Southern Renewable Energy Association
11610 Pleasant Ridge Rd Ste 103 #176 Little Rock, AR 72223

June 14, 2021

Katherine Collier
Executive Secretary
MS Public Service Commission
P.O. Box 1174
Jackson, MS 39215-1174

RE: MS PSC Docket No. 2019-AU-231, Mississippi Power Company's Integrated Resource Plan (IRP)

Dear Ms. Collier,

In accordance with the Mississippi Public Service Commission Rule 29 regarding Integrated Resource Planning (IRP's), the Southern Renewable Energy Association (SREA) is filing the attached comments regarding Mississippi Power Company's IRP.

Sincerely,

Simon Mahan
SREA Executive Director

CERTIFICATE OF SERVICE

I, Simon Mahan, as the duly authorized director of the Southern Renewable Energy Association (SREA), herby sign and certify that I have filed with the Mississippi Public Service Commission (Commission) SREA's Comments:

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

2) I further certify that I have provided a copy of the foregoing comments to the following:

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In the filing of the foregoing, I certify that I have complied with Rule 6 of the Commission's Public Utilities Rules of Practice and Procedure. This 14th day of June, 2021.

SIMON MAHAN
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BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

MISSISSIPPI PUBLIC SERVICE COMMISSION **Docket No. 2019-AU-231**

IN RE: MISSISSIPPI POWER COMPANY INTEGRATED RESOURCE PLAN

COMMENT BY THE SOUTHERN RENEWABLE ENERGY ASSOCIATION

COMES NOW, the Southern Renewable Energy Association ("SREA"), pursuant to Mississippi Public Service Commission ("MS PSC" or "Commission") Rule 29[1], to file these comments in Mississippi Power Company's ("MPC" or "Company") Integrated Resource Plan ("IRP") docket. SREA is an industry-led initiative that promotes responsible use and development of wind energy, solar energy, energy storage and transmission solutions in the South. Our vision is for renewable energy to become a leading source of energy in the South and our mission is to promote responsible use and development of renewable energy in the South. SREA appreciates the opportunity to provide these comments to the MS PSC. Our comments will include review the IRP process to date (Section 1), comments regarding the IRP (Section 2), and recommendations (Section 3).

[1] Mississippi Public Service Commission. Rule 29 as adopted on November 22, 2019. [https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=645594]

I. Review of IRP Process

In November 2019, the Mississippi Public Service Commission issued its final rules for utilities developing Integrated Resource Plans (IRP's) in Docket No. 2018-AD-64. In the original IRP Rulemaking Order, the Commission stated that, "Comprehensive IRP considers and incorporates a full range of resources, including supply-side resources, demand-side resources, and transmission, to determine which mix of resources most effectively minimizes future energy system costs while ensuring safe and reliable operation of the system for both the company and the rate-payers." Also, the Commission stated that, "one of the Commission's primary motivations for the development of a formal IRP rule is the desire for transparency." Mississippi Power Company's 2021 Integrated Resource Plan falls short of the Commission's IRP requirements. In the IRP Rulemaking docket, stakeholders including SREA presented a number of concerns regarding the IRP process scheduling, modeling, transparency and enforceability. Many of those concerns have come to fruition in this IRP.

Starting with intervention in this IRP docket, MPC opposed all or nearly all interventions by the parties, including SREA. Many months were spent going back and forth between the intervening parties and MPC, indicating a strongly hostile IRP process. Fortunately, the MS PSC accepted all intervening parties' requests to be involved in this docket, allowing for stakeholder engagement. SREA appreciates the Commission's approval of our intervention. We would like a more collaborative and cooperative effort with MPC, the Commission, and Commission Staff with future processes.

However, even after stakeholders could intervene, many questions were unanswered at the Public Workshop held in-person in early 2020. At that meeting, stakeholders were told that many specifics about the IRP process would be developed at a later time and we were asked to allow the

process to be carried out. There was hardly any specific information for stakeholders to respond to after the Public Workshop, making it more difficult to identify potential fatal flaws. In effect, SREA had to provide only general scoping suggestions and recommendations in our feedback to the Public Workshop. Even so, it is not apparent that any of our recommendations were adopted by MPC. In short, the initial Public Workshop occurred too early in the process to be informative.

In November 2020, the Company filed its Annual Energy Plan, but did not notify any stakeholder that intervened in the process. SREA mentioned this deficiency in previous comments, but there has been no acknowledgement that intervening parties have been left out of the process. As intervenors, we are dependent on the Commission and Commission Staff to enforce our rights as intervenors. This does not bode well for future Annual Energy Plan filings.

At the Company's Technical Conference in February 2021, the Company shared more details regarding the IRP inputs and outputs; but not enough detail for stakeholders to offer strong enough feedback on how to improve the impending IRP Report. At the Technical Conference, intervenors learned of two fatal flaws: the exclusion of potential wind energy resources from modeling, and the exclusion of solar energy resources until 2025. The next IRP cycle will occur and conclude prior to MPC's modeling of solar energy resources in this IRP, effectively rendering this entire IRP effort a waste of time. Stakeholders were not made aware of these fatal flaws until the Technical Conference. MPC made the decision to exclude near-term wind and solar on its own without support of any stakeholder in this process. Those decisions are really a disservice to Mississippi ratepayers; first, because of all the time, effort and money spent to develop this IRP by the Company for useless plan, and second by not earnestly evaluating low cost resource planning. In short, the Technical Conference was held too late in the process to be constructive.

