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MAR 22 2021

**MISS. PUBLIC SERVICE
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BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

**MISSISSIPPI POWER COMPANY
EC-120-0097-00**

DOCKET NO. 2019-UA-231

**IN RE: MISSISSIPPI POWER COMPANY'S NOTICE OF IRP CYCLE
PURSUANT TO COMMISSION RULE 29**

**SIERRA CLUB'S COMMENTS ON MISSISSIPPI POWER COMPANY'S FEBRUARY
25, 2021 IRP TECHNICAL CONFERENCE PURSUANT TO COMMISSION RULE 29**

Pursuant to Commission Rule 29, section 105.3, Sierra Club, with the assistance of Synapse Energy Economics, Inc., submits these comments on Mississippi Power's Company's ("the Company" or "Mississippi Power") February 25, 2021 Technical Conference for its 2020 Integrated Resource Plan ("IRP").

Mississippi Rule 29, section 105.3 provides that the "purpose of the technical conference is for the electric utility to provide an overview of the process, planning assumptions and inputs ultimately used to develop its Integrated Resource Plan, and to answer questions related" to the IRP process. The process is intended "to develop a resource plan that reflects the interests of a broad range of stakeholders - not just the utility," and it must "include meaningful participation options for these stakeholders to provide input into the resource plan's development."¹

Mississippi Power's technical conference failed to advance those goals, and we have serious concerns about the public's and the Commission's ability to meaningfully review and engage in the development of the Company's IRP. The workshop continued Mississippi Power's "business as usual" approach, where critical resource and planning assumptions and decisions are made behind closed doors, only to be disclosed to the public and the Commission when it is too late to change course. Indeed, Mississippi Power's Kemper debacle, the Company's ill-advised investment in \$330 million scrubber technology at Plant Daniel, and its subsequent decision to spend another \$62.5 million to comply with EPA's Coal Combustion Residuals Rule all make clear that a more transparent and robust planning process is needed.

Sierra Club offers the following recommendations, which are intended to ensure that Mississippi Power corrects course and to ensure a more robust stakeholder involvement at each stage of analysis:

- Mississippi Power Company's Integrated Resource Planning process fails to allow for adequate transparency and meaningful stakeholder input, and the Commission should order MPC to make available to parties that have signed the nondisclosure agreement *all* underlying IRP data and modeling inputs.
- Plant Daniel imposes significant and unreasonable costs on customers, and should be retired as soon as technically feasible.

¹ Final IRP Order at 15.

- Mississippi Power should update its solar and battery storage cost and capacity assumptions to be consistent with declining industry cost forecasts.
- Mississippi Power is not on track to reduce its emission to near the level needed to meet Southern Company's net zero by 2050 goal, and must take more aggressive action in retiring fossil resources, including Daniel as well as existing gas generation, as soon as practicable. This will reduce economic and social risk to MPC's customers.
- Mississippi Power should ramp up its energy efficiency programs with a goal of achieving savings that approach the national average of 0.67 percent of retail sales, which would result in customer savings on their energy bills, create local jobs, and reduce emissions from generation.

I. MISSISSIPPI POWER COMPANY'S INTEGRATED RESOURCE PLANNING PROCESS DOES NOT ALLOW FOR ADEQUATE TRANSPARENCY AND MEANINGFUL STAKEHOLDER INPUT.

As noted, Mississippi Rule 29, section 105.3 provides that the "purpose of the technical conference is for the electric utility to provide an overview of the process, planning assumptions and inputs ultimately used to develop its Integrated Resource Plan, and to answer questions related" to the IRP process. The process is intended "to develop a resource plan that reflects the interests of a broad range of stakeholders - not just the utility," and it must "include meaningful participation options for these stakeholders to provide input into the resource plan's development."² Indeed, one of the Commission's "primary motivations" in adopting the IRP rules was:

the desire to provide Mississippi ratepayers with more transparency regarding their utilities' long-term planning processes. A high degree of transparency provides important protection for the Commission and ratepayers against potentially unnecessary and costly capital expenditures and long-term operational costs.³

The stakeholder engagement process is designed to further that goal by encouraging transparency and the free flow of information between Mississippi Power Company ("MPC" or "the Company"), the Commission, and other stakeholder participants. To that end, all of the Company's core IRP assumptions should be spelled out and presented to the public as early and as clearly as possible in the IRP process.

Unfortunately, at the initial public workshop⁴ and again at the February technical conference,⁵ Mississippi Power Company failed to comply with the text and intent of the Commission's IRP

² Final IRP Order at 15.

³ *Id.* at 5.

⁴ MPC held an Initial Public Workshop on February 28, 2020.

⁵ MPC held a confidential IRP Technical Conference on February 25, 2021.

Rules by (1) failing to provide to stakeholders the underlying data, assumptions, and methodologies that the Company relied on in creating its IRP; (2) designating nearly all information around its IRP as confidential, thus significantly limiting public transparency; (3) failing to engage stakeholders on a timeline in which their feedback could actually influence the process. We discuss each of these items in the sections that follow.

