commission (further described below) and the experience of the utilities since implementation of this rule, as well as any additional information that may be available in the industry at that time. The calculation of the Actual Benefits of Distributed Generation shall replace the temporary Non-Quantifiable Expected Benefits no later than three (3) years following the effective date of this rule.~~

~~104 “Low-Income Benefits Adder” means an additional amount to be included in the Total Benefits of Distributed Generation that shall flow to the first 1,000 qualifying customers whose household income is at or below 120 percent of State Median Income, as published by the U.S. Department of Housing and Urban Development, at or below 200% of the federal poverty level (or similar requirement proposed by the EU to be approved by the Commission), as published each year in the federal register by the U.S. Department of Health and Human Services, or customers who are enrolled in a low-income program facilitated by the state or an EU, and who are approved to take service under the EU's Net Metering tariff. The EU or the Mississippi Public Service Commission may on an ongoing basis approve additional categorical eligibility thresholds to automatically qualify customers as low-income. Beginning with the effective date of this rule, the Low-~~

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Income Benefits Adder shall be equal to 2 cents per kilowatt hour. To provide sufficient financial certainty to qualifying low income customers that install DGFs, this Low-Income Benefits Adder shall remain in place for a period of fifteen (15) years from the date the customer begins taking Net Metering service under the EU's Net Metering tariff.

105 “Net Metering” means netting the total kilowatt-hours supplied by the EU to the RENMIC and the total kilowatt-hours produced by the RENMIC’s DGF and exported to the EU over the applicable Billing Period. Net Metering includes the real-time displacement of kilowatt-hours that otherwise would be provided by the EU by kilowatt-hours that were generated by the RENMIC’s DGF. An EU may employ a multi-channel meter for separately measuring the RENMIC’s electric usage and excess energy exported to the EU.

104 “Total Benefits of Distributed Generation” means the total amount—expressed in cents per kilowatt hour—that shall be credited to EU customers as a result of excess energy exported by a DGF to the EU, which shall include the Avoided Cost of Wholesale Power plus the Non-Quantifiable Expected Benefits or the Actual Benefits of Distributed Generation, plus, if applicable, the Low-Income Benefits Adder, as further outlined in this rule.

105 “Exit Fee” means a fee that is paid by a customer that reduces load by using a DGF and is intended to compensate the EU in whole or part for the loss of fixed cost contribution from that customer. Exit fees are not allowed under this Rule, unless otherwise approved by the Commission.

106 “Renewable Energy Net Metered Interconnection Customer” or “RENMIC” is any electricity customer, such as an industrial, large commercial, residential, or small commercial customer, that generates electricity on the customer’s side of the meter using a Renewable Energy source. The definition of RENMIC includes customers who (a) The electricity customer must own or lease the DGF producing the Renewable Energy on the electricity customer’s side of the meter, (b) obtain electric energy from the DGF pursuant in order to a contract or service agreement in accordance with the provisions of these rules, or (c) are a participant in Shared Distributed Generation in accordance with these or subsequent rules of qualify as a RENMIC under this MRENMR, unless otherwise approved by the Commission.

107 “Net Metering” means netting measuring the total real-time kilowatt hours supplied by the EU to the RENMIC and the total kilowatt hours produced by the RENMIC’s DGF and exported to the EU over the applicable Billing Period. Net metering includes the real-time displacement of kilowatt-hours that otherwise would be provided by the EU by kilowatt-hours that were generated by the RENMIC’s DGF. An EU may employ a multi-

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~~channel meter for separately measuring the RENMIC's electric usage and excess energy exported to the EU.~~

~~108~~**106** “Renewable Energy” means electric energy produced from solar technologies, wind energy, geothermal technologies, wave or tidal action, hydro-power facilities, and biomass. Any energy derived from fossil fuels is not considered renewable and does not qualify under the MRENMR.

~~109~~**100** “Biomass” means a power source that is comprised of combustible solids or gases from forest products, manufacturing waste, or byproducts; products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing; urban wood waste; municipal liquid waste treatment operations; and landfill gas.

~~—~~ “Legacy Rights” means the rules, terms, conditions, compensation rate, and rate design applicable to the RENMIC in effect at the time a RENMIC submits an Interconnection Agreement to the EU.

107 “Renewable Energy Credit” or “REC” means the environmental, economic, and social attributes of one megawatt of electrical energy generated from renewable fuels that can be sold or traded separately from the electrical energy.

108 “Renewable Energy Net Metered Interconnection Customer” or “RENMIC” is any electricity customer, such as an industrial, large commercial, residential, or small commercial customer, that generates electricity on the customer's side of the meter using a Renewable Energy source. The definition of RENMIC includes customers who (a) own or lease the DGF producing the Renewable Energy on the electricity customer's side of the meter, (b) obtain electric energy from the DGF pursuant to a contract or service agreement in accordance with the provisions of these rules, or (c) are a participant in Shared Distributed Generation in accordance with these or subsequent rules of the Commission.

Chapter 03: NET METERING REQUIREMENTS

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

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

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1. For residential customers, Net Metering nameplate alternating direct current capacity of the aggregated DGFs at a particular point of interconnection the customer's premises shall be limited to 2520 kW per customer and shall meet the requirements of the MDGIR;
 2. For non-residential customers, Net Metering nameplate alternating direct current capacity for the aggregate DGFs at a particular point of interconnection the customer's premises shall be limited to 52 MW per customer and shall meet the requirements of the MDGIR.
- 102 EUs may apply to the Commission for approval to refuse additional Net Metering requests if the total Net Metering alternating direct current capacity in kW, as reported through these requirements, exceeds at any time 103 percent of the EU's -total system peak demand expressed in kW recorded during the prior calendar year. The EU application shall demonstrate why it is in the public interest to refuse additional Net Metering requests, including any evidence that the EU's distribution system is unable to safely and reliably handle a greater load of Net-Metering capacity by making cost-effective investments in grid infrastructure and modernization.
- 103 When the total Net Metering alternating current capacity in kW in the EU's service territory reaches 8 percent of the EU's total system peak demand in kW recorded during the prior calendar year, the Commission will convene a working group consisting of representatives of the EU, the developers and owners of DG facilities, and the public to report to the Commission whether any aspect of the MRENMR should be considered for revision.
- 104 Each EU shall develop a tariff for Net Metering and interconnection policies in concordance with this MRENMR and the MDGIR. ~~Each EU shall make Net Metering available to eligible RENMICs on a first-come, first-served basis until such time as the aforementioned cap has been reached.~~
- 105 An EU shall provide Net Metering at non-discriminatory rates that are identical, with respect to rate structure and level, retail rate components, and except as otherwise provided in these rules, any monthly fixed charges, to the rates that a RENMIC would be charged if not a RENMIC, unless otherwise approved by the Commission.
- 106 Unless a RENMIC opts-out of meter aggregation by providing written notice to the EU, the EU shall aggregate all the RENMIC's accounts designated on the Standard Application for billing and crediting purposes, in the order specified by the RENMIC.
- ~~106~~107 In each Billing Period, if the energy supplied to the RENMIC from the EU exceeds the energy supplied by the RENMIC to the EU plus any kWh credits from prior Billing

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~~Periods, the RENMIC as recorded on the EU's bi-directional net meter will be billed for the net energy supplied to the RENMIC using appropriate commission-approved rate and rider schedules. This provision means that In each Billing Period, if the energy self-supplied by the RENMIC, up to the RENMIC amount supplied from the EU is less than the energy supplied by the RENMIC to the EU plus any kWh credits from prior Billing Periods, the RENMIC shall only to the RENMIC (e.g., through the recording of meter Channel 1) will be billed for the EU's applicable fixed monthly customer charges or minimum bill provisions in accordance with Chapter 3, 109108. At the end of credited to the RENMIC at the full retail rate (i.e., effectively displacing energy supplied from the EU). During that same Billing Period, any excess energy supplied from the RENMIC to the EU shall and recorded on the EU's bi-directional net meter in kWh (e.g., through meter Channel 2) will be credited on the RENMIC's bill as a kWh credit. kWh credits that shall at the applicable Total Benefits of Distributed Generation expressed in cents per kWh and shall be accounted for through the EU's fuel adjustment clause. The customer's monthly bill will be the total of billing for any usage (i.e., as recorded on meter Channel 1) subject to any customer charge and/or minimum bill provisions in the EU's rate and rider schedules less any credit due to the customer from excess energy exported to the EU (i.e., as recorded on meter Channel 2). If the sum total of the monthly bill is negative, any such amount will be carried over to the next Billing Period and offset on a one-to-one basis any kWh usage by the RENMIC applied to any charges arising during the subsequent Billing Period.~~

~~107 Beginning with the effective date of this rule, Total Benefits of Distributed Generation shall temporarily be equal to the Avoided Cost of Wholesale Power plus Non-Quantifiable Expected Benefits. Further, Non-Quantifiable Expected Benefits shall be equal to 2.5 cents/kWh, which may be modified downward at any time by order of this Commission, should the Commission find it is in the public interest to do so. Within sixty (60) days of the effective date of this rule, each EU shall file with the Commission net metering tariffs consistent with the provisions of this rule for consideration and approval by the Commission.~~

~~108 In the calculation of Total Benefits of Distributed Generation, Non-Quantifiable Expected Benefits shall be replaced and subsumed by Actual Benefits of Distributed Generation no later than three (3) years following the effective date of this rule. In order to develop a calculation for Actual Benefits of Distributed Generation within that three-year timeframe, the Commission shall cause a study to be performed by an independent consultant beginning no earlier than one year after the effective date of this rule, the costs of which shall be paid by each EU whose rates are regulated by the Commission under the Mississippi Public Utilities Act, §§ 73-3-1 et seq., and recovered through each such EU's net metering tariff. Said independent consultant will work collaboratively with the utilities and gather information from other stakeholders to provide the Commission with guidance in developing a calculation of benefits that can be demonstrated to have been realized and quantified as a result of the adoption of distributed generation in Mississippi.~~

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~~No later than three (3) years from the effective date of this rule, the Commission shall instruct each EU to file modifications to their net metering tariffs to reflect a calculation of Actual Benefits of Distributed Generation consistent with conclusions of the study and data provided by the EUs.~~

~~109~~108 Each new Billing Period shall begin with ~~zero~~ kWh credits to the RENMIC; however, subject to the provisions above, the customer may carry over any value of energy credit arising from the prior Billing Period(s). When a customer closes his or her account with the EU, if the RENMIC has accumulated a kWh credit dollar balance as a result of excess energy delivered to the EU, any such balance, net of costs owed to the EU, shall be distributed to a designated program to assist low income rate payers, unless the RENMIC affirmatively opts to be paid for the balance at the EU's applicable avoided cost rate. paid to the RENMIC.

~~110~~109 Any RENMIC ~~which~~that qualifies for the Low Income Adder may use credit for any excess energy exported to the EU to reduce fixed monthly customer charges or minimum bill provisions. Otherwise credit for any excess energy exported to the EU shall not be applied to reduce any fixed monthly customer charges or minimum bill provisions imposed by the EU under Commission-approved rate and rider schedules.