The Technical Conference was conducted as a confidential meeting. Stakeholders were required to sign confidentiality agreements prior to attendance. Stakeholders were asked to submit comments afterward as confidential. Later, the meeting materials were made entirely public, along with many stakeholder comments. It is unclear why that meeting had to be held confidentially, when nothing shared at the meeting or after the meeting was confidential.

SREA submitted our comments on the Technical Conference and included a number of data requests. MPC did an excellent job in categorizing and cataloging our data requests, and made it easy to receive the responses. SREA very much appreciates the way MPC provided its responses to us and we recommend MPC's practice become standard practice. To be clear, SREA strongly supports the way MPC *organized* its response to our requests, not the responses themselves. MPC's response to our data requests would have been exceptionally helpful in this process, had these responses been provided prior to MPC running its IRP models and scenarios. Had SREA and other stakeholders had the information beforehand, we could have focused on specific changes that needed to be made to better improve the IRP. However, due to the short data request period, requesting additional information beyond the first set of requests is virtually impossible. In short, the data request timeframe is effectively a one-and-done process with no real follow-up ability from stakeholders.

While SREA appreciates MPC's thorough categorization of our data requests, MPC's responses to our comments and recommendations are still an enigma. This was a major concern of SREA's when formulating the IRP Rule in 2019. MPC's IRP provides a general synopsis of "notable changes" made because of "several intervenors"[2] including 1) modeling batteries and

[2] IRP Pg. 2

solar (which is required by the Rule), 2) modeling the Company's own carbon commitment, 3) electrification including electric vehicles, and 4) making the IRP a "completely public document". However, it is unclear that any of SREA's specific recommendations filed after the Public Workshop or after the Technical Conference were incorporated. In the Entergy Mississippi IRP Technical Conference, Entergy staff indicated that comments filed after the Technical Conference would not change any of the IRP modeling inputs or results, because there is not enough time between the Technical Conference and the filing of the IRP to make any changes. Entergy Mississippi and MPC are using the same resource planning software (AURORA) meaning that if the Technical Conference is too late for Entergy to make improvements, it is too late for MPC to make improvements. Based on MPC's IRP, and Entergy Mississippi's IRP responses, is unclear what value the Technical Conference and subsequent comments provide.

These comments are the last opportunity for intervening parties to participate in this IRP process. Eighty days after the IRP filing on April 15, 2021, the MS PSC Utilities Staff may file comments on the Plan, or approximately July 4, 2021. SREA has received no notification that the Commission Staff have filed questions or data requests, and Commission Staff have provided no direction to us regarding positions, issues, or concerns of the Commission. Twenty days after the Commission Staff file a report, utilities *may* (or may not) provide a response to any comments or approximately July 24, 2021. Then twenty days after that, the Commission shall review the IRP and note any deficiencies, or approximately August 13, 2021. All along this process, SREA has recommended that the Commission hire independent consultants to review this IRP process, as allowed by Rule 29 Section 105.1. It is highly unlikely that the Commission will have enough time to hire consultants, review the IRP and make its determinations on the IRP by the deadline.

Overall, this IRP process has been fraught with opposition from MPC to stakeholder involvement. During this IRP, it would have been helpful for Commissioners and Commission Staff to be more involved in each milestone, to help provide clarity to stakeholders and ensure MPC was fulfilling the spirit of the IRP Rule we all worked so diligently on. If this IRP process is followed in similar fashion in the future, without significant improvements, then the Commission will not be able to protect ratepayers against poor resource planning in the future.

Recommendations for Future IRP Processes

- Continue allowing electronic filing, and virtual meeting access
- Provide a formal procedural schedule that enables intervening parties to file data requests earlier in the process, with enough time for MPC to incorporate stakeholder feedback
- Consolidate the Reserve Margin work into the IRP process
- Hire PSC consultants to evaluate the IRP process and report from the beginning
- Incorporate NARUC stakeholder engagement recommendations
- Require notification of filing the Annual Delivery Plan and Mid-Point Supply-Side Update, in addition to providing the original documents, to intervening parties
- Require meeting notification to the service list at least two weeks prior to a meeting
- Require meeting materials to the service list at least one week prior to a meeting
- Require responses to stakeholder comments
- Require that the Public Workshop share suggested data inputs for modeling prior to modeling is completed
- Require that the Technical Conference include draft IRP results, and enough time for stakeholders to offer suggestions for improvement to modify the final IRP results

II. Review of MPC IRP

Conducting an integrated resource plan is difficult. SREA appreciates the MS PSC's commitment to transparent and stakeholder-involved resource planning. MPC noted that this is the first IRP using the new Aurora capacity expansion software. Adopting new software is challenging at any time, but SREA appreciates MPC's efforts to attempt to improve its resource planning process. We look forward to working with the Commission on improving future IRP iterations.