A. MPC did not provide the underlying information necessary for meaningful stakeholder involvement, or transparency in long term planning.

Utility IRPs are essentially useless unless utilities utilize valid data and assumptions as inputs for their forecasts and modeling. All parties who attended the February technical conference signed a lengthy and fairly onerous non-disclosure agreement⁶ with the expectation that substantive data and assumptions would be provided. However, MPC did not provide any of its underlying data inputs and methodologies, effectively precluding any party from scrutinizing or comprehensively evaluating the Company's IRP assumptions or its ultimate resource decisions.

Without this information the technical workshop was at best an exercise in meeting the minimal letter of the rule. The Commission should order MPC to make available to parties that have signed the nondisclosure agreement *all* underlying IRP data and modeling inputs in electronic, native and unlocked formats. Without access to the Company's actual energy demand assumptions, commodities forecasts, existing and future generation cost and capacity assumptions, and a full range of supply- and demand-side alternatives, it is virtually impossible for any party, including the Commission itself, to "ground truth" or thoroughly evaluate the Company's IRP assumptions and decisions.⁷ This is a real disservice to the Company's customers.

IRP practices in other jurisdictions require disclosure of this type of information on a time frame that allows for meaningful input from stakeholders. As an example, the South Carolina Public Service Commission ordered Dominion Energy South Carolina to negotiate discounted, project-based modeling licensing fees that enable interested intervenors to perform their own modeling runs in the same capacity-expansion software as the utility. Those licensing costs can be significant for the public but are relatively modest for utilities; the South Carolina Public Service Commission allowed Dominion to include those relatively modest costs in rates for the utility. Notably, the South Carolina Commission also ordered Dominion to make available to stakeholders the modeling inputs. The Commission should order MPC to do the same.

⁶ Mississippi Power refused to remove the provision in the NDA allowing for unlimited monetary damages, 2019-UA-231, MPC NDA Agreement, Section 10 ("The Parties agree that MPC shall be entitled to specific performance as a remedy for any breach of this Agreement. Such remedy shall not be deemed to be the exclusive remedy for any breach of this Agreement but shall be in addition to all other remedies available at law or equity."), although it has not included or removed such a provision in the past at Sierra Club's request. *E.g.*, MPC NDA, 2019-UA-116 re Plant Daniel CCR Projects, Section 10 ("No Party shall be subject to any claim for damages as a result of alleged breach of this Agreement.")

⁷ To the extent the Company has legitimate confidentiality concerns, Mississippi Power should provide that data to "*interested parties that have executed a nondisclosure agreement*," as contemplated by Rule 29, section 105.3.

B. MPC designated even the generic presentation materials from the technical conference as confidential, imposing additional costs and risks on participants and preventing transparency.

As set out above, MPC withheld from public disclosure all key assumptions that will inform the development of the Company's final IRP. Participants in the technical conference were provided a set of slides which contained almost no information that was even arguably confidential or proprietary. MPC nonetheless designated the entire presentation as "confidential and proprietary," including generic and widely available information for which there is no plausible, good faith assertion of confidentiality.

By way of example, the Company presentation claimed that the following information, among other data, was confidential: MPC current generation resource mix, publicly-available historical capacity factors, the qualitative descriptions of modeled scenarios, potential greenhouse gas regulations, qualitative descriptions of load growth, publicly-available energy efficiency and demand side management programs, publicly- and externally-developed estimates of capital costs for generation and battery costs, the Company's process, and even language in the Commission's orders directing the Company to evaluate retiring 950 MW of excess capacity. In MPC's view, the entirety of its IRP technical conference is confidential, and stakeholder comments referencing that presentation presumably must be submitted under seal.

On Friday, March 19 MPC, after the Sierra Club requested a good faith conference with MPC, the company advised technical conference participants that all confidentiality designations on the technical conference presentation were being dropped.

The Sierra Club appreciates MPC taking this action. However, the issue does need to be addressed by the Commission. MPC's overly-broad assertions of confidentiality are not only contrary to the "primary" purpose of the IRP to provide transparency, but inconsistent with the Commission's general rules "discourage[ing] the practice of filing non-confidential information confidentially,"⁸ and its requirement that "[a]ny confidential information or items that can be reasonably redacted from any document or material shall be so redacted, and the document or material shall be filed publicly."⁹ The company's NDA itself acknowledges that such publicly available data cannot be confidential.

By designating its entire presentation as confidential until the last working day before comments were due, MPC puts the perilous and tedious burden on interested members of the public to pick apart what information was publicly available prior to this presentation. And because parties were forced to sign an NDA with unlimited monetary damages in order to view this information,¹⁰ MPC's overly broad designations put stakeholders at potentially great financial risk for talking about publicly available information. The burden should not be on interested

⁸ Rule 26 § 109.

⁹ Rule 26 § 109.6.b; see also § 109.6.d ("Information that has been publicly filed in any other forum . . . shall not be filed as confidential . . .").