~~111~~110 An EU shall offer a RENMIC the choice of a time differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the EU offers the choice to customers in the same rate class as the RENMIC. If a RENMIC uses a retail billing arrangement that has time- differentiated rates, the EU shall net any production from the DGFs against the customer's consumption within the same time-of-use period in the Billing Period and any excess energy exported to the EU will be credited as described above.

~~112~~111 Any Renewable Energy Credits (RECs) created by the RENMIC are the property of the RENMIC, unless otherwise approved by the Commission. The EU shall not charge any back-up, standby, or Exit Fees to a RENMIC, unless otherwise approved by the Commission. The RENMIC shall not be required to transfer RECs to an EU as a condition of participating in the EU's Net Metering program or as a condition to receiving any Net Metering benefit, including but not limited to retail rate compensation and the Low Income Benefits Adder, as applicable. An EU may offer to purchase RECs from a RENMIC in exchange for a payment or incentive that is additional to, and separate from, the benefits and/or compensation rate a RENMIC receives under the Net Metering program.

~~113~~112 An EU shall not charge a RENMIC any fee or charge, or require additional equipment, insurance or any other requirement, unless the fee, charge, or other requirement is specifically authorized in this MRENMR or the MDGIR, or the fee would

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apply to other customers in the same rate class that are not RENMICs, or unless otherwise approved by the Commission.

~~114~~113 All RENMICs must be electrically interconnected with their EU pursuant to the provisions of the MDGIR. All rules and regulations for interconnected DGFs within the MDGIR apply to RENMICs. Any Distribution System Upgrades, including additional equipment needed that is associated with the export of electricity, shall be at the RENMIC's expense, per the MDGIR.

~~115~~114 As a further requirement under this rule, each EU shall file with the Commission within three months of the effective date of this rule the EU's plan to publicize and inform its customers, whether through a website, a bill insert, or other form of communication, of the opportunities available to interconnect DGFs and receive compensation for excess energy delivered to the grid.

~~116~~115 Nothing in this document shall abrogate any person's obligation to comply with all applicable Federal or State laws, rules or regulations, including the MDGIR.

116 The DGF of a RENMIC who submits an Interconnection Agreement to the EU before the date on which the Commission issues a final decision modifying (1) the Net Metering Rule, (2) the RENMIC's applicable rate design structure, or (3) the EU's Net Metering tariff, shall remain under the Net Metering rate structure, compensation rate, rules, terms, and conditions in effect when the Interconnection Agreement was signed by the RENMIC, for a period of twenty-five (25) years from the date on which the RENMIC submitted the Interconnection Agreement. A DGF that is upgraded, modified, or repaired shall retain its Legacy Rights status so long as the DGF still meets the requirements for participation in Net Metering under this rule. The Legacy Rights period shall be applied to the DGF on the premises rather than the RENMIC. The Legacy Rights period shall continue to apply if the premises are sold or conveyed to a different RENMIC. A RENMIC has the right to terminate the Legacy Rights for their DGF at any time and take service under any available alternative in place at that time for which the customer is eligible.

Chapter 04: METERS AND METERING

~~100~~ A RENMIC shall be equipped with a meter capable of measuring metering equipment that can measure the flow of electricity both into and out in each direction at the same time. This is typically accomplished through use of a single bi-directional meter that records customer usage as well as excess energy exported to the EU (e.g., energy supplied to the customer net of the output of the RENMIC, is measured on Channel 1 and excess energy supplied by the RENMIC to the EU in excess of the customer's requirements is measured on Channel 2).

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- 100** A RENMIC shall be equipped with a meter capable of measuring the flow of electricity both in and out of the RENMIC. An EU may ~~choose to~~ use an existing electric revenue meter if the following criteria are met:
1. The meter is capable of measuring the flow of electricity both into and out of the RENMIC ~~at the same time~~; and
 2. The meter is accurate to within plus or minus five percent when measuring excess energy flowing from the RENMIC to the EU.
- 101** If the RENMIC's existing electric revenue meter does not meet the requirements above, the EU shall install a new revenue meter for the RENMIC, at the EU's ~~RENMIC's~~ expense, within 10 business days after the interconnection agreement is executed and approved. If the EU offers a time-differentiated rate chosen by the RENMIC, the meter shall have the capability to appropriately record energy flows in each direction during any time-differentiated period.
- 102** Any subsequent revenue meter change will be at the EU's expense, meaning such meter expense will not be charged to an individual RENMIC but shall become part of the EU's overall cost of service and subsequent revenue requirement.

Chapter 05: REPORTING REQUIREMENTS

- 100** Each EU with one or more RENMICs connected to its grid shall submit to the Mississippi Public Service Commission a Net Metering report within 90 days of the end of each calendar year. The report shall include the following information regarding RENMICs during the reporting period:
1. The total energy expressed in kilowatt-hours supplied to the EU's grid by RENMICs and a description of any estimation methodology used;
 2. The total number of RENMICs that were paid for excess energy exported to the EU at the end of any Billing Period(s) during the prior calendar year;
 3. The total dollar amount by month that the EU paid to RENMICs for excess energy exported to the EU during the prior calendar year, with the amount paid for each month for the Low Income Benefits Adder separately identified;
 4. The total number of ~~Net Metering~~ DGFs by resource type and eligibility status with respect to the Low Income Benefits Adder that were interconnected at the end of the prior calendar year;

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- Chapter 06: SAFETY, NET METERING, INTERCONNECTION, AND SHARED DISTRIBUTED GENERATION CONSUMER PROTECTION WORKING GROUP**

Chapter 07: REOPENER

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TITLE 39: UTILITIES

PART IV: Mississippi Distributed Generator Interconnection and Net Metering

Subpart I: Mississippi Distributed Generator Interconnection Rule

Chapter 01: Introduction

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

Chapter 02: Definitions

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

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

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- b. Underwriters Laboratories (“UL”), UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems;
2. The Interconnection Equipment shall meet the requirements of the most current approved version of each code and standard listed above, as amended and supplemented at the time the Interconnection Request is submitted to be deemed Certified;
3. The Interconnection Equipment has been labeled and is publicly listed by such NRTL at the time of the interconnection application;
4. The Interconnection Customer verifies that the intended use of the Interconnection Equipment falls within the use or uses for which the Interconnection Equipment is labeled and is listed by the NRTL;
5. If the Interconnection Equipment is an integrated equipment package such as an inverter, then the Interconnection Customer shall show that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment;
6. If the Interconnection Equipment includes only interface components (switchgear, multi-function relays, or other interface devices), an Interconnection Customer shall demonstrate that the generator or other electric source being utilized is compatible with the Interconnection Equipment and is consistent with the testing and listing specified for this type of Interconnection Equipment; and
7. Certified Interconnection Equipment shall not require further design testing or Production Testing, as specified by IEEE Standard 1547 Sections 5.1 and 5.2 or other nationally accepted standards, or additional Interconnection Equipment modification to meet the requirements.

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

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

106 **“Distributed Generator Facility”** or **“DGF”** means the equipment used by an Interconnection Customer to generate or store electricity that operates in Parallel with the

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EDS. A DGF typically includes an electric generator, prime mover, and the Interconnection Equipment required to safely interconnect with the EDS or local electric power system.

- 107 **“Distribution System Upgrade”** means a required addition or modification to the EU's EDS at or beyond the Point of Common Coupling (PCC) to accommodate the interconnection of a DGF. Distribution System Upgrades do not include Interconnection Facilities.
- 108 **“Electric Utility” or “EU”** means an electric public utility that distributes electricity to customers and is subject to the jurisdiction of the Commission pursuant to the provisions of Mississippi Code Annotated §§ 77-3-1, *et seq* A third-party owner of a DGF or DGFs that is not otherwise an EU is not an EU under the Commission’s rules if the third-party only distributes electricity from a DGF or DGFs to or on behalf of a single customer per DGF pursuant to a Renewable Energy Net-Metering Services Agreement under the Commission’s Net-Metering Rule, or generates electricity and credits for the beneficial use of customers participating in a Shared Renewable Energy System in accordance with the Commission’s rules.
- 109 **“Electric Distribution System” or “EDS”** means the facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which EDSs operate differ among areas but generally carry less than 69 kilovolts of electricity. EDS has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.
- 110 **“Facilities Study”** means an engineering study conducted by the EU to determine the required modifications to the EU’s EDS, including the cost and the time required to build and install such modifications as necessary to accommodate an Interconnection Request.
- 111 **“Fault Current”** means the electrical current that flows through a circuit during an electrical fault condition. A fault condition occurs when one or more electrical conductors contact ground or each other. Types of faults include phase to ground, double-phase to ground, three-phase to ground, phase-to-phase, and three-phase.
- 112 **“Feasibility Study”** means a study performed to identify the existence of obvious adverse impacts before additional studies are undertaken for the proposed project to continue in the process.
- 113 **“Governmental Authority”** mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective

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services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, EU or any affiliate thereof.

- 114 **“Hosting Capacity”** means the amount of generation that can be accommodated at a point on the distribution system without requiring significant Distribution System Upgrades.
- 115 **“Hosting Capacity Map”** means a graphical and tabular representation of a high-level estimate of the available Hosting Capacity for additional distributed generation.
- 116 **“IEEE Standard 1547”** means the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 1547 (2018) "IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Electric Power Systems Interfaces," as amended and supplemented at the time the Interconnection Request is submitted.
- 117 **“IEEE Standard 1547.1”** means the IEEE Standard 1547.1 (2020) "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces," as amended and supplemented at the time the Interconnection Request is submitted.
- 118 **“Interconnection Agreement” or “Agreement”** means a form of interconnection agreement approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. The agreement between the Interconnection Customer and the EU governs the connection of the DGF to the EU’s EDS, as well as the ongoing operation of the DGF after it is connected to the EU’s EDS.
- 119 **“Interconnection Application” or “Application”** means a form of interconnection application approved by the Commission which is applicable to Interconnection Requests pertaining to DGFs. This application provides the information needed by the EU to review the request for interconnection. For the Level 1 review process, the Application and Agreement are part of the same document.
- 120 **“Interconnection Customer”** means an entity that submits an Interconnection Request for a DGF to an EU's EDS.
- 121 **“Interconnection Equipment”** means a group of equipment, components, or an integrated system connecting an electric generator with a local electric power system or an EDS that includes all interface equipment including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

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- 122 **“Interconnection Facilities”** means facilities and equipment required by the EU to accommodate the interconnection of a DGF. Collectively, Interconnection Facilities include all facilities and equipment between the DGF and the PCC, including modification, additions, or upgrades that are necessary to physically and electrically interconnect the DGF to the EDS. Interconnection facilities are sole use facilities and do not include Distribution System Upgrades.
- 123 **“Interconnection Request”** means an Interconnection Customer's request, in the form of an Application approved by the Commission, requesting the interconnection of a new DGF, or to increase the capacity or modify operating characteristics of an existing approved DGF that is interconnected with the EU's EDS.
- 124 **“Line Section”** means that portion of an EU's distribution system connected to an Interconnection Customer, bounded by automatic sectionalizing devices or the end of the distribution line.
- 125 **“Local Electric Power System” or “Local EPS”** means facilities that deliver electric power to a load that are contained entirely within a single premises or group of premises. Local electric power system has the same meaning as the term local electric power system defined in 3.1.6.2 of IEEE Standard 1547.
- 126 **“Minor Equipment Modification”** means changes to the DGF that do not have a material impact on safety or reliability of the EDS.
- 127 **“Mississippi Distributed Generation Interconnection Rule (MDGIR)”** means the most current version of the procedures for interconnecting Distributed Generator Facilities adopted by the Mississippi Public Service Commission.
- 128 **“Nameplate Capacity”** means the maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer and is usually indicated on a nameplate physically attached to the power production equipment.
- 129 **“Nationally Recognized Testing Laboratory” or “NRTL”** means a qualified private organization that meets the requirements of the Occupational Safety and Health Administration's (OSHA) regulations. NRTLs perform independent safety testing and product certification. Each NRTL shall meet the requirements as set forth by OSHA in the NRTL program.
- 130 **“Parallel Operation” or “Parallel”** means the sustained state of operation over 100 milliseconds, which occurs when a DGF is connected electrically to the EDS and thus has the ability for electricity to flow from the DGF to the EDS.