There are significant deficiencies in this MPC IRP that the Commission should consider rectifying, including but not limited to:

- MPC did not include wind energy resources, hybrid energy resources, or larger transmission solutions in this IRP, a violation of IRP Rule Section 104.3
- Solar resources were not allowed to be added to the model until the year 2025
- The federal investment tax credit (ITC) and production tax credit (PTC) for renewable energy projects were not included
- Southern Company's net zero carbon commitment was not achieved in all scenarios
- The IRP only added solar "when the value of energy they produce was greater than the assumed PPA price", suggesting a $25/MWh solar PPA would have to compete against a $51/MWh existing resource to be selected by the model
- Solar capacity value was set at zero, despite MPC having higher avoided costs in summertime afternoons
- No evaluation of the proposed Southeastern Energy Exchange Market (SEEM) or other energy market reforms
- MPC did not benchmark pricing against the National Renewable Energy Lab's Annual Technology Baseline
- Battery "generic capex" pricing was assumed to be higher than MPC's evaluation of reported estimates
- Sub-hourly modeling for energy storage and hybrid resources was not used
- MPC did not conduct a "break even" cost analysis for energy storage and hybrid resources
- MPC did not provide different financial metrics for Build-Own-Transfer (BOT), self-build, and Power Purchase Agreement (PPA) generation technology resources

- MPC did not identify gaps in current software that may undervalue renewable, energy storage and hybrid resources, and include recommendations for improvements
- MPC did not provide clarification regarding "winter peaking" status and mismatch of avoided costs
- The "Action Plan" provides no concrete actions beyond what the Commission had already directed (e.g., retirements were already predetermined), and the Company had already decided to conduct prior to the IRP (see "Technology Options" and "Transmission")
- No plans to issue an all-source request for proposal for renewable energy resources

IRP Results Review

SREA's comments on MPC's IRP Technical Conference noted that "MPC stated at the Technical Conference that it does not anticipate a capacity need by the year 2031. If AURORA is run as a capacity-only model, the results will show no new generation resources added until the first year of capacity need, or 2031… If the MPC IRP shows that no new renewable resources are added in many of the scenarios until 2031, then AURORA's capacity-only screening should be obvious." MPC's IRP selects new generation resources in four scenarios out of ten prior to 2030. Three of the four scenarios assume substantially higher load growth (HG0, HG20, HL) than the reference case. The fourth scenario is the Carbon Intensity (CI) Scenario, where the model adds 390 MW of solar in 2027. It is unclear if MPC forced in the solar resources in this Scenario to achieve its carbon commitment or if the model naturally selected these resources. In MPC's IRP, it appears that higher load growth creates a capacity need, which triggers the AURORA model to

select new resources earlier than 2031. This is exactly the problem SREA warned about where, without a capacity need, AURORA will not economically build lower cost generation resources.

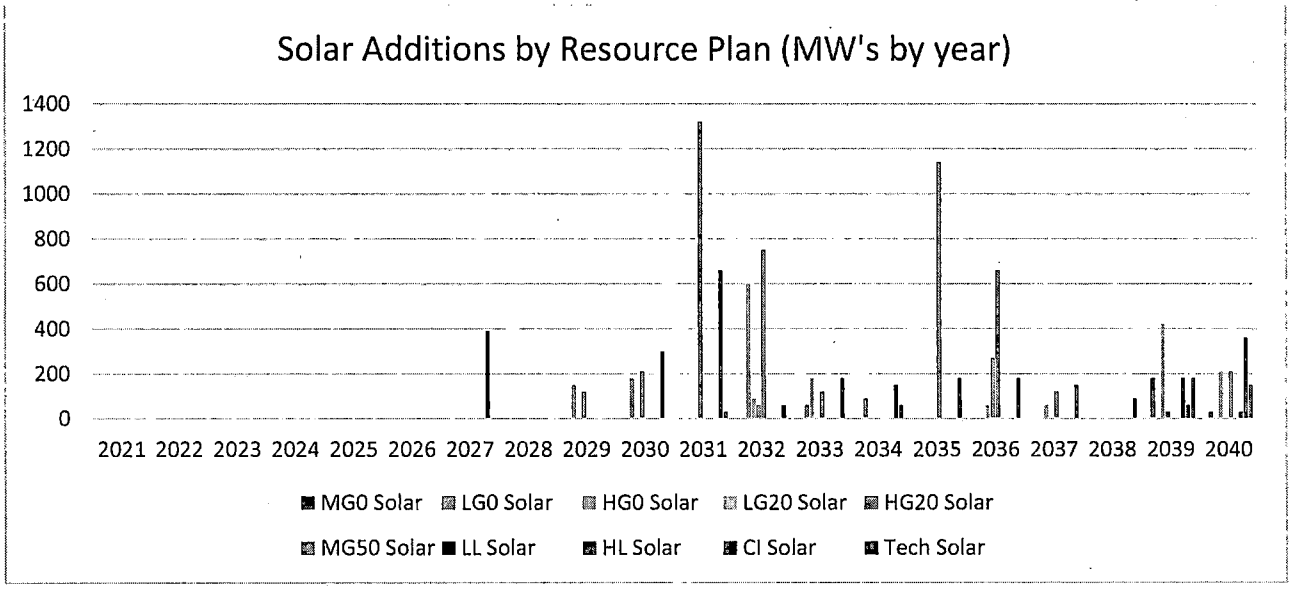
Table 6: 2021 Planning Cycle Scenarios

Scenario	Natural Gas Price Path	Greenhouse Gas Pressure	Technology Cost & Performance	Load	Short Name
1	Moderate	$0 fee	Tech Application Stds[23]	Reference[24]	MG0
2	$50 CO_2	$50+ fee	Tech Application Stds	Reference + $50 delta	$50
3	Low	$0 fee	Tech Application Stds	Reference + LG0 delta	LG0
4	Low	$20+ fee	Tech Application Stds	Reference + LG20 delta	LG20
5	High	$0 fee	Tech Application Stds	Reference + HG0 delta	HG0
6	High	$20+ fee	Tech Application Stds	Reference + HG20 delta	HG20
7	Moderate	$0 fee	Tech Application Stds	High Electrification[25]	HL
8	Moderate	$0 fee	Tech Application Stds	High EE & DER adoption[26]	LL
9	Moderate	$0 fee	Low cost zero-CO_2 tech[27]	Reference	Tech
10	Moderate	CO_2 Intensity[28]	Tech Application Stds	Reference	CI