¹⁰ *Id.*, Section 10.

stakeholders to challenge each of MPC's confidentiality assertions under these circumstances; rather, MPC should take the time to redact the few numbers that it may believe are truly confidential material. These unreasonable confidentiality designations impose additional costs on parties and prevent dissemination of information to the public.

The Commission should order MPC to refrain from these overly broad designations in the future and make its February technical conference presentation publicly available on the Company's website or a cloud-based website.

C. MPC's IRP appears to be a done deal, regardless of stakeholder input.

As noted, the IRP process is intended "to develop a resource plan that reflects the interests of a broad range of stakeholders - not just the utility," and it must "include meaningful participation options for these stakeholders to provide input into the resource plan's development."¹¹ At the February 25, 2021 technical conference, MPC representatives indicated that they "welcome comments" on the technical presentation, but represented that the Company is already in "production mode," suggesting that it is too late for stakeholder input – even if stakeholders were given adequate information to provide input – to have any effect on the final product.

While the Commission can certainly order revisions after the required discovery and final comment period, the intent of the rule is not served by having a technical conference after the plan and resulting document is already in production. To give meaning and effect to the Commission's public participation mandate, the Commission should require MPC to provide the information necessary for stakeholder comments, and provide an explanation for its decision to adopt, disregard or reject those recommendations.

The stakeholder engagement process is not a mere box-checking exercise. The Commission should make clear that it expects MPC to seriously consider stakeholder comments and recommendations and provide written explanations in its draft IRP for its decision to adopt, disregard or reject those recommendations.

Recommendations

1. The Commission should order MPC to make available to parties that have signed the nondisclosure agreement *all* underlying IRP data and modeling inputs in electronic, native and unlocked formats. Without access to those inputs, the parties and the Commission cannot fully evaluate the reasonableness of Company's assumptions and decisions.
2. The Commission should order MPC to refrain from overly broad confidentiality designations in the future and make its technical conference presentation publicly available on the Company's website or a cloud-based website.

¹¹ Final IRP Order at 15.

II. MISSISSIPPI POWER SHOULD PLAN THE RETIREMENT OF PLANT DANIEL TO FULFILL THE COMMISSION'S ORDER.

The lack of substance in February's technical workshop materials and presentation is clearly demonstrated by the Company's treatment of its obligation to identify excess resources for retirement. As the Commission is aware, this issue was shifted from the Reserve Margin Plan ("RMP") docket, No. 18-AD-145, to this current IRP docket. The RMP docket included the opportunity to review the detailed economic analysis of reserve capacity retirement options and obtain the data underlying the analysis. This issue is worth millions of dollars to MPC customers, but the February technical conference presentation did not include any modeling, let alone underlying inputs. It simply noted the issue.

The Sierra Club and other parties were certainly prepared to provide input on this issue. MPC has substantially more capacity on its system than it needs to meet its planning reserve margins (15.03% summer / 25.25% winter).¹² This fact has been highlighted previously by Sierra Club and was confirmed earlier this year when the Commission Staff's consultant, Bates White Economic Consulting, published its final report as part of the RMP docket. Based on the findings of this report, the Commission ordered MPC to include a plan to retire 950 MW of capacity as part of its next IRP. Based on prior and current analysis, we find MPC ratepayers have paid \$225 million¹³ more in unit costs to operate and maintain Plant Daniel than they received in value for the unit's services (namely energy, as the unit's capacity is not needed) in recent years (2016 – 2019) and looking forward, is projected to cost ratepayers nearly half a billion dollars by 2040.¹⁴ Therefore, in order to fulfill the Commission's order, MPC should plan the retirement of Plant Daniel (and not Watson Unit 5) prior to 2027 in its current IRP.

A. The Bates White report confirms that Plant Daniel is unlikely to offer ratepayers net value going forward.

The Bates White report found that MPC has a "substantial and persistent capacity overhang that imposes excess costs on ratepayers" and that this excess capacity position has existed going back to 2014 based on load growth projections that have not materialized.¹⁵ The study identified the accelerated retirement of Plant Daniel¹⁶ as one of the preferred ways to address this capacity excess (in addition to the accelerated retirement of Watson Unit 4 and Greene County Units 1 and 2). Further it found that although retirement of Watson Unit 5 is an alternative to retiring Daniel, the certain fixed costs that would be imposed on customers from continuing to operate Daniel are higher than those at Watson Unit 5, and only in unlikely future scenarios, for example

¹² Mississippi Power Company IRP Technical Conference, Slide Deck. February 25, 2021. Page 16.

¹³ EIA Form 923; EPA CAMD hourly data for Daniel 1 and 2; FERC Form 1; FERC Form 714; US EIA Generating Unit Annual Capital and Life Extension Costs Analysis, December 2019. Accessible at https://www.eia.gov/analysis/studies/powerplants/generationcost/pdf/full_report.pdf.

¹⁴ Direct Testimony of Rachel Wilson, Docket No. 2019-UA-116. Page 14.