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- 131 **“Point of Common Coupling” or “PCC”** means the point where the DGF is electrically connected to the EDS. Point of common coupling has the same meaning as defined in 3.1.13 of IEEE Standard 1547.
- 132 **“Primary Line”** means a distribution line rated at greater than 600 volts.
- 133 **“Production Test”** means production test as defined in IEEE Standard 1547.
- 134 **“Queue Position”** means the order of a valid Interconnection Request, relative to all other pending valid Interconnection Requests, that is established based upon the date and time of receipt of the valid Interconnection Request by the EU.
- 135 **“Radial Distribution Circuit”** means a circuit configuration where independent feeders branch out radially from a common source of supply. From the standpoint of a utility system, the area described is between the generating source or intervening substations and the customer’s entrance equipment. A radial distribution system is the most common type of connection between a utility and load in which power flows in one direction from the utility to the load.
- 136 **“Scoping Meeting”** means a meeting between representatives of the Interconnection Customer and EU conducted for the purpose of discussing alternative interconnection options, exchanging information including any EDS data and earlier study evaluations that would be reasonably expected to impact interconnection options, analyzing information, and determining the potential feasible points of interconnection.
- 137 **“Secondary Line”** means a service line subsequent to the Primary Line that is rated for 600 volts or less, also referred to as the customer’s service line.
- 138 **“System Impact Study”** means a study that identifies the electric system impacts that would result if the proposed DGF were interconnected without DGF modifications or EDS modifications, focusing on the Adverse System Impacts identified in the Feasibility Study.
- 139 **“UL Standard 1741”** means Underwriters Laboratories' standard titled "Inverters Converters, and Controllers for Use in Independent Power Systems," as amended and supplemented at the time the Interconnection Request is submitted.
- 140 **“Witness Test”** means verification by the EU that the installation evaluation required by IEEE Standard 1547 Section 5.3 and the Commissioning Test required by IEEE Standard 1547 Section 5.4, have been adequately performed. For Interconnection Equipment that has not been Certified, the Witness Test shall also include the verification by the EU of the on-site design tests as required by IEEE Standard 1547 Section 5.1 and verification by the EU of Production Tests required by IEEE Standard 1547 Section 5.2. All tests

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verified by the EU are to be performed in accordance with the applicable test procedures specified by IEEE Standard 1547.1.

Chapter 03: INTERCONNECTION REQUESTS, FEES, AND FORMS

- 100** To facilitate the efficiency of Interconnection Requests, each EU shall publish Hosting Capacity Maps on its website that demonstrate the Hosting Capacity for accommodating generation at every feeder on the distribution system without requiring mitigations such as significant Distribution System Upgrades.
- 101** Interconnection Customers seeking to interconnect a DGF shall submit an Interconnection Request to the EU that owns the EDS to which interconnection is sought, using an application approved by the Commission. Electronic versions of such Commission-proved Application forms shall be posted on the EU's website. The EU shall establish processes for accepting Interconnection Requests electronically and for posting updates and other information relevant to the processing of the Interconnection Request.
- 102** When an Interconnection Customer is not currently a customer of the EU at the proposed PCC, upon request from the EU, the Interconnection Customer shall provide proof of site control evidenced by a property tax bill, deed, lease agreement, or other legally binding contract.
- 103** Interconnection fees shall be governed as follows for all Interconnection Requests and shall be published on each EU's website:
1. An EU may not charge an application, or other fee, to an applicant that requests Level 1 interconnection review.
 2. For a Level 2 interconnection review, the EU may charge fees of up to \$50.00 plus \$1.00 per kilowatt of the customer-generator facility's capacity, plus the reasonable cost of any required minor modifications to the electric distribution system or additional review. Costs for such minor modifications or additional review will be based on the EU's non-binding, good faith estimates and the ultimate actual installed costs. Costs for engineering work done as part of any additional review will not exceed \$100.00 per hour.
 3. For a Level 3 interconnection review, the EU may charge fees of up to \$100.00 plus \$2.00 per kilowatt of the customer-generator facility's capacity, as well as charges for actual time spent on any required impact or facilities studies. Costs for engineering work done as part of an impact study or interconnection facilities study will not exceed \$100.00 per hour. If the EU must install facilities in order to accommodate the interconnection of the customer generating facility, the cost of such facilities will be the responsibility of the applicant.

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

Chapter 04: INTERCONNECTION REVIEW LEVELS

- 100** The EU shall review Interconnection Requests using one of the three levels of review procedures established below. The EU shall first use the level of DGF Agreement specified by the Interconnection Customer in the Application. The EU may not impose additional requirements not specifically authorized unless the EU and the Interconnection Customer mutually agree to do so in writing.
- 101** When an Interconnection Request is for an increase in capacity for an existing DGF, the Interconnection Request shall be evaluated on the basis of the new total Nameplate Capacity of the DGF.
- 102** When an Interconnection Request is for a DGF that includes multiple energy production devices at a site for which the Interconnection Customer seeks a single PCC, the Interconnection Request shall be evaluated on the basis of the aggregate Nameplate Capacity of the multiple devices.

Chapter 05: LEVEL 1 INTERCONNECTION REVIEWS

- 100** The EU shall use Level 1 review procedures to evaluate Interconnection Requests when:
1. The DGF is inverter-based;
 2. The DGF has a Nameplate Capacity of 25 kW or less; and
 3. The Interconnection Equipment proposed for the DGF is Certified.
- 101** For Level 1 Interconnection Review, the EU shall first evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:
1. For interconnection of a proposed DGF to a Line Section on a Radial Distribution Circuit, the aggregated generation on the Line Section, including the proposed DGF, shall not exceed 15% of the Line Section annual peak load.
 2. When a proposed DGF is to be interconnected to a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including

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the proposed DGF, may not exceed 65 percent of the transformer nameplate power rating.

3. When a proposed DGF is single-phase and is to be interconnected to a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
4. Construction of facilities by the EU on its own system is not required to accommodate the DGF.

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

1. An EU shall, within 10 business days after receipt of the Interconnection Request, inform the Interconnection Customer in writing or by electronic mail that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing. An EU shall, within 3 business days of submission, provide written confirmation to the Interconnection Customer of receipt of the Interconnection Request.
2. When an Interconnection Request is complete, the EU shall assign a Queue Position.
3. The EU shall, within 7 business days after notifying a Level 1 applicant that the application is complete, indicate that the DGF equipment meets all Level 1 criteria, verify the DG can be interconnected safely and reliably using Level 1 screens, and provide a conditionally approved Level 1 Interconnection Application Form and Agreement to the Interconnection Customer.

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

1. 'The DGF has been approved by local or municipal electric code officials with jurisdiction over the interconnection;
2. The EU has received the required information on the Certificate of Completion from the Interconnection Customer. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and

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3. The EU has completed its Witness Test in accordance with the MDGIR.

104 Within 10 business days of the estimated commissioning date indicated on the Interconnection Request, the EU shall, upon reasonable notice and at a mutually convenient time, conduct a Witness Test of the DGF to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes.

105 When a DGF is not approved under a Level 1 review, the Interconnection Customer may submit a new Interconnection Request for consideration under Level 2 or Level 3 procedures.

Chapter 06: LEVEL 2 INTERCONNECTION REVIEWS

100 The EU shall use the Level 2 Interconnection Review procedure to evaluate an Interconnection Request when:

1. The DGF has a Nameplate Capacity rating of 5 MW or less;
2. The Interconnection Equipment proposed for the DGF is Certified; and
3. The aggregated total of the Nameplate Capacity of all of the generators on the circuit, including the proposed DGF, is 5 MW or less.

101 No construction of facilities by an EU shall be required to accommodate the DGF, except as permitted by an additional review for minimal modifications of the EDS, as described in these Level 2 procedures.

102 For Level 2 Interconnection Review, the EU first shall evaluate the potential for Adverse System Impacts using the following screens, which must be satisfied:

1. For interconnection of a proposed DGF to a radial distribution circuit, the aggregated generation on the Line Section, including the proposed DGF, may not exceed 15% of the Line Section annual peak load.
2. The proposed DGF, in aggregation with other generation on the distribution circuit, may not contribute more than 10% to the distribution circuit's maximum Fault Current at the point on the Primary Line nearest the Point of Common Coupling (PCC).
3. The proposed DGF, in aggregate with other generation on the distribution circuit, may not cause any distribution protective devices and equipment (including substation breakers, fuse cutouts, and line reclosers), or other customer equipment

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on the EDS to be exposed to Fault Currents exceeding 87.5% of the short circuit interrupting capability. The Interconnection Request may not receive approval for interconnection on a circuit that already exceeds 87.5% of the short circuit interrupting capability.

4. When a DGF is to be connected to three-phase, three-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected phase-to-phase.
5. When a DGF is to be connected to three-phase, four-wire primary EU distribution lines, a three-phase or single-phase generator shall be connected line-to-neutral and shall be effectively grounded.
6. When the proposed DGF is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed DGF, shall not exceed 65 percent of the transformer nameplate power rating.
7. When a proposed DGF is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition may not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
8. A DGF, in aggregate with other generation interconnected to the distribution side of a substation transformer feeding the circuit where the DGF proposes to interconnect, may not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity.
9. No construction of facilities by an EU on its own system shall be required to accommodate the DGF.

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

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

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

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

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additional review for minimal modifications of the EDS or the modifications only after the Interconnection Customer consents to pay for the review and modifications.