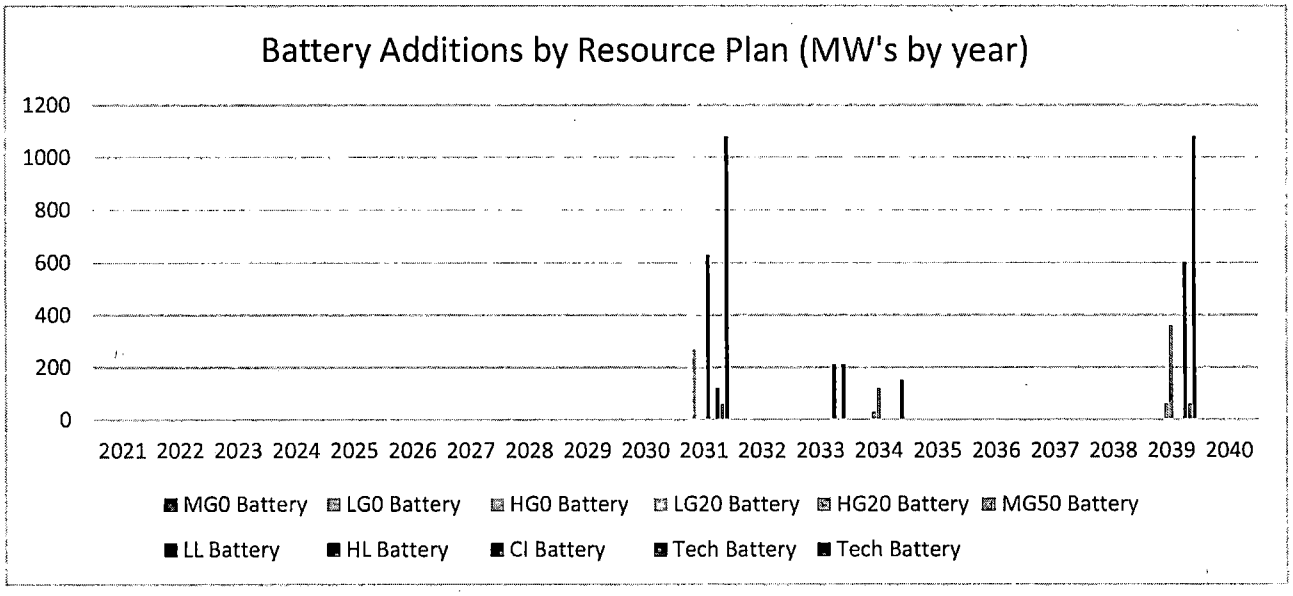
As SREA noted in our Public Workshop and Technical Conference comments, we were concerned about the MPC's use of the AURORA planning software. We stated in our comments that, "If AURORA is run as a capacity-only model, the results will show no new generation resources added until the first year of capacity need, or 2031." MPC conducted ten scenarios in this IRP, and solar does not show up in a majority of scenarios until 2032. No scenario adds solar over the next five years. In the scenarios, the most solar energy resources are added in the years 2031 and 2032. From 2030 to 2040, the scenarios add a total of 10 gigawatts of solar resources, an average of 1,000 MW per scenario; however, the scenarios range from adding zero resources over the next 20 years (MG0, LL), to adding up to 3,000 MW's (MG50).

- Seven out of ten scenarios that MPC ran recommend doing nothing on solar or batteries for the next decade
- Four out of ten scenarios show MPC procuring more gas than solar
- Six out of ten scenarios select batteries, but not starting until 2031

- Eight out of ten scenarios select solar, but not in earnest until 2031/2032
- 2031 is a busy year, with all scenarios procuring resources
- The earliest year a resource is selected is 2027 with 390 MW of solar added in the Carbon Intensity Scenario; MPC's only scenario that would come close to achieving Southern Company's net zero carbon commitment



Similarly, no battery resources are added in any resource plan over the next decade, with the most battery resources added in 2031. From 2030 to 2040, the scenarios add a total of 2.5 gigawatts of battery resources, an average of 250 MW per scenario; however, the scenarios range from adding zero resources over the next 20 years (MG0, LG0, HG0, HL), to adding up to 930 MW's (CI).



Alternatively, all scenarios add natural gas power plants over the planning period. Nine out of ten scenarios add new natural gas power plant resources in 2031, with an average of 339 MW's added that year. Scenario LL (Low Load) adds no natural gas resources in 2031; however, Scenario LG (Low Gas) adds 540 MW's in 2031.