¹⁵ Review and Assessment of Mississippi Power Company's Reserve Margin Plan, Bates White Economic Consulting. September 17, 2020. Page 5.

¹⁶ Plant Daniel has 2 coal-fired units that are co-owned by Gulf Power. Gulf Power has announced its plan to exit ownership of the plant in January 2024. At this time, Mississippi Power will essentially have one unit.

those assuming extremely high gas prices, does the continued operation of Daniel produce net value for ratepayers.¹⁷

Based on the findings in the consultant's report, the Commission issued a final order requiring that as part of its current IRP, MPC plan for the retirement of 950 MW of generation capacity (500 MW beyond what is accounted for by Watson Unit 4 and Greene County Units 1 and 2). Specifically, the Commission ordered:

MPC's upcoming IRP filing should include the schedule or early or anticipated retirement of approximately 950 megawatts of generating capacity by year-end 2027 or show with detailed evidence why the continued operation of some or all of MPCs existing fossil steam generation is in the best interest of customers and MPC. To be clear, while there may be real and important operational constraints that could convince this Commission to alter its findings in this Order, the economic evidence available to the Commission to date makes a compelling case for early retirement of some portion of MPC's aging fossil steam generating fleet.¹⁸

MPC provided no information during the February technical conference on how it will evaluate which units to retire to fill the Commission's order. But, given that the findings of the Bates White Report point strongly to the retirement of Plant Daniel as the preferred option, MPC should consider this assumption as part of its base portfolio, and be required to robustly justify the adoption of any alternative recommendations.

B. Sierra Club analysis shows that Plant Daniel has been operating uneconomically and could cost MPC ratepayers over half a billion dollars over the next decade.

Sierra Club conducted its own analysis on the forward-looking costs to operate Plant Daniel, using the Company's own data, as part of Docket No. 2019-UA-116 (Coal Combustion Residuals or "CCR" compliance docket). We found that each unit was projected to lose an average of \$40 million per year and to cost the plant owners more than \$1 billion (present value) by 2040 (half of which would be allocated to MPC ratepayers).^{19,20}

Subsequent to that analysis, we looked at public data on historic plant performance (Figure 1) and found that the units have been operating uneconomically in recent years (2016–2019). Each

¹⁷ Review and Assessment of Mississippi Power Company's Reserve Margin Plan, Bates White Economic Consulting. September 17, 2020. Page 6.

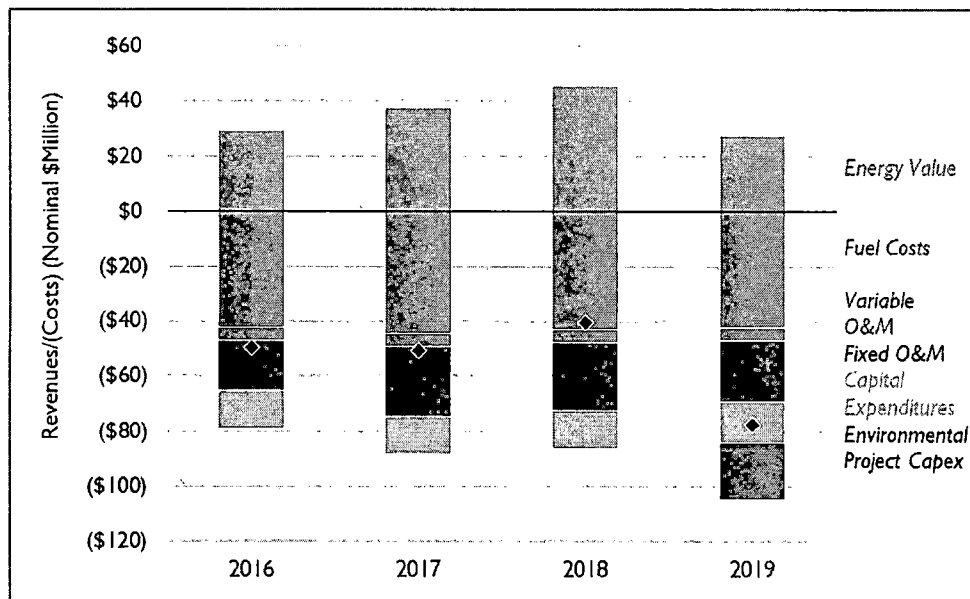
¹⁸ Order in Public Service Commission of Mississippi Docket No. 2018-AD-145. Pages 5-6.

¹⁹ Direct Testimony of Rachel Wilson, Docket No. 2019-UA-116. Page 14.

²⁰ In this docket, MPC's own analysis conducted in September 2019 found that retiring its share of Plant Daniel (rather than retrofitting the plant for CCR compliance) would save ratepayers \$129 million relative to continue operation of the plant. But the Company supported its application for the retrofits by asserting that the plant was important for fuel diversity, and that unit retirement should be considered in another docket.

coal unit incurred approximately \$56 million in net revenue losses per year over this time for a total of nearly \$450 million at both units (half of which was passed on to MPC's ratepayers).²¹

Figure 1: Plant Daniel Unit 1, Historical Cash Flow



Source: EIA Form 923; EPA CAMD hourly data for Daniel 1 and 2; FERC Form 1; FERC Form 714; US EIA Generating Unit Annual Capital and Life Extension Costs Analysis, December 2019.