- 106** If the DGF fails one or more of the Level 2 screening criteria but the EU determines that minimal modifications to the EDS would enable the DGF to interconnect safely and reliably, the EU shall provide the Interconnection Customer a DGF Interconnection Agreement within 5 business days of making that determination. .
- 107** If the EU finds that the DGF cannot be interconnected with minimal modifications to the EDS, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review.
- 108** An Interconnection Customer shall have 30 business days to sign and return the Agreement. When an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing prior to the expiration of the 30 business day period to extend the deadline. The EU may not unreasonably deny the request for extension.
- 109** The DGF Interconnection Agreement shall not become final until:
1. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
 2. The DGF is approved by electric code officials with jurisdiction over the interconnection;
 3. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 4. The Witness Test was successfully completed per the terms and conditions found in the Agreement.
- 110** If the DGF is not approved under a Level 2 review, the EU shall provide the Interconnection Customer a letter explaining its reasons for denying the Interconnection Request. The Interconnection Customer may submit a new Interconnection Request for consideration under a Level 3 interconnection review. The Queue Position assigned to the Level 2 Interconnection Request shall be retained provided the request is made within 15 business days of notification that the current Interconnection Request is denied.

Chapter 07: LEVEL 3 INTERCONNECTION REVIEWS

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

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

1. An EU shall, within 10 business days of receipt of an Interconnection Request, inform the Interconnection Customer in writing or by electronic means that the Interconnection Request is complete or incomplete and indicate what, if any, materials are missing.
2. When the Interconnection Request is deemed not complete, the EU shall provide the Interconnection Customer with a written list detailing information required to complete the Interconnection Request. The Interconnection Customer shall have 10 business days to provide appropriate data in order to complete the Interconnection Request, or the Interconnection Request shall be considered withdrawn. The parties may agree to extend the time for receipt of the additional information. The Interconnection Request shall be deemed complete when the required information has been provided by the Interconnection Customer, or the parties have agreed that the Interconnection Customer may provide additional information at a later time.
3. When an Interconnection Request is complete, the EU shall assign a Queue Position. The Queue Position of an Interconnection Request shall be used to determine the cost responsibility necessary for the facilities to accommodate the interconnection. The EU shall notify the Interconnection Customer about other higher-queued Interconnection Customers that have the potential to impact the cost responsibility.
4. Level 3 Scoping Meetings shall be conducted as follows:
 - a. By mutual agreement of the parties, the Scoping Meeting, interconnection Feasibility Study, interconnection System Impact Study, or interconnection Facilities Study provided for in a Level 3 review may be waived;
 - b. If agreed to by the parties, a Scoping Meeting shall be held within 10 business days, or other mutually agreed time, after the EU has notified the Interconnection Customer that the Interconnection Request is deemed complete. The purpose of the meeting shall be to review the Interconnection Request, existing studies relevant to the Interconnection Request, and the results of the Level 1 or Level 2 screening criteria;

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- c. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study shall be performed, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Feasibility Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;
 - d. When the parties agree at a Scoping Meeting that an interconnection Feasibility Study is not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection System Impact Study agreement, including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study; and
 - e. When the parties agree at the Scoping Meeting that an interconnection Feasibility Study and System Impact Study are not required, the EU shall provide to the Interconnection Customer, no later than 5 business days after the Scoping Meeting, an interconnection Facilities Study agreement including an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study.
- 5. Any required interconnection studies shall be carried out using the following guidelines:
 - a. An interconnection Feasibility Study shall include the following analyses and conditions for the purpose of identifying and addressing potential Adverse System Impacts to the EU's EDS that would result from the interconnection:
 - b. Initial identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - c. Initial identification of any thermal overload or voltage limit violations resulting from the interconnection;
 - d. Initial review of grounding requirements and system protection;
 - e. Description and nonbinding estimated cost of facilities required to interconnect the DGF to the EU's EDS in a safe and reliable manner; and
 - f. Additional evaluations at the expense of the Interconnection Customer, when an Interconnection Customer requests that the interconnection Feasibility Study evaluate multiple potential points of interconnection.

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6. An interconnection System Impact Study shall evaluate the impact of the proposed interconnection on both the safety and reliability of the EU's EDS. The study shall identify and detail the system impacts that result when the proposed DGF is interconnected without project or system modifications, focusing on the Adverse System Impacts identified in the interconnection Feasibility Study and potential impacts including those identified in the Scoping Meeting. The study shall consider all generating facilities that, on the date the interconnection System Impact Study is commenced, are directly interconnected with the EU's system, have a pending higher Queue Position to interconnect to the system, and have a signed a DGF Interconnection Agreement.
 - a. An interconnection System Impact Study shall be performed when the interconnection Feasibility Study identifies a potential distribution system Adverse System Impact. The EU shall send the Interconnection Customer an interconnection System Impact Study agreement within 5 business days of transmittal of the interconnection Feasibility Study report. The agreement shall include an outline of the scope of the study and a good faith estimate of the cost to perform the study. The System Impact Study shall include:
 - i. A load flow study;
 - ii. Identification of affected systems;
 - iii. An analysis of equipment interrupting ratings;
 - iv. A protection coordination study;
 - v. Voltage drop and flicker studies;
 - vi. Protection and set point coordination studies;
 - vii. Grounding reviews; and
 - viii. Impact on system operation.
 - b. An interconnection System Impact Study shall consider the following criteria:
 - i. A short circuit analysis;
 - ii. A stability analysis;
 - iii. Alternatives for mitigating Adverse System Impacts on affected systems;
 - iv. Voltage drop and flicker studies;
 - v. Protection and set point coordination studies; and
 - vi. Grounding reviews.
 - c. The interconnection System Impact Study shall provide the following:

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- i. The underlying assumptions of the study;
 - ii. The results of the analyses;
 - iii. A list of any potential impediments to providing the requested interconnection service;
 - iv. Required Distribution System Upgrades; and
 - v. A nonbinding good faith estimate of cost and time to construct any required Distribution System Upgrades.
 - d. The parties shall use an interconnection System Impact Study agreement approved by the Commission.
7. The interconnection Facilities Study shall be conducted as follows:
- a. Within 5 business days of completion of the interconnection System Impact Study, the EU shall send a report to the Interconnection Customer with an interconnection Facilities Study agreement, which includes an outline of the scope of the study and a nonbinding good faith estimate of the cost to perform the study;
 - b. The interconnection Facilities Study shall estimate the cost of the equipment, engineering, procurement and construction work including overheads needed to implement the conclusions of the interconnection Feasibility Study and the interconnection System Impact Study to interconnect the DGF. The interconnection Facilities Study shall identify:
 - i. The electrical switching configuration of the equipment, including transformer, switchgear, meters and other station equipment;
 - ii. The nature and estimated cost of the EU's Interconnection Facilities and Distribution System Upgrades necessary to accomplish the interconnection; and
 - iii. An estimate of the time required to complete the construction and installation of the facilities;
 - c. The parties may agree to permit an Interconnection Customer to separately arrange for a third party to design and construct the required Interconnection Facilities. The EU may review the design of the facilities under the interconnection Facilities Study agreement. When the parties agree to separately arrange for design and construction and to comply with security and confidentiality requirements, the EU shall make all relevant information and required specifications available to the Interconnection Customer to permit the Interconnection Customer to obtain an independent

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design and cost estimate for the facilities, which shall be built in accordance with the specifications;

d. Upon completion of the interconnection Facilities Study, and with the agreement of the Interconnection Customer to pay for the Interconnection Facilities and Distribution System Upgrades identified in the interconnection Facilities Study, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement within 5 business days; and

8. When an EU determines, as a result of the interconnection studies conducted under a Level 3 review, that it is appropriate to interconnect the DGF, the EU shall provide the Interconnection Customer with a DGF Interconnection Agreement. If the Interconnection Request is denied, the EU shall provide a written explanation setting forth the reasons for denial;
9. An Interconnection Customer shall have 30 business days from receipt of the DGF Interconnection Agreement, unless another mutually agreeable time frame is reached, to sign and return the DGF Interconnection Agreement to the EU. If an Interconnection Customer does not sign the DGF Interconnection Agreement within 30 business days, the Interconnection Request shall be deemed withdrawn unless the Interconnection Customer requests in writing, prior to the expiration of the 30 business-day period, to extend the deadline. The EU may not unreasonably deny the request for extension. When construction is required, the interconnection of the DGF shall proceed according to milestones agreed to by the parties in the DGF Interconnection Agreement. The DGF Interconnection Agreement may not be final until:
 - a. The milestones agreed to in the DGF Interconnection Agreement are satisfied;
 - b. The DGF is approved by electric code officials with jurisdiction over the interconnection;
 - c. The Interconnection Customer provides a Certificate of Completion to the EU. Completion of local inspections may be designated on inspection forms used by local inspecting authorities; and
 - d. The Witness Test was successfully completed per the terms and conditions found in the Agreement.

102 An interconnection System Impact Study is not required when the interconnection Feasibility Study concludes there is no Adverse System Impact, or when the study

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identifies an Adverse System Impact, but the EU is able to identify a remedy without the need for an interconnection System Impact Study.

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

Chapter 08: TECHNICAL STANDARDS

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

Chapter 09: POINT OF COMMON COUPLING

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

Chapter 10: RECORDS AND REPORTS

- 100** An EU shall maintain records of the following for a minimum of 3 years:
1. The total number of and the Nameplate Capacity of the Interconnection Requests received, approved and denied under Level 1, Level 2, and Level 3 reviews;
 2. The number of Interconnection Requests that were not processed within the timelines established in this rule;
 3. The number of Scoping Meetings held and the number of feasibility studies, impact studies, and facility studies performed and the fees charged for these studies;
 4. The justifications for the actions taken to deny Interconnection Requests; and
 5. The average time to process Interconnection Requests received, approved, and denied under Level 1, Level 2, and Level 3 reviews.

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- 101 An EU shall provide a report to the Commission containing the information required in paragraphs (1)-(5) above within 90 calendar days of the close of each year. An EU shall provide quarterly reports containing this information to the public on its website.

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

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

Chapter 12: ADDITIONAL TECHNICAL REQUIREMENTS

- 100 DGFs shall be capable of being isolated from the EU. For Level 2 and Level 3 interconnection, the isolation shall be by means of a lockable, visible-break isolation device whose status is clearly indicated and is accessible by the EU. The isolation device shall be installed, owned and maintained by the owner of the DGF and located between the DGF and the PCC. A draw-out type circuit breaker with a provision for padlocking at the draw-out position can be considered an isolation device for purposes of this requirement. A draw-out type circuit breaker has a switching device capable of making, carrying and breaking currents under normal and abnormal circuit conditions such as those of a short circuit. A draw-out circuit breaker can be physically removed from its enclosure creating a visible break in the circuit. For the purposes of these regulations, the draw-out circuit breaker shall be capable of being locked in the open, draw-out position. Level 1 interconnections do not require an external isolation device.
- 101 A Level 2 or Level 3 Interconnection Customer may elect to provide the EU access to an isolation device that is contained in a building or area that may be unoccupied and locked or not otherwise readily accessible to the EU, by installing a lockbox provided by the EU that shall provide ready access to the isolation device. The Interconnection Customer shall

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install the lockbox in a location that is readily accessible by the EU, and the Interconnection Customer shall permit the EU to affix a placard in a location of its choosing that provides clear instructions to EU operating personnel on access to the isolation device. In the event that the Interconnection Customer fails to comply with the terms of this subsection and the EU needs to gain access to the isolation device, the EU shall not be held liable for any damages resulting from any necessary EU action to isolate the Interconnection Customer.