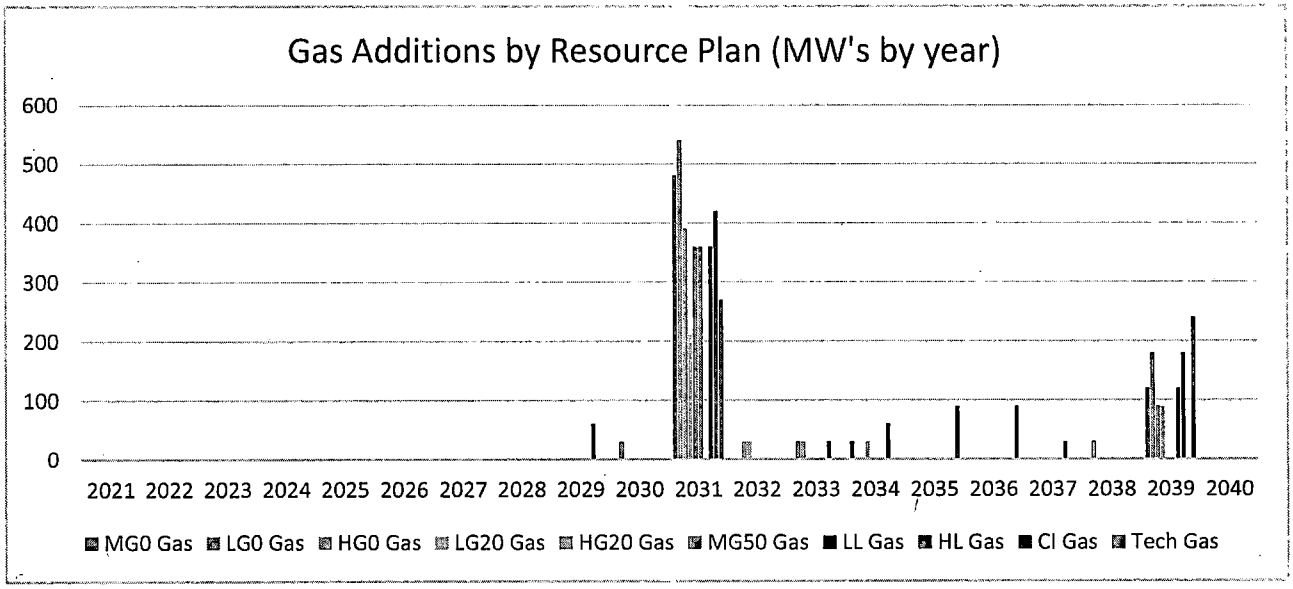
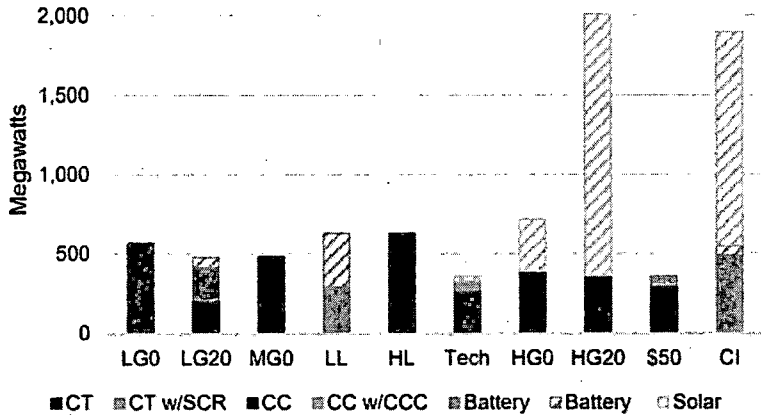
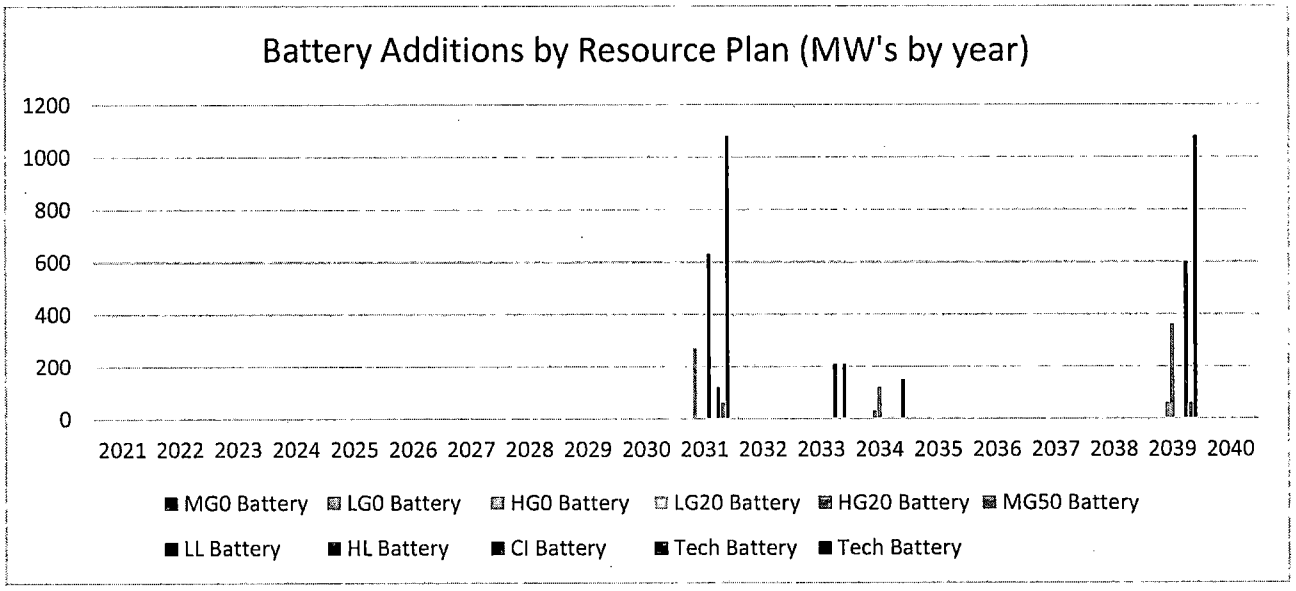


Figure 15: MPC Cumulative Additions in 2021-2031





The only scenario that adds a significant amount of capacity prior to the 2030's is the Carbon Intensity (CI) Scenario. The CI Scenario is the only scenario where MPC or Southern Company would potentially achieve the Company's announced net zero carbon commitment. To achieve this reduction, MPC modeled carbon limits directly in the AURORA model by reducing carbon emissions by a linear 3.6% reduction annually beginning in 2025. No other Scenarios provided estimated CO2 emission reductions. Based on the results of the IRP, in order to stay

aligned with its public carbon reduction plans, MPC needs to add at least 390 MW of solar capacity by 2027.