Note: The Environmental Project Capex is a one-time cost incurred to comply with CCR regulations. We assume that the cost was spread across the years 2019 – 2021, therefore only one third of the project costs is included in the historical cash flow analysis.

These losses included only a portion (one-third) of the costs to comply with the CCR regulations – the remainder were assumed to be incurred in the years 2020 and 2021. But, critically, because of EPA's revisions to the Effluent Limitations Guidelines ("ELG") and CCR Rules, MPC likely could have avoided all the ELG bottom ash compliance costs and delayed some of CCR Project costs by committing to retire Plant Daniel by 2028. This timeline would have provided the Company with ample time to address any transmission reliability concerns that is cited, and ultimately contributed to the Commission's ruling to approve the CCR upgrades.

Specifically, less than a month after the Commission's approval of the \$125 million retrofit to Plant Daniel to comply with the EPA's CCR rule on October 28, 2019,²² EPA proposed revisions to the ELG Rule that would allow coal electric generating units like Daniel to avoid bottom ash

²¹ EIA Form 923; EPA CAMD hourly data for Daniel 1 and 2; FERC Form 1; FERC Form 714; US EIA Generating Unit Annual Capital and Life Extension Costs Analysis, December 2019. Accessible at https://www.eia.gov/analysis/studies/powerplants/generationcost/pdf/full_report.pdf.

²² Order Approving Petition for Facility Certificate, MPSC Docket No. 2018-AD-145.

conversion requirements provided they commit to retire in 2028.²³ Two weeks later, in December 2019, EPA proposed revisions that would have allowed Plant Daniel to continue disposing of CCR and non-CCR material in the ash pond, thereby avoiding or delaying certain CCR Project costs, by committing to cease burning coal in 2028.²⁴ Although the proposed revisions would allow MPC to avoid some of the CCR and ELG compliance costs, the Company did not conduct any evaluation of a 2028 retirement as an alternative to the CCR investments.²⁵ EPA finalized the CCR and ELG rule revisions, including the 2028 retirement exemptions, in August and October 2019, respectively.²⁶ Although the CCR Project was not complete and MPC estimated in October 2020 that it still needed to spend tens of millions in compliance costs, the Company again did not evaluate a 2028 retirement alternative,²⁷ likely imposing unnecessary costs on its customers.

C. Additional considerations around outstanding CCR and ELG compliance costs, Gulf Coast's retirement of its half of Plant Daniel, and necessary transmission upgrades should be incorporated into MPC's Plant Daniel analysis.

MPC may be required to make further investments to comply with the revised ELG, or as a result apparent delays in completing retrofits required to comply with the CCR rule.²⁸ But the Company has not released projected costs estimates associated with either of these possibilities even though these costs are critical inputs into any economic analysis performed by the Company.

Additionally, with Gulf Power's decision to retire its 50 percent interest in Plant Daniel by 2024, and no likely buyer for its share, MPC's share of the coal plant will essentially become a single unit. Any efficiencies that currently exist in sharing costs between the coal units will be eliminated. It is unclear if and how MPC plans to incorporate that consideration into its future cost analysis.

The Sierra Club further notes that MPC cited transmission support constraints as a primary reason for keeping Plant Daniel in service, despite its cost to ratepayers. The Commission should order MPC to identify any transmission issues which will affect its choice of generation resources, or retirement options, and provide plans and timelines for addressing those constraints. This will protect customers from being locked into costly legacy resources when there are other, lower cost alternatives available.

²³ 84 Fed. Reg. 64,620, 64,640 (Nov. 22, 2019)

²⁴ 84 Fed. Reg. 65,941 Dec. 2., 2019).

²⁵ Resp. to Sierra Club Request for Information 5-3, MPSC Docket No. 2018-AD-145; Resp. to Sierra Club Request for Information 5-1, Attachment A.

²⁶ 85 Fed. Reg. 53,516 (Aug. 28, 2020); 85 Fed. Reg. 64,650 (October 13, 2020).

²⁷ Resp. to Sierra Club Request for Information 5-3, MPSC Docket No. 2018-AD-145; Resp. to Sierra Club Request for Information 5-1, Attachment A.

²⁸ See Resp. to Sierra Club Request for Information 5-3, MPSC Docket No. 2018-AD-145 (describing delays in CCR Project due to storm events); see also Response to Sierra Club Request for Information 5-1, Attachment A, MPSC Docket No. 2018-AD-145 (providing timeline and expenses incurred through October 2020).