- 102 Any metering necessitated by a DGF shall be installed, operated and maintained in accordance with applicable tariffs. Any such metering requirements shall be clearly identified as part of the DGF Interconnection Agreement executed by the Interconnection Customer and the EU.
- 103 The EU shall design, procure, construct, install, and own any Distribution System Upgrades. The actual cost of the Distribution System Upgrades, including overheads, shall be directly assigned to the Interconnection Customer. The Interconnection Customer may be entitled to financial contribution from any other EU customers who may in the future utilize the upgrades paid for by the Interconnection Customer. Such contributions shall be governed by the rules, regulations, and decisions of the Commission.
- 104 The Interconnection Customer shall design its DGF to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the power factor range required by the EU's applicable tariff for a comparable load customer. EU may also require the Interconnection Customer to follow a voltage or VAR schedule if such schedules are applicable to similarly situated generators in the control area on a comparable basis and have been approved by the Commission. The specific requirements for meeting a voltage or VAR schedule shall be clearly specified in Attachment 3 of the "Mississippi Distributed Generator Interconnection Rule Level 2 and Level 3 Agreement for Interconnection of Distributed Generator Facilities." Under no circumstance shall these additional requirements for voltage support or reactive power exceed the normal operating capabilities of the DGF. The requirements in this paragraph may be additional to requirements in IEEE 1547.

Chapter 13: DISPUTES

- 100 A party shall attempt to resolve all disputes regarding interconnection as provided in the MDGIR promptly, equitably, and in a good faith manner.
- 101 When a dispute arises, a party may seek immediate resolution through complaint procedures available through the Commission by providing written notice to the Commission and the other party stating the issues in dispute.

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- 102 When disputes relate to the technical application of the MDGIR, the Commission may designate a technical consultant to resolve the dispute. Upon Commission designation, the parties shall use the technical consultant to resolve disputes related to interconnection. Costs for dispute resolution conducted by the technical consultant shall be established by the technical consultant and subject to review by the Commission. The EU and the Interconnection Customer shall share equally the costs of an outside arbitrator unless they mutually agree to a different payment arrangement.
- 103 Pursuit of dispute resolution shall not affect an Interconnection Customer with regard to consideration of an Interconnection Request or an Interconnection Customer's Queue Position.

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TITLE 39: UTILITIES

PART IV: Mississippi Distributed Generator Interconnection and Net Metering

Subpart II: Mississippi Renewable Energy Net Metering Rule

Chapter 01: INTRODUCTION

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

Chapter 02: DEFINITIONS

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

- 100 “Billing Period”** means the monthly billing period used by an Electric Utility (EU) to measure usage and any excess energy exported by a DGF to the EU, and to bill customers.
- 101 “Biomass”** means a power source that is comprised of combustible solids or gases from forest products, manufacturing waste, or byproducts; products from agricultural and orchard crops; waste or co-products from livestock and poultry operations; waste or byproducts from food processing; urban wood waste; municipal liquid waste treatment operations; and landfill gas.
- 102 “Exit Fee”** means a fee that is paid by a customer that reduces load by using a DGF and is intended to compensate the EU in whole or part for the loss of fixed cost contribution from that customer. Exit fees are not allowed under this Rule, unless otherwise approved by the Commission.
- 103 “Legacy Rights”** means the rules, terms, conditions, compensation rate, and rate design applicable to the RENMIC in effect at the time a RENMIC submits an Interconnection Agreement to the EU.
- 104 “Low-Income Benefits Adder”** means an additional amount that shall flow to customers whose household income is at or below 120 percent of State Median Income, as published by the U.S. Department of Housing and Urban Development, 200% of the federal poverty level as published each year in the federal register by the U.S. Department of Health and Human Services, or customers who are enrolled in a low-income program facilitated by the state or an EU, and who are approved to take service under the EU’s Net Metering

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tariff. The EU or the Mississippi Public Service Commission may on an ongoing basis approve additional categorical eligibility thresholds to automatically qualify customers as low-income. Beginning with the effective date of this rule, the Low-Income Benefits Adder shall be equal to 2 cents per kilowatt hour. To provide sufficient financial certainty to qualifying low income customers that install DGFs, this Low-Income Benefits Adder shall remain in place for a period of fifteen (15) years from the date the customer begins taking Net Metering service under the EU's Net Metering tariff.

- 105 **“Net Metering”** means netting the total kilowatt-hours supplied by the EU to the RENMIC and the total kilowatt-hours produced by the RENMIC's DGF and exported to the EU over the applicable Billing Period. Net Metering includes the real-time displacement of kilowatt-hours that otherwise would be provided by the EU by kilowatt-hours that were generated by the RENMIC's DGF. An EU may employ a multi-channel meter for separately measuring the RENMIC's electric usage and excess energy exported to the EU.
- 106 **“Renewable Energy”** means electric energy produced from solar technologies, wind energy, geothermal technologies, wave or tidal action, hydro-power facilities, and Biomass. Any energy derived from fossil fuels is not considered renewable and does not qualify under the MRENMR.
- 107 **Renewable Energy Credit” or “REC”** means the environmental, economic, and social attributes of one megawatt of electrical energy generated from renewable fuels that can be sold or traded separately from the electrical energy.
- 108 **“Renewable Energy Net Metered Interconnection Customer” or “RENMIC”** is any electricity customer, such as an industrial, large commercial, residential, or small commercial customer, that generates electricity on the customer's side of the meter using a Renewable Energy source. The definition of RENMIC includes customers who (a) own or lease the DGF producing the Renewable Energy on the electricity customer's side of the meter,(b) obtain electric energy from the DGF pursuant to a contract or service agreement in accordance with the provisions of these rules, or (c) are a participant in Shared Distributed Generation in accordance with these or subsequent rules of the Commission.

Chapter 03: NET METERING REQUIREMENTS

- 100 This MRENMR sets forth the Net Metering requirements that apply to EUs that have RENMICs that wish to Net Meter, as indicated by the customer on the Standard Application.
- 101 All EUs shall offer Net Metering to any RENMIC, provided:

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1. For residential customers, Net Metering nameplate alternating current capacity of the aggregated DGFs at a particular point of interconnection shall be limited to 25 kW per customer and shall meet the requirements of the MDGIR;
 2. For non-residential customers, Net Metering nameplate alternating current capacity for the aggregate DGFs at a particular point of interconnection shall be limited to 5 MW per customer and shall meet the requirements of the MDGIR.
- 102 EUs may apply to the Commission for approval to refuse additional Net Metering requests if the total Net Metering alternating current capacity in kW, as reported through these requirements, exceeds at any time 10 percent of the EU's total system peak demand expressed in kW recorded during the prior calendar year. The EU application shall demonstrate why it is in the public interest to refuse additional Net Metering requests, including any evidence that the EU's distribution system is unable to safely and reliably handle a greater load of Net-Metering capacity by making cost-effective investments in grid infrastructure and modernization.
- 103 When the total Net Metering alternating current capacity in kW in the EU's service territory reaches 8 percent of the EU's total system peak demand in kW recorded during the prior calendar year, the Commission will convene a working group consisting of representatives of the EU, the developers and owners of DG facilities, and the public to report to the Commission whether any aspect of the MRENMR should be considered for revision.
- 104 Each EU shall develop a tariff for Net Metering and interconnection policies in concordance with this MRENMR and the MDGIR.
- 105 An EU shall provide Net Metering at non-discriminatory rates that are identical, with respect to rate structure and level, retail rate components, and except as otherwise provided in these rules, any monthly fixed charges, to the rates that a RENMIC would be charged if not a RENMIC, unless otherwise approved by the Commission.
- 106 Unless a RENMIC opts-out of meter aggregation by providing written notice to the EU, the EU shall aggregate all the RENMIC's accounts designated on the Standard Application for billing and crediting purposes, in the order specified by the RENMIC.
- 107 In each Billing Period, if the energy supplied to the RENMIC from the EU exceeds the energy supplied by the RENMIC to the EU plus any kWh credits from prior Billing Periods, the RENMIC will be billed for the net energy supplied to the RENMIC using appropriate commission-approved rate and rider schedules. In each Billing Period, if the energy supplied to the RENMIC from the EU is less than the energy supplied by the RENMIC to the EU plus any kWh credits from prior Billing Periods, the RENMIC shall only be billed for the EU's applicable fixed monthly customer charges or minimum bill

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City of Jackson - EEECHO (Education, Economics, Environmental, Climate, and Health Organization) - Gulf States Renewable Energy Industry Association – Mississippi NAACP – Posigen, LLC - Scenic Hill Solar - Sierra Club - Solar Energy Industries Association (SEIA) - Steps Coalition, Inc. - Sundial Solar Developers, Inc. – Solar Alternatives, Inc. – Mississippi Solar Energy Society

provisions. At the end of that same Billing Period, any excess energy supplied from the RENMIC to the EU shall be credited on the RENMIC's bill as kWh credits that shall be carried over to the next Billing Period and offset on a one-to-one basis any kWh usage by the RENMIC arising during the subsequent Billing Period.

- 108 Each new Billing Period shall begin with kWh credits to the RENMIC arising from the prior Billing Period(s). When a customer closes his or her account with the EU, if the RENMIC has accumulated a kWh credit balance as a result of excess energy delivered to the EU, any such balance, net of costs owed to the EU shall be distributed to a designated program to assist low income rate payers, unless the RENMIC affirmatively opts to be paid for the balance at the EU's applicable avoided cost rate.
- 109 Any RENMIC that qualifies for the Low Income Adder may use credit for any excess energy exported to the EU to reduce fixed monthly customer charges or minimum bill provisions. Otherwise credit for any excess energy exported to the EU shall not be applied to reduce any fixed monthly customer charges or minimum bill provisions imposed by the EU under Commission-approved rate and rider schedules.
- 110 An EU shall offer a RENMIC the choice of a time differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the EU offers the choice to customers in the same rate class as the RENMIC. If a RENMIC uses a retail billing arrangement that has time- differentiated rates, the EU shall net any production from the DGFs against the customer's consumption within the same time-of-use period in the Billing Period and any excess energy exported to the EU will be credited as described above.
- 111 Any Renewable Energy Credits (RECs) created by the RENMIC are the property of the RENMIC, unless otherwise approved by the Commission. The EU shall not charge any back-up, standby, or Exit Fees to a RENMIC, unless otherwise approved by the Commission. The RENMIC shall not be required to transfer RECs to an EU as a condition of participating in the EU's Net Metering program or as a condition to receiving any Net Metering benefit, including but not limited to retail rate compensation and the Low Income Benefits Adder, as applicable. An EU may offer to purchase RECs from a RENMIC in exchange for a payment or incentive that is additional to, and separate from, the benefits and/or compensation rate a RENMIC receives under the Net Metering program.
- 112 An EU shall not charge a RENMIC any fee or charge, or require additional equipment, insurance or any other requirement, unless the fee, charge, or other requirement is specifically authorized in this MRENMR or the MDGIR, or the fee would apply to other customers in the same rate class that are not RENMICs, or unless otherwise approved by the Commission.