Scenario 1 and Scenario 9 are very similar and therefore useful for comparison. In the "Tech", or low cost zero-CO2 Tech Scenario (Scenario 9), MPC reduced solar prices from $25/MWh to $20/MWh with an escalator, but kept all other variables the same as the MG0 Scenario (Scenario 1). The Tech Scenario did not add solar until 2031, and even then only 30 MW's. Yet, the Tech Scenario adds 270 MW's of natural gas capacity in 2031. Alternatively, the MG0 Scenario adds 480 MW of natural gas capacity in 2031. The comparison of these two similar scenarios highlights two major findings.

First, if solar is offered to the model at $20/MWh, it is unclear why solar procurement would wait until 2031, given that nearly all other MPC resources generate power at over $20/MWh. For example, last year the 227 MW Greene County facility operated at a roughly 21% capacity factor, but generated power at a cost of roughly $51.70/MWh ($0.0517/kWh). The Greene County units are slated to be retired by 2025/2026, meaning that for the next five years, that facility is anticipated to operate at similar capacity factors as a solar facility (most solar facilities are achieving 20-25% capacity factors currently), but at a significantly higher cost. A $20/MWh or $25/MWh solar PPA for over 200 MW's would represent a significant savings for Mississippi ratepayers compared to Greene County, immediately and for the next five years, while generating approximately the same amount of power and during high avoided cost times. One possible explanation for this modeling result is that solar resources were not allowed to be selected until 2025. Another possible explanation is that AURORA is not adequately selecting energy resources when there is no capacity need. Either problem should cause major concern to the Commissioners regarding validity of the IRP results.

MPC's Existing Fleet is Expensive Compared to Renewables

Plant	COD	MW	Fuel	MWh Gen	Exp/kWh	CF%
Greene Co.*	1966	227.39	Gas	409,441	$0.0517	21%
Watson*	1973	877.2	Gas	2,231,013	$0.0352	29%
Daniel*	1977	548.25	Coal	1,138,216	$ 0.0562	24%
Daniel CC	2001	1132.03	Gas	8,502,834	$0.0216	86%
Sweatt CT	1971	41.85	Gas	8,822	$0.1084	2%
Watson CT	1970	41.85	Gas	3,838	$0.0882	1%
Chevron	1994	170.47	Gas	1,021,593	$0.0193	68%
Ratcliffe	2014	839.9	Gas	4,516,890	$0.0217	61%

Source: 2020 MPC FERC Form 1

*Watson Unit 4 (268 MW) to retire by 12/2023, Greene County 1 (103 MW) to retire by 12/2025, Greene County 2 (103 MW) to retire by 12/2026, Daniel Coal (502 MW) to retire by 12/2027

For a second major finding, the Tech Scenario adds more natural gas capacity than the MG0 Scenario. Whereas MG0 builds 330 MW of combined cycle units and 300 MW of combustion turbines for a total of 630 MW by 2040, the Tech Scenario builds 450 MW of combined cycle units and 240 MW of combustion turbines for a total of 690 MW. These results are counter intuitive – that lower solar prices lead to more natural gas capacity additions, especially gas additions that operate more as intermediate facilities (combined cycle units) instead of peaking units (combustion turbines). Further, the IRP does not provide overall costs to ratepayers for each scenario, making it impossible to determine how much ratepayers would save under any scenario.

Megawatts Capacity Added by MPC IRP Scenario (2027-2040)

Scenario	Gas MW	Solar MW	Battery MW	Total MW
MG0	630	0	0	630
LG0	810	210	0	1,020
HG0	540	1,080	0	1,620
LG20	360	1,020	270	1,650
HG20	360	2,010	90	2,460
MG50	360	3,000	480	3,840
LL	120	0	630	750
HL	720	210	0	930
CI	420	1,920	930	3,270
Tech	690	1,260	120	2,070

Capacity Expansion Review

SREA has noted that a focus or prioritization of "capacity expansion" in models is detrimental to overall system costs. For example, the Commission has rightfully noted that MPC is currently over capacity and that excess capacity has higher costs for ratepayers. However, the AURORA model used by MPC does not appear to naturally find new opportunities to reduce existing capacity by lowering dispatch and/or retirement. As such, MPC's system is not energy optimized. Because MPC is in the Southern Pool, MPC's avoided cost is a summertime afternoon peaking costs even though MPC claims to be a winter peaking utility. SREA mentioned this disconnect in our technical conference materials, but we received no response from the Company. Regardless, MPC's valuation of solar energy capacity value as 0% harms its performance against the summertime afternoon peak avoided cost pricing, while at the same time, MPC's exclusion of wind energy resources (which are widely recognized as a wintertime morning peaking resources) overly devalues two resources that would improve Mississippi's fuel diversification. The Midcontinent Independent System Operator (MISO) assigns a capacity value of 15% to wind energy resources and at least 50% to solar energy resources.[3] Studies have found that adding these resources together[4], in addition to energy storage, increases overall capacity value across all seasons.[5] By devaluing solar, not evaluating wind energy, nor hybrid energy resources, this MPC IRP does not reflect current market standards nor research.