Recommendations

1. The Bates White report makes clear that MPC has significantly more generation capacity than is needed to reliably serve its customers' need, and that the accelerated retirement of Plant Daniel is one of the preferred ways to address this capacity excess. Sierra Club's analysis confirms that the continued operation of Plant Daniel imposes significant and unreasonable costs on customers, making clear that Daniel should be retired as soon as technically feasible. Therefore, MPC should consider this assumption as part of its base portfolio and be required to robustly justify the adoption of any alternative recommendations.
2. MPC should make clear, and model, any costs associated with ELG compliance and with delays in CCR compliance and evaluate how the costs to operate Plant Daniel will change when Gulf Power retires its half of the Plant.
3. To the extent that MPC concludes that the continued operation of Daniel is necessary for transmission reliability, the Commission should order MPC to provide plans for addressing those constraints to protect customers. Transmission impacts on other possible generation sources should also be included in the IRP.

III. MPC'S IRP MODELING ASSUMPTIONS ARE FLAWED, AND RELIANCE ON THEM WILL PRODUCE BIASED AND INACCURATE MODELING RESULTS.

The cost of replacement resources is one of the primary drivers behind the selection of a least-cost resource portfolio in capacity optimization modeling. Utilities have a history of overstating the costs associated with renewable and storage technologies while underestimating the benefits, and simultaneously understating the costs and overstating the benefits of traditional fossil resources.²⁹ MPC did not provide annual capital and variable costs associated with renewable and storage resources as part of its February technical conference presentation, but, the information that the Company did provide indicates that history is likely repeating itself. Cost data from around the United States suggests that the generic cost assumptions that MPC is using for renewables and battery storage resources are too high. An All-Source RFP would provide more accurate regional pricing. A recent RFP³⁰ done by MPC's sister company, Alabama Power, demonstrated that paired solar-and-storage projects provided a least-cost resource options for its customers when compared to other resources.

- A. Solar and battery storage costs have experienced dramatic cost declines over the past decade and are forecast to decline even further in the future.

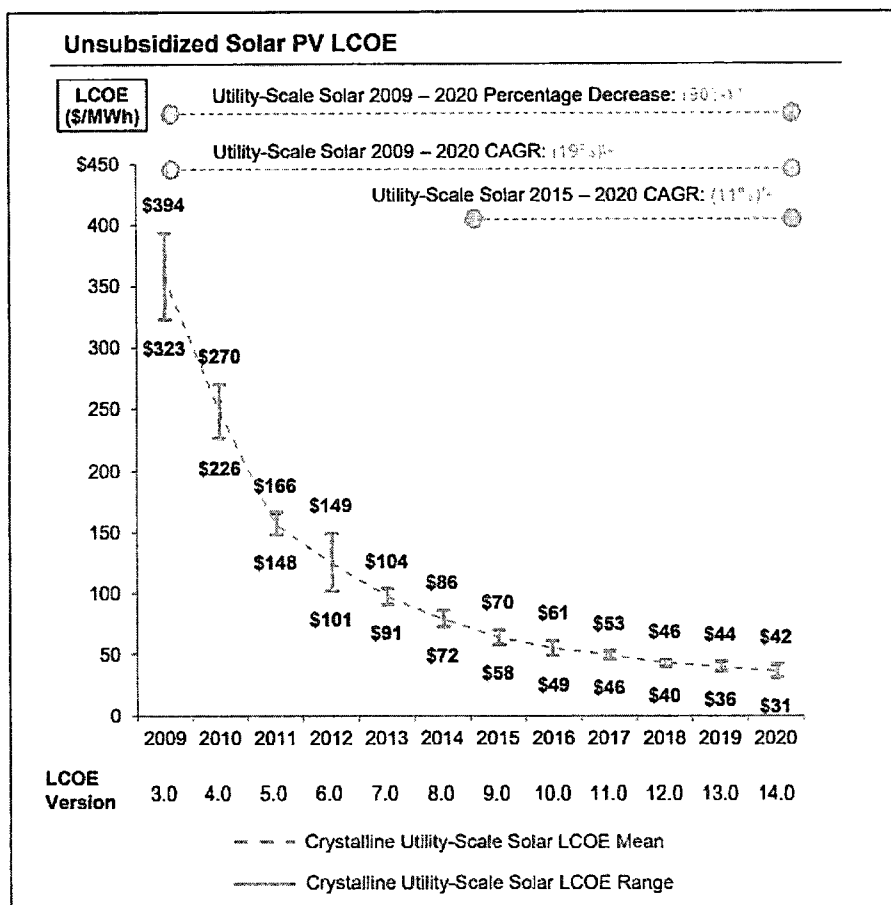
The cost of clean energy generation technologies has fallen dramatically over the previous decade, such that the levelized cost of energy (LCOE) is competitive with new gas-fired

²⁹ RethinkX, The Great Standing: How Inaccurate Mainstream LCOE Estimates are Creating a Trillion-Dollar Bubble in Conventional Energy Assets. February 2021. Accessible at <https://www.rethinkx.com/energy-lcoe>

³⁰ Direct Testimony of John B. Kelley before the Alabama Public Service Commission. Docket No. 32953. Page 19, lines 5-7.

resources.³¹ Lazard's Levelized Cost of Energy—Version 14.0 shows that the levelized costs for solar are now 90 percent lower than the costs in 2009 with a compound annual rate of decline of 19 percent per year.³² This trend is shown in Figure 2.