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- 113 All RENMICs must be electrically interconnected with their EU pursuant to the provisions of the MDGIR. All rules and regulations for interconnected DGFs within the MDGIR apply to RENMICs. Any Distribution System Upgrades, including additional equipment needed that is associated with the export of electricity, shall be at the RENMIC's expense, per the MDGIR.
- 114 As a further requirement under this rule, each EU shall file with the Commission within three months of the effective date of this rule the EU's plan to publicize and inform its customers, whether through a website, a bill insert, or other form of communication, of the opportunities available to interconnect DGFs and receive compensation for excess energy delivered to the grid.
- 115 Nothing in this document shall abrogate any person's obligation to comply with all applicable Federal or State laws, rules or regulations, including the MDGIR.
- 116 The DGF of a RENMIC who submits an Interconnection Agreement to the EU before the date on which the Commission issues a final decision modifying (1) the Net Metering Rule, (2) the RENMIC's applicable rate design structure, or (3) the EU's Net Metering tariff, shall remain under the Net Metering rate structure, compensation rate, rules, terms, and conditions in effect when the Interconnection Agreement was signed by the RENMIC, for a period of twenty-five (25) years from the date on which the RENMIC submitted the Interconnection Agreement. A DGF that is upgraded, modified, or repaired shall retain its Legacy Rights status so long as the DGF still meets the requirements for participation in Net Metering under this rule. The Legacy Rights period shall be applied to the DGF on the premises rather than the RENMIC. The Legacy Rights period shall continue to apply if the premises are sold or conveyed to a different RENMIC. A RENMIC has the right to terminate the Legacy Rights for their DGF at any time and take service under any available alternative in place at that time for which the customer is eligible.

Chapter 04: METERS AND METERING

- 100 A RENMIC shall be equipped with a meter capable of measuring the flow of electricity both in and out of the RENMIC. An EU may use an existing electric revenue meter if the following criteria are met:
1. The meter is capable of measuring the flow of electricity both into and out of the RENMIC; and
 2. The meter is accurate to within plus or minus five percent when measuring excess energy flowing from the RENMIC to the EU.

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

Chapter 05: REPORTING REQUIREMENTS

- 100 Each EU with one or more RENMICs connected to its grid shall submit to the Mississippi Public Service Commission a Net Metering report within 90 days of the end of each calendar year. The report shall include the following information regarding RENMICs during the reporting period:
1. The total energy expressed in kilowatt-hours supplied to the EU's grid by RENMICs and a description of any estimation methodology used;
 2. The total number of RENMICs that were paid for excess energy exported to the EU at the end of any Billing Period(s) during the prior calendar year;
 3. The total dollar amount by month that the EU paid to RENMICs for excess energy exported to the EU during the prior calendar year, with the amount paid for each month for the Low Income Benefits Adder separately identified;
 4. The total number of Net Metering DGFs by resource type and eligibility status with respect to the Low Income Benefits Adder that were interconnected at the end of the prior calendar year;
 5. The total rated nameplate alternating current generating capacity of Net Metering DGFs installed during the prior calendar year broken out by resource type and eligibility status with respect to the Low Income Benefits Adder; and
 6. The percentage of the EU's total system peak demand from the prior calendar year represented by the total rated nameplate alternating current generating capacity of Net Metering DGFs.
- 101 For purposes of these reporting requirements, any estimates shall be made using Commission-approved protocols unless no such protocols are available, in which case the

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estimates shall be accompanied by detailed calculations demonstrating how the estimates were made.

**Chapter 06: SAFETY, NET METERING, INTERCONNECTION, AND SHARED
DISTRIBUTED GENERATION WORKING GROUP**

- 100 In order to ensure adequate safeguards for safety, ensure the Net Metering and shared solar rules achieve the Commission's objective to support customers' ability to self-supply, and provide for consumer protection, a joint working group shall be established between representatives of the Commission, the Mississippi Public Utilities Staff, the Office of the Mississippi Attorney General, the EUs and interested stakeholders including financing agencies, local governments, and community organizations. The working group shall convene quarterly to discuss issues related to Net Metering, interconnection and shared renewable energy, and to present any recommendations on such issues to the Commission. On at least an annual basis, the working group shall review low-income subscriber participation in shared renewable energy systems as described in the Shared Renewable Energy rule.

Chapter 07: REOPENER

- 100 Five years from the effective date of this Rule, the Commission shall open a new docket to assess the efficacy and functionality of the MRENMR, and make any subsequent revisions or modifications of the Rule that may be deemed necessary at that time.

ATTACHMENT B

Joint Proposal of 2C Mississippi, City of Jackson, Dimension Renewable Energy LLC, EEECHO, Entegri, GRID Alternatives, Gulf States Renewable Energy Industry Association, NAACP, Steps Coalition, Inc., Sundial Solar Developers, Inc., Solar Alternatives, Inc., Mississippi Solar Energy Society and Audubon Mississippi

Mississippi Shared Renewable Energy Systems

I. INTRODUCTION

The purpose of this element of the net metering rule is to allow for the creation of shared renewable energy facilities interconnected at the distribution system level and located in a community served by an EU, to allow customers of an EU whose meters or accounts are within the same service territory as a shared renewable energy facility to subscribe to a shared renewable energy facility, to allow for the establishment of subscriber organizations to beneficially own or operate shared renewable energy facilities for subscribers, to allow for third parties under contract with subscriber organizations to build, own, or operate shared renewable energy facilities, and to allow for the monetary value of electricity generated by a shared renewable energy facility to be credited to its subscribers to offset subscribers' electricity bills, to ensure equitable and reasonably proportionate access to tangible benefits of renewable energy for all citizens, to maximize opportunities for workforce development, job creation, economic opportunity, improved health and air quality, and other co-benefits of renewable energy, to increase grid resilience, and to provide appropriate public-private financing mechanisms for renewable energy and related investments. The Commission intends that these rules will provide adequate compensation and financing mechanisms to allow for construction of shared renewable energy facilities that allow all income levels to participate in the benefits of net metering to reduce their bills. The Commission's goal is to achieve an average at least 10 percent of the total aggregate generating capacity of all interconnected shared renewable energy projects be allocated to low-income subscribers.

II. DEFINITIONS

In this section the following words have the meanings indicated.

(1) “**Baseline Annual Usage**” means a subscriber’s accumulated electricity use in kilowatt-hours for the 12 months before the subscriber’s most recent subscription, OR for a subscriber that does not have a record of 12 months of electricity use at the time of the subscriber’s most recent subscription, an estimate of what the subscriber’s accumulated electricity use in kilowatt-hours would have been over the 12 months prior to the subscription.

(2) “**Shared Renewable Energy System**” or “**Shared System**” means a **Renewable Energy** electric generation facility of 5 megawatts-alternating current, or less that meets the criteria

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stated in this rule, and where the beneficial use of the electricity generated by the facility belongs to subscribers of the Shared System.

(3) “**Subscriber Organization**” means the owner or operator of the renewable energy facilities installed at a Shared System. A Shared System owner may be any for-profit or nonprofit entity, the state, a county, a city, public school district or a community college district, or organization except for an EU.

(4) “**Shared System Subscriber/Subscription**” means a retail customer of an EU with a proportionate interest in the electricity and renewable energy credits associated with or attributable to the Shared System.

(5) “**Low-Income Subscriber**” means a residential customer of an EU who has a household income at or below 80 percent of State Median Income, as published by the U.S. Department of Housing and Urban Development, a resident of low-income tax credit-financed housing who pays their own electric bills, or that is enrolled in a low-income program facilitated by the state or an EU. The EU or the Mississippi Public Service Commission may on an ongoing basis approve additional categorical eligibility thresholds to automatically qualify customers as low-income subscribers.

(6) “**Low-Income Service Provider**” means a nonprofit or public housing authority operator where at least 60 percent of the residents would meet the **Low-Income Subscriber** definition and the operator provides verifiable information that these residents are the beneficiaries of the **Shared System Subscription(s)**; and 501(c)3 nonprofits that provide verifiable information that they provide services to homeless or low-income individuals.

(7) “**Incentive**” is an additional payment paid by electric utilities and recovered through rates to the subscriber organization or subscriber to encourage additional benefits through the implementation of Shared Systems or to address barriers to **Shared Systems**, especially to ensure proportionate access and bill savings for **Low-Income Subscribers** and **Low-Income Service Providers**.

(8) “**Performance Incentive**” is an additional payment to the EU for achieving performance-based metrics associated with implementation of **Shared Systems**.

(9) “**Equitable Shared Project**” means a **Shared System** that meets at least one of the following requirements:

(a) Submits a verifiable plan as an addendum to the project interconnection agreement to allocate at least 10% of the total generating capacity of the **Shared System** to **Low-Income Subscribers**.

(b) Submits a verifiable plan as an addendum to the project interconnection agreement to

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allocate at least 40% of the total generating capacity of the **Shared System** to **Low-Income Service Providers**.

(10) “**Workforce Opportunity Project**” means a **Shared System** that meets at least one of the following requirements:

- (a) Submits a verifiable plan as an addendum to the project interconnection agreement for at least 50% of professional scopes associated with the **Shared System**’s engineering, procurement and construction are led by minority or disadvantaged business enterprises.
- (b) Submits a verifiable plan as an addendum to the project interconnection agreement for a minimum of 2 paid **Eligible Trainees** and no less than 100 hours of training per each 1 MW AC of project capacity. Training shall be implemented by or in partnership with a nonprofit training program, state or federally-recognized training program
- (c) Submits a verifiable plan as an addendum to the project interconnection agreement and included within annual reporting that demonstrates that the **Shared System** is owned or controlled by a cooperative, nonprofit or by the state, a county, a city, public school district or a community college district.

(11) “**Eligible Trainee**” means a person residing in the State of Mississippi who is eligible under the Work Opportunity Tax Credit (WOTC) targeted groups, as defined by the Internal Revenue Service.

(12) “**Unsubscribed Energy**” means any **Shared System** output in kilowatt-hours that is not allocated to any **Shared Subscriber** at the end of each month.