[3] Midcontinent Independent System Operator (2021). Planning Year 2021-2022 Wind & Solar Capacity Credit. [https://cdn.misoenergy.org/DRAFT%202021%20Wind%20&%20Solar%20Capacity%20Credit%20Report503411.pdf]

[4] Midcontinent Independent System Operator (2021). Renewable Integration Impact Assessment. [https://cdn.misoenergy.org/RIIA%20Summary%20Report520051.pdf]

[5] Daniel Sodano, Joseph DeCarolis, Anderson Rodrigo de Queiroz, Jeremiah X. Johnson (May 2021). The Symbiotic Relationship of Solar Power and Energy Storage in Providing Capacity Value. Renewable Energy. https://www.sciencedirect.com/science/article/abs/pii/S0960148121008053?casa_token=K2uiKYktLfkAAAAA:s71tQ9gIUWwnkfbusAs0-wYaTvxvX8_LiWaoK0NFHMEvEYjB_wKgPEQTqC3nrPoqJXGryv-fGSQ

Southeastern Energy Exchange Market Review

While this IRP effort has been underway, MPC, its Southern Company affiliates, and over a dozen other utilities have filed a request at the Federal Energy Regulatory Commission (FERC) to establish the Southeastern Energy Exchange Market (SEEM). SEEM utilities, including MPC, claim that by establishing this brand new, never tested, trading platform that market efficiencies will improve for all ratepayers in the SEEM footprint. SEEM utilities are adamant that the proposal is not a regional transmission organization, nor an energy imbalance market. This IRP docket is the only docket open in Mississippi that could have evaluated MPC's role in SEEM, but MPC has declined to provide any cost benefit analysis regarding the value of SEEM versus other market options. MPC's IRP does not evaluate SEEM in part because MPC's AURORA software is not a sub-hourly planning model, and SEEM exchanges exclusively occur on a sub hourly basis.

The SEEM participants, including MPC hired a consulting firm to estimate potential benefits across the entire region using the untested and unusual "split the difference" market construct. According to the SEEM proposal, "The new trading platform is expected to result in substantial benefits of more than $40 million per year by covering a large footprint over parts of 10 states, and including initial membership commitments from fourteen founding electric service providers in the region, and five additional entities that are actively pursuing membership. These founding entities collectively own approximately 160,000 MW of generating capacity, and serve about 640 TWh of energy for load across 10 Balancing Authority Areas ("BAAs") and two time zones."[6] The suggested benefit is roughly $40 million per year across the entire southeast, or less than one dollar per person per year. Cumulatively by 2040, the SEEM proposal might save up to

[6] Southern Company Services Inc. (February 12, 2021). Southern Company Services, Inc. Southeast Energy Exchange Market Agreement Docket No. ER21-1111. [https://elibrary.ferc.gov/eLibrary/filedownload?fileid=15715805]

$0.8 Billion if it performs as its proponents suggest. As noted briefly in the MPC IRP, "SEEM participants maintain existing control of generation and transmission assets, and ***participation is voluntary***"[7] (emphasis added) seriously undermining purported benefits. Alternatively, Vibrant Clean Energy and Energy Innovation have found that an "efficient" market could save the southeast up to $298 Billion by 2040, or $383 Billion by 2040 for a full regional transmission organization. MPC's Action Plan does not even include SEEM.

Comparisons of SEEM and Better Market Constructs

	SEEM	Energy Imbalance Market	Regional Transmission Org.
State Regulator Oversight	No	Yes	Yes
Stakeholder Participation	No	Yes	Yes
Independent Market Monitor	No	Yes	Yes
Generation Interconnection	No	No	Yes
Transmission Planning	No	No	Yes
Reliability Planning	No	No	Yes
Capacity Sharing	No	No	Yes
Est. Southern Savings	$43m/yr	$298 Billion by 2040	$383.7 Billion by 2040

Sources: SEEM Filing 2021[8], Vibrant Clean Energy 2020[9], SREA

The SEEM participants intentionally designed their proposal to exclude state regulatory oversight and review. Alternatively, an Energy Imbalance Market or a Regional Transmission Organization could be created in such a fashion that creates a strong role for state regulators like

[7] IRP Pg. 7
[8] Southern Company Services Inc. (February 12, 2021). Southern Company Services, Inc. Southeast Energy Exchange Market Agreement Docket No. ER21-1111. [https://elibrary.ferc.gov/eLibrary/filedownload?fileid=15715805]
[9] Dr. Chris Clack (August 2020). Technical Report: Economic & Clean Energy Benefits of Establishing a Competitive Wholesale Electricity Market in the Southeast United States. [https://vibrantcleanenergy.com/wp-content/uploads/2020/08/SERTO_WISdomP_VCE-EI.pdf]

the Mississippi Public Service Commission. Given that the Mississippi PSC is considering in another docket membership in an existing RTO (Docket No. 2021-AD-52), SREA recommends that the Commission open a new docket to evaluate market reform opportunities for the rest of the state to include SEEM, energy imbalance markets, and regional transmission organizations.