Figure 2: Historical costs for unsubsidized solar technologies³³



Source: Lazard. 2020. *Levelized Cost of Energy Analysis—Version 14.0*.

The U.S. National Renewable Energy Laboratory (NREL) conducts a renewables benchmark study that shows similar results: from 2010 to 2018, the LCOE of utility-scale solar photovoltaic

³¹ The LCOE metric does not include any transmission and distribution costs associated with the addition of new resources. Those costs are often site-specific and should be considered on a case-by-case basis. Transmission and distribution costs are not resource-specific and may apply to new gas additions as well as to renewable resources.

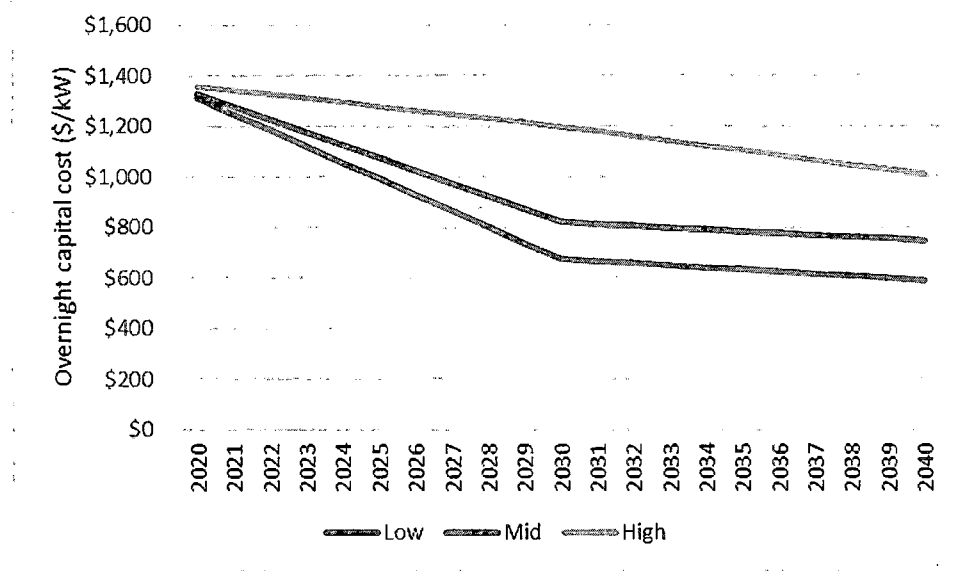
³² Lazard. 2020. *Levelized Cost of Energy Analysis—Version 14.0*. Available at: <https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>.

³³ These are unsubsidized cost declines, not accounting for the Investment Tax credits (ITC) and Production Tax credits (PTC).

(PV) declined 80–82 percent.³⁴ In addition, NREL’s study indicates declines in both residential and commercial solar, with commercial solar costs falling by 72 percent and residential solar costs falling by 71 percent over the period. The primary drivers behind these cost declines are a drop in hardware costs, though there have also been declines in labor and soft costs.³⁵

MPC states that its solar PV prices were based on market information available to the Company: (1) \$25/MWh with 3 percent annual escalation assuming the ITPC sunsets as scheduled (equivalent to \$34/MWh levelized); and (2) \$20/MWh with 3 percent annual escalation assumption an extension of the full ITC (equivalent to \$27/MWh levelized). An assumed [REDACTED] to other market forecasters that assume a continued decline in the cost of solar resources.

Figure 3: Projected overnight capital cost for utility-scale solar PV, 2018\$



Source: NREL 2020 ATB. Available at: <https://atb.nrel.gov/electricity/2020/data.php>

For battery storage technologies, Lazard’s Levelized Cost of Storage—Version 4.0 states that there have been high cost declines for battery storage resources across most use cases and technologies, and that “sustained cost declines have exceeded expectations for lithium-ion technologies,” specifically.³⁶ Bloomberg New Energy Finance (BNEF) analyzed historical battery storage costs, finding that costs for lithium-ion batteries have fallen 76 percent between

³⁴ NREL. 2018. *US Solar Photovoltaic System Cost Benchmark: Q1 2018*. Available at: <https://www.nrel.gov/docs/fy19osti/72399.pdf>.