III. SHARED RENEWABLE ENERGY NET METERING REQUIREMENTS

1. Individual **Shared Systems** shall be connected to the distribution grid.
2. The Commission shall require EUs to develop a standard contract or tariff for net energy metering in accordance with these rules by a [*date certain within 6 months of final rule*] and make it available to eligible **Subscriber Organizations and Shared System Subscribers** on a first-come, first-served basis. In order to execute a contract or otherwise be qualified to participate in the program, **Subscriber Organizations** shall be required to demonstrate receipt of non-ministerial permits, as applicable, and that they have signed an interconnection agreement. At the time of application no **Shared System** shall be located within 1 mile of another **Shared System** under control of the same corporate entity. The Commission shall reject any tariff that does not meet the intent of these rules to provide adequate compensation and financing mechanisms to allow for construction of **Shared Systems** that allow all income levels to participate in the benefits of net metering to reduce their bills.

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3. The Commission shall offer a performance incentive for EUs for expediently interconnecting **Shared Systems**. The performance incentive shall be set at a minimum of \$100/kW to accommodate interconnection of **Shared Systems** within a timeframe not to exceed six months, measuring from the time of interconnection request to permission for commercial operations.
4. In addition to the performance incentive, for **Shared Systems** under 50 kw the Commission shall allow EUs to recover costs for any required upgrades to the distribution grid, including energy storage, associated with the interconnection of **Shared Systems**. The Commission may also allow EUs to recover the costs of insuring **Shared Systems** under 50 kw.
5. A **Shared System** must have a minimum of two subscribers.
6. A **Shared System** shall be located in the service territory of an EU.
7. **Shared Subscribers** must be customers of the EU for the service territory in which the **Shared System** is located.
8. The **Shared System** shall be interconnected to the distribution system.
9. At least 40 percent of the total generating capacity of each **Shared System** shall be allocated to customers with subscriptions of 25 kilowatts or less.

IV. BILLING CREDITS AND UNSUBSCRIBED ELECTRICITY AND RECS

1. Compensation to the **Shared Subscriber** for its share of the electricity generated by a **Shared System** shall take the form of a billing credit provided to the **Shared Subscriber** by the EU. A **Shared System** shall be deemed to be located on the site of each Shared Subscriber for the purpose of crediting the subscribers' bills for the electricity generated by the **Shared System**.
2. The **Subscriber Organization** or the third-party owner shall own the RECs associated with the electricity generated by the **Shared System**, unless the credits were explicitly contracted for through a separate transaction independent of any net metering or interconnection agreement or contract.
3. The amount of electricity generated each month available for allocation as subscribed or unsubscribed energy shall be determined by a **revenue quality production meter** installed and paid for by the owner of the **Shared System**. It shall be the EUs responsibility to read the **production meter**.

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4. The **Subscriber Organization** shall, on a monthly basis and in a standardized electronic format, provide to the EU a Subscriber list indicating the kilowatt hours of generation attributable to each of the retail customers participating in a **Shared System** in accordance with the Subscriber's portion of the output of the **Shared System**. Subscriber lists may be updated monthly to reflect canceling Subscribers and to add new Subscribers. The EU must apply bill credits to Subscriber bills within one billing cycle following the cycle during which the energy was generated by the **Shared System**.
5. The EU shall, on a monthly basis and in a standardized electronic format, provide to the **Subscriber Organization** a report indicating the total value of bill credits generated by the **Shared System** in the prior month as well as the amount of the bill credit applied to each **Subscriber**.
6. The EU shall credit a **Shared Subscriber's** electric bill for the amount of electricity generated by a **Shared System** for the subscriber based on the appropriate commission-approved rate inclusive of the applicable riders in the rider schedule and in a timely manner, not later than the next billing cycle.
7. Each billing month, the EU shall credit the **Shared Subscriber's** electric bill by multiplying the quantity of kilowatt hours allocated to each subscriber by the subscriber's applicable commission-approved rate inclusive of applicable riders in the rider schedule.
8. Subject to the Commission's review and reasonable adjustment, credits shall not be applied to reduce fixed monthly customer charges or minimum bill provisions under Commission-approved rate and rider schedules except that any **Low-Income Subscriber** may use credits to reduce fixed monthly customer charges or minimum bill provisions.
9. If the value of the credits generated by the **Shared System** allocated to the **Shared Subscriber** exceeds the amount owed by the subscriber as shown on the subscriber's bill at the end of the billing period, the remaining value of the credit shall carry over from month to month until the value of any remaining credits is used. When a customer closes his or her Shared account, if the subscriber has accumulated a credit balance, any such balance, net of costs owed to the EU, shall be distributed to a designated program to assist low income rate payers, unless the Subscriber affirmatively opts to be paid for the balance at the applicable avoided cost rate.
10. If the value of the credit generated by the **Shared System** allocated to the **Shared Subscriber** is less than the amount owed by the subscriber as shown on the subscriber's bill at the end of the applicable billing period, the subscriber shall be billed by the EU for the difference between the amount shown on the bill and the value of the available credits.
11. A subscriber may not receive credit for electricity generated by a **Shared System** that exceeds 120% of the subscriber's baseline annual usage.

12. Any unsubscribed energy generated by a **Shared System** shall be banked on the generator account and may be allocated on subscriber accounts within two years of being accumulated; after that time credits will be forfeited.
13. The EU shall provide bill credits to a **Shared Subscribers** for not less than 25 years from the date the **Shared System** becomes commercially operational.
14. **Shared Subscribers** shall be eligible to receive bill credits so long as the **Shared System** continues to generate and provide power to the distribution grid, regardless of the bankruptcy or contractual default of any subscriber or of the subscriber organization.
15. A Subscriber Organization shall not be considered an EU simply by virtue of operating one or more **Shared Systems**.

V. SHARE TRANSFERS AND PORTABILITY

1. A **Shared Subscription** may be transferred or assigned to the associated **Subscriber Organization** or to any person or entity who qualifies as a **Subscriber**.
2. A transfer or assignment by a **Subscriber** shall be effective upon such notification to the **Subscriber Organization**, unless the subscriber specifies a later effective date.
3. All transfers and assignments shall comply with the terms and conditions of the subscription.
4. A **Shared System** may not sell subscriptions totaling more than 100% of its energy generation.
5. If the **Shared System** is fully subscribed, the **Subscriber Organization** shall maintain a waiting list of EU customers and transfer or assign available subscriptions on a first-come, first-serve basis, except that the **Subscriber Organization** shall give a preference to potential **Low-Income Subscribers** by placing them at the top of the waiting list.

VI. PRODUCTION DATA

1. **Shared Systems** are required to provide real time reporting of production as reasonably specified by the EU.
2. Production from the **Shared System** shall be reported by the **Subscriber Organization** to its subscribers at least monthly. To facilitate the tracking of production data by Subscribers, **Shared System** owners or **Subscriber Organizations** are encouraged to

provide website access to Subscribers showing real time output from the **Shared System**, if practicable, as well as historical production data.

VII. FINANCING AND OPERATING SHARED SYSTEMS

1. The Commission shall consider and approve, with modifications as it sees fit, a standard contract(s) for **Shared Systems** to be executed between the **Subscriber Organization** and the EU.
2. Contracts signed by EUs with **Subscriber Organizations** shall be a matter of public record and shall be filed with the Commission by the EU.
3. A **Subscriber Organization** may contract with a third party for the third party to finance, build, own, or operate a **Shared System**. The Commission's intent is to reasonably allow for the financing of **Shared Systems**.
4. **Subscriber Organizations** shall submit to the Commission annual reports as of the end of the calendar or other fiscal year containing, at a minimum, the energy produced by the **Shared System**; at the time of reporting the number, percentage share and type of subscribers by rate class, the number and percentage share allocated to **Low-Income Subscribers** and average estimated bill savings, the number, percentage share allocated to low-income service providers and average estimated bill savings, reporting on status of equitable shared system commitments, any additional relevant compliance requirements or commitments, audited financial statements including a balance sheet, income statement, and sources and uses of funds statement; and the management and ownership of the **Shared System** and the **Subscriber Organization**, if different. Individual subscribers shall receive, in addition to the annual report of the **Subscriber Organization**, a report of the energy, multiplier (e.g., aggregate compensation rate), eligible low-income customer bill savings, and net metering credits attributed to the Subscriber's account.
5. Any subscriber funds collected by a **Subscriber Organization** in advance of commercial operations of the **Shared System** shall be held in escrow. The escrow shall be maintained by its terms until such time as the **Shared System** commences commercial operation as certified by EU acceptance of energy from the **Shared System**.

VIII. LOW TO MODERATE INCOME SUBSCRIBERS AND EQUITABLE SHARED PROJECTS

1. Over three-year intervals beginning three years from the date of the final rule, the Commission shall review its goal that on average at least 10 percent of the total aggregate generating capacity of all interconnected **Shared Systems** be allocated to **Low-Income Subscribers**.

2. The Commission shall offer incentives in the amount of \$.04 kWh in addition to the appropriate commission-approved rate and rider schedule for **Equitable Shared Projects** to ensure significant bill savings may be achieved by **Low-Income Subscribers** and **Low-Income Service Providers**, which may be payable to the subscribers directly or transferable to **Subscriber Organizations** based upon verifiable commitments for **Low-Income Subscribers** and **Low-Income Service Providers** within **Shared Systems**. The Commission shall offer an up-front incentive of \$.15 / watt for **Workforce Opportunity Projects**, eligible for payment beginning at the time of interconnection approval.
3. The **Net Metering, Interconnection and Shared System Working Group** shall review **Low-Income Subscribers** participation in **Shared Systems** and work to develop new programs or improve existing programs that address barriers to participation for **Low-Income Subscribers**, provide financing options such as consolidated billing with EU purchase of receivables, ensure incentives are appropriately structured to achieve reasonably proportionate participation for **Low-Income Subscribers** and maximize co-benefits including bill savings and energy burden reduction, to improve opportunities for **Low-Income Subscribers** and **Low-Income Service Providers**.

IX. CONSUMER DISCLOSURES

1. An entity selling or reselling a subscription in a **Shared System** shall provide a disclosure to the potential subscriber that includes the following, prior to the sale or resale of that subscription:
 - A good faith estimate of the annual kilowatt hours to be delivered by the **Shared System** based on the size of the subscriber's subscription. For **Low-Income Subscribers** and **Low-Income Service Providers**, the estimate must include the annual bill savings the subscriber shall receive over the duration of the subscription term, without including electricity price escalators in the bill savings calculation.
 - A plain language explanation of the terms under which the bill credits will be calculated;
 - All nonrecurring (onetime) charges;
 - All recurring (monthly, yearly) charges;
 - A plain language explanation of the contract provisions regulating the disposition or transfer of the subscription; and
 - A plain language explanation of the costs and benefits to the potential subscriber based on the subscriber's current usage and applicable tariff, for the term of the proposed contract.

ATTACHMENT C

Joint Shared Renewable Energy Rules Explanatory Appendix

In drafting the Joint Shared Renewable Energy Rules in Attachment B for the Commission's consideration, we reviewed various model rules and state rules for shared renewable energy programs, and selected the provisions that could best fit Mississippi's unique needs and achieve the goal of extending renewable benefits to low-income customers. In this document we explain some our suggestions where some background may be helpful.