Enhanced Grid Initiatives Review

In the IRP Rule, the Commission provided electric utility companies the ability to plan for "Enabling Technology" under IRP Rule 29 Section 107.5. The Commission stated that, "the public interest is served by improving reliability (e.g., resiliency and storm recovery and hardening and grid modernization), promoting economic development (e.g., attracting businesses to locate or expand) and providing customer access to enhanced services (e.g., expanding natural gas service and new technologies to aid in providing public utility service). ***The Commission encourages utilities to make new investments that incorporate, in some measure, all three components***."[10] (emphasis added) MPC proposed in its Annual Energy Plan several fiber circuits to fulfill its Enhanced Grid Initiatives (EGI), including an $18.4 million project that MPC filed with the Commission *before* the IRP Rule was finalized in late 2019. As per the IRP Rule, "Anticipated EGI shall be designated as such in the Annual Energy Delivery Plan, and the Staff shall review EGI to confirm that the designated EGI is reasonably likely to improve reliability, promote economic development and improve customer access to modern service during the depreciable life of the investment. EGI implemented pursuant to this provision shall not require a facilities

10 https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=645594

certificate, unless comprised of new generation and transmission." It is unclear in this IRP process when staff or intervening parties should review the proposed EGI.

Action Plan Deficiencies

Integrated resource plans are inherently technical and provide precise results based on complex mathematical and algorithmic formulas. While the results are *precise*, the IRP may not be *accurate*. IRP accuracy requires interpretation, analysis and identification of potential risks and opportunities; a comparison of the possible Scenarios. Looking across the Scenarios, does the Mississippi Public Service Commission and Mississippi Power Company really believe that zero renewable energy resources will be developed in the state for the next decade? That is nearly precisely what the IRP results suggest; however, any reasonable analysis would denote that outcome as highly improbable and undesirable for Mississippi ratepayers. An IRP Action Plan is where a utility is meant to review the validity of its models, outputs, and make some sort of recommendation as to the future of the Company. This type of qualitative analysis is vital to develop an Action Plan so Mississippi can best plan for its future, but this type of analysis is entirely absent from this IRP.

MPC's Action Plan is two pages long, and only covers already pre-approved decisions either by the Commission or the Company itself. The IRP process appears to have had no effect on MPC's future plans. During the development of the IRP Rule in 2019, Intervenor 25x'25 warned that "Absent of a mandated near-term action plan, ***the IRP process does not hold much weight and will not ensure immediate action following the IRP filing***, review and approval."[11]

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11 https://www.psc.state.ms.us/InSiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVEQ&docid=645474

(emphasis added) MPC had an opportunity to make the Action Plan a true plan; but has declined to take that opportunity. As such, it is now up to the Commission to decide if MPC's Action Plan constitutes best practices. SREA contends that MPC's Action Plan does not represent the best interests for Mississippi.

III. Recommendations

Mississippi Power Company's Integrated Resource Plan must be rejected. Too many fatal flaws exist in the Company's first public IRP effort for this to become precedent and set as the PSC's standard practice. Mississippi deserves better. Many other state PSC's are now rejecting utility IRP's across the country; predominately due to utilities not treating the IRP process with the due diligence needed to plan for the future.[12] A new procedural schedule must be developed that provides adequate opportunity for existing and new stakeholders adequate ability to inform the development of the IRP. In addition to the new IRP process, the Commission should order MPC to issue a request for proposals (RFP) for renewable energy resources. RFP's allow utilities to test the market against IRP assumptions, and use competition to act in the ratepayers' best interests. Renewable RFP best practices guidelines and manuals are now widely available. Renewable RFP's should be flexible; enabling renewable energy developers to bid in many different project sizes, locations, technologies, and contractual types.[13]

In 2020, the Mississippi Legislature allowed "for any renewable power purchase entered into after July 1, 2020, including, but not limited to, solar, wind, biomass or storage, a utility shall

[12] Joe Daniel (September 17, 2019). Here Is Why State Regulators Are Rejecting Utility Resource Plans, Union of Concerned Scientists. [https://blog.ucsusa.org/joseph-daniel/here-is-why-state-regulators-are-rejecting-utility-resource-plans/]

[13] John Wilson, Mike O'Boyle, Ron Lehr, Mark Detsky (April 2020). Making the Most of the Power Plant Market: Best Practices for All-Source Electric Generation Procurement. [https://energyinnovation.org/wp-content/uploads/2020/04/All-Source-Utility-Electricity-Generation-Procurement-Best-Practices.pdf]

be entitled to incorporate renewable purchased costs in its rate base."[14] This provision is new and helps level the playing field for independent power producers to fairly compete; however, due to the newness of this provision, most renewable energy development companies are unaware or have been unwilling to test this new provision. Many developers rely on IRP's to provide estimated market size potential and potential timing. Absent a robust IRP, renewable energy companies have little market intelligence to justify investing potentially millions of dollars in project prospecting. Alternatively, an RFP set by the Commission would signal to the renewable energy industry that Mississippi is open for business and provides enough of a market signal for companies to invest in the state.

Given that MPC's only analysis to achieve its carbon emission commitment showed a need for 390 MW's of solar energy by 2027, SREA recommends that MPC issue an approximate 400 MW renewable energy RFP. The RFP should allow all renewable and energy storage technologies to submit proposals so MPC and the Commission can optimize the renewable portfolio. Issuing RFP's is a zero-risk action item that should be included with every IRP.

Mississippi has a real opportunity to develop new industries, attract new business, and reduce ratepayer costs. SREA looks forward to working with the Commission to maximize the opportunities to Mississippi.

[14] https://legiscan.com/MS/text/SB2386/2020