We reviewed the Interstate Renewable Energy Council ("IREC") Model Rules¹ and Shared Renewable Energy for Low- to Moderate-Income Consumers Policy Guidelines and Model Provisions,² the Coalition for Community Solar Access (CCSA) Community Solar Policy Decision Matrix,³ as well as programs in Washington DC,⁴ Maryland⁵ and Colorado.⁶

II. DEFINITIONS

"Shared System" - Five (5) MWs is a common project size limit across many states with a community solar program. Five MW is high enough to allow projects to achieve economies of scale, but low enough to still be considered a distribution-scale project. The benefits include a smaller project footprint (30 acres or less), less land use controversy with planning commissions, and a project that can be located more closely to the community it is serving. Without a cap, developers will pursue larger projects which limits the diversity of participants by favoring very

¹ Interstate Renewable Energy Council & Vote Solar, *Model Rules for Shared Renewable Energy Programs* (2013), available at <https://irecusa.org/publications/model-rules-for-shared-renewable-energy-programs/> [hereinafter "IREC Model Rules"].

² Interstate Renewable Energy Council, *Shared Renewable Energy for Low-to Moderate-Income Consumers: Policy Guidelines and Model Provisions* (2016), available at <https://irecusa.org/publications/shared-renewable-energy-for-low-to-moderate-income-consumers-policy-guidelines-and-model-provisions/> [hereinafter "IREC LMI Guidelines"].

³ Coalition for Community Solar Access, *Community Solar Policy Decision Matrix: Guidance for Designing Community Solar Programs* (Mar. 2019), available at <http://www.communitysolaraccess.org/wp-content/uploads/2019/04/2019CommunitySolarPolicyMatrix-2.pdf> [hereinafter "CCSA Policy Matrix"].

⁴ DC has a series of rulemakings and amendments – DSIRE, *Net Metering: Program Overview*, <https://programs.dsireusa.org/system/program/detail/105> (last updated Mar. 11, 2021); Solar for All program established via D.C. ACT 21-466, available at https://lims.dccouncil.us/downloads/LIMS/35409/Signed_Act/B21-0650-SignedAct.pdf, D.C. ACT 21-466 mostly sets up funding for the program.

⁵ Md. Code Ann., Community Solar Energy Generation Systems §20-62 (2016).

⁶ Colorado CSG Enabling Statute, H.B. 1342, 67th Gen. Assemb., Reg. Sess. (Colo. 2010); Colorado PUC rules governing CSGs (4 Colo. Code Regs. § 723-3, Rule 3665 (2010)); see IREC LMI Guidelines at 8-9.

large developers over local players.⁷ Washington, D.C. has a 5 MW maximum under their community net metering program, while Maryland has a 2 MW cap.

“Subscriber Organization” – To establish a market for shared renewable energy providers, competition and innovation are necessary. That will not happen if utilities are permitted to participate because it is near impossible to establish a level playing field with utilities and non-utility entities. For example, non-utility entities could not possibly compete on an equal playing field with utility projects as far as interconnection review and approval, or access to data and financing.⁸ Washington D.C.’s program does not allow utilities as subscribers.⁹

“Low-Income Subscriber” – To broaden the reach of the low-income program and ease the qualification process, two other means of qualification were added as well as a provision that allows the utility or the Commission to approve other qualifiers. If a customer is already participating in a means-based program, it eases their qualification process to provide proof of participation instead of proof of income.¹⁰

Initial engagement and income verification are two major challenges with serving low- and moderate-income customers with shared systems.¹¹ Several states (MD, NJ) have had to back away from initially strict low-income verification rules that required low-income customers to produce documentation—a requirement that effectively discouraged low-income participation. Once the low-income customer is identified and has interest in participation—which is challenging in and of itself because this community frequently lacks internet access, may face language and literacy challenges, and frequently find themselves preyed upon—they are then asked to produce personal financial information that no other customer is required to show, in order to receive the same benefit. The result can be discrimination and discouragement. Identifying reasonable and non-obtrusive ways to qualify low-income customers such as their place of residence, participation in income-based utility assistance programs, or self-attestation, are fairer and more appropriate for these customers.

“Low-Income Service Provider” – The purpose is to provide low income benefits to residents of public housing and to nonprofits that serve low income and homeless populations.¹²

“Incentive” – Many shared renewable programs have inadequately addressed the barriers that low income participants face—lack of access to capital and insufficient credit often prevent these customers from being able to pay the upfront costs of joining a shared program.¹³ Since low income participation is a core goal of the shared renewable program, the Commission should encourage such participation with direct incentives—an easily understood and effective way to

⁷ CCSA Policy Matrix at 14.

⁸ *See id.* at 5.

⁹ *Supra* note 4.

¹⁰ IREC LMI Guidelines at 5.

¹¹ *Id.* at 15-16.

¹² *Id.* at 36 (LMI Facility Participant).

¹³ *Id.* at 11.

overcome financial barriers to low income participation in shared systems.¹⁴ Dimension Renewable provides helpful summaries of incentive structures from several states in its comments at pages 9-10. *See also* Attachment A, Section VIII for incentives.

“Equitable Shared Project” – The purpose is to provide incentives to projects that intentionally focus on benefitting historically and presently marginalized communities.¹⁵ “Treating equity as a secondary consideration to be added on to renewable energy policy, like a side dish rather than baked in, will fail to adequately respond to the larger problem of an extractive economy that itself has inequity baked in.”¹⁶ *See* Attachment A VIII.2 for incentives.

“Workforce Opportunity Project” – The purpose is to incentivize projects that focus on developing Mississippi’s workforce by targeting minority or disadvantaged business enterprises and individuals who have faced barriers to employment. This incentive also encourages community governance projects by incentivizing ownership by cooperatives, nonprofits, and states and government entities.¹⁷ *See* Attachment A VIII.2 for incentives.

“Eligible Trainee” – The Work Opportunity Tax Credit (“WOTC”) is a federal tax credit available to employers for hiring individuals from certain targeted groups who have consistently faced significant barriers to employment.¹⁸

III. SHARED RENEWABLE ENERGY METERING REQUIREMENTS

2. **Open tariff** - An open tariff is the easiest to administer, creates a more level playing field for a diversity of projects, and is more efficient from the project development perspective.¹⁹

Ministerial permits - By requiring receipt of non-ministerial permits before entering the program, the Commission has assurances that projects have a high likelihood of reaching commercial operation.²⁰

Projects within 1 mile - This is intended to prevent developers from effectively building a utility scale project that is broken up into smaller electrically distinct projects in order to comply with the program rules.²¹

¹⁴ *Id.* at 21; Subin G. DeVar, Equitable Community Solar: California & Beyond, 46 ELQ 1018, 1044 (Aug. 21, 2020), *available at* DOI: <https://doi.org/10.15779/Z38057CS9H>

¹⁵ *Id.* at 1044.

¹⁶ *Id.* at 1042 (citing Climate Platform, Equitable and Just, Equitable & Just National Climate Platform, A JUSTCLIMATE 4, <https://ajustclimate.org/pdfs/ClimatePlatform.pdf>).

¹⁷ *Id.* at 1044.

¹⁸ IRS, *Work Opportunity Tax Credit*, <https://www.irs.gov/businesses/small-businesses-self-employed/work-opportunity-tax-credit#targeted> (last accessed Apr. 5, 2021).

¹⁹ CCSA Policy Matrix at 6.

²⁰ *Id.* at 7.

²¹ *Id.* at 15.

5. **Two-subscriber minimum** - The two-subscriber minimum is a low barrier to entry and is recommended by the Policy Matrix, 22 and also found in D.C.'s and Maryland's community solar programs.

9. **Small customer set aside** - Programs that have successfully achieved small customer participation have reserved a certain portion of a project for small customers.²³ Without an effective mechanism in place to include residential and small commercial customers, providers will take the easier route to partner with a handful of large commercial customers.

IV. BILLING CREDITS AND UNSUBSCRIBED ELECTRICITY AND RECs

1. **Bill credit** - The bill credit is by far the easiest to administer and is more intuitive for the subscriber.²⁴ D.C. and Maryland both administer bill credits.

2. **REC ownership** - The REC ownership should remain with the subscriber organization or owner.²⁵ Both D.C. and Maryland allow for the owner of a community solar project to maintain ownership of RECs.

11. **120% baseline usage limit** - Though maximum limits are unnecessary and can inhibit a customers' ability to purchase an electric vehicle, a similar limit can also be found across different states' community solar programs, and this is built into D.C. and Maryland's rules.²⁶

12. **Banked and used within 2 years** - This allows subscribers to leave others to join without losing the value of the credit.²⁷

V. SHARE TRANSFERS AND PORTABILITY

These provisions allow the Shared Rules to remain flexible to allow subscriber organizations to meet the needs of customers and adjust allocations if subscribers move outside the service area or cancel their subscriptions.²⁸

VI. PRODUCTION DATA

This monthly data exchange is critical to ensuring the right customers get the right amount of credits and that the subscriber organization has the information they need on how bill credits were applied to answer

²² *Id.* at 11.

²³ *Id.* at 11-12.

²⁴ *Id.* at 9.

²⁵ *Id.* at 10.

²⁶ *Id.* at 11.

²⁷ *Id.* at 10.

²⁸ *Id.* at 13; IREC Model Rules at 14.

APPENDIX 1**INSIGHTS FROM THE COLORADO ENERGY OFFICE LOW-INCOME COMMUNITY SOLAR DEMONSTRATION PROJECT (2017)²⁹**

The Colorado low-income demonstration project developed eight solar gardens for a total of 1.5 MW of energy, the smallest garden size was 26kW and the largest garden size was 700 kW. The average household subscription was 3.5kW, and the projects subscriber was as few as 7 households, and as many as 140 households.

Utility	Project Size (kW)	Project Production (kWh)	# of Subscribers	Average Subscription Size (kW)	Average Annual Cost Savings per Subscriber	Targeted Cost Savings as Percentage of Utility Bill
Delta-Montrose Electric Association	151	243,128	43	3.6	\$312	50%
Empire Electric Association	26	37,499	7	3.7	\$485	50%
Fort Collins Utilities	65	87,181	30	3.2	TBD	50%
Grand Valley Power	37	56,336	10	3.2	\$590	50%
Holy Cross Energy	145	228,147	45	3.3	\$411	15 to 50%
Poudre Valley REA	700	1,250,000	140	5.0	TBD	30%
San Miguel Power Association	197	315,735	60	2.0	\$134	50% of 2 kW
Yampa Valley Electric Authority	165	198,612	45	5.2	\$360	50%
Total	1,486	2,416,638	380			
Average	186	302,080	48	3.5	\$382	

²⁹ Hillary Dobos et al., *Insights from the Colorado Energy Office Low Income Community Solar Demonstration Project* at 26 (Colo. Energy Office, Dec. 2017), available at <https://www.colorado.gov/pacific/sites/default/files/Insights%20from%20the%20CEO%20Low-Income%20Community%20Solar%20Demonstration%20Project.pdf>.