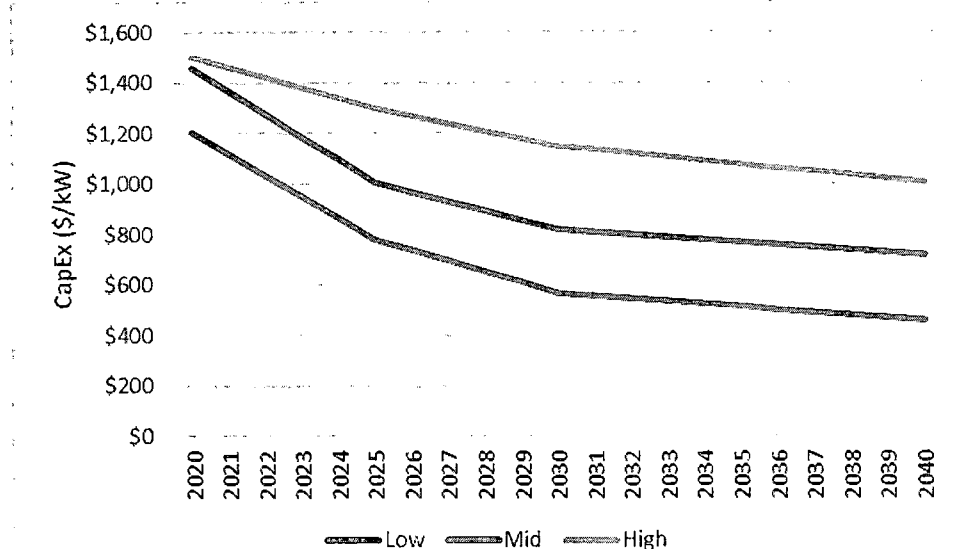
³⁵ *Id.*

³⁶ Lazard. 2018. *Levelized Cost of Storage Analysis—Version 4.0*. Available at: <https://www.lazard.com/media/450774/lazards-levelized-cost-of-storage-version-40-vfinal.pdf>.

2012 and the first half of 2019.³⁷ BNEF noted this was its most striking finding when looking at historical cost trends for both renewable and storage technologies.

Battery storage costs are predicted to continue their cost decline, as shown in Figure 4. As a result, storage resources are and will become a cost-effective replacement resource for traditional peaking units. A 2018 report by GTM Research and Wood Mackenzie predicted that energy storage technologies will regularly compete head-to-head with new gas-fired peaking units by 2022, and that new gas peakers will be rare by 2028.³⁸

Figure 4. Projected capital cost for battery storage with 4-hour duration, 2018\$



Source: NREL 2020 ATB. Available at: <https://atb.nrel.gov/electricity/2020/data.php>

These price declines for renewable and storage technologies have made standalone and paired projects viable and cost-effective replacement options for gas technologies. For example, Florida Power & Light is building the Manatee Energy Storage Center, a 409 MW storage system (the world's largest) that will replace two existing gas units. An existing solar plant will charge the battery, and the resulting savings to customers are expected to total \$100 million.³⁹ Prices are expected to continue to decline in the coming years, and these declines will increase the competitiveness of renewable and storage resources with gas combustion turbines and combined cycle units. The Gemini Solar + Battery Storage Project in Nevada couples 690 MW of solar PV

³⁷ Utility Dive. 2019. *Electricity costs from battery storage down 76 percent since 2012: BNEF*. Available at: <https://www.utilitydive.com/news/electricity-costs-from-battery-storage-down-76-since-2012-bnef/551337/>.

³⁸ Greentech Media. March 1, 2018. *Will Energy Storage Replace Peaker Plants?* Available at: <https://www.greentechmedia.com/webinars/webinar/will-energy-storage-replace-peaker-plants#gs.6JwDozs>.

³⁹ Parnell, John. 2019. *FPL to replace aging gas power plants with the world's largest battery*. Forbes. Available at: <https://www.forbes.com/sites/johnparnell/2019/03/31/fpl-to-replace-aging-gas-power-plants-with-the-worlds-largest-battery/#640ab4812ebb>.

with 380 MW of battery storage and will go into service in 2023 at a levelized price of \$25/MWh.⁴⁰

Given the rapidly changing trends in resource costs, [REDACTED] and the importance of the resource cost assumptions used to the portfolio outcomes, it is essential that MPC provide transparent information about the cost assumption it uses for all current and new resources (both renewable and conventional).

B. MPC's resource capacity credit may be overly conservative.

The capacity credit given to a replacement resource is another important driver in selection of a least-cost resource plan. The capacity credit is the percent of a resource's nameplate capacity that can be considered "firm," or the amount that it can contribute to meeting peak load. As the penetration of a particular technology increases on a system, the amount of firm capacity credit given to individual resources is likely to decline, in a calculation known as Effective Load Carrying Capability (ELCC). MPC did not provide the firm capacity values given to replacement resources in its analysis, [REDACTED].

The Southern Company system currently has little to no installed battery resources, and it often takes hundreds or even thousands, depending on the size of the utility system, of installed MW of a particular resources before firm capacity values see a sizable decline. The Southwest Power Pool (SPP) commissioned Astrape Consulting to perform an ELCC study for battery storage resources, and the consultants concluded that 2,000 MW of 4-hour storage would still receive 100 percent capacity credit, and the average capacity credit of a 4,000 MW storage portfolio is still approximately 90 percent.⁴¹

Although we have focused on the capacity credit here, there are many other operational assumptions with limited information that can have a significant impact on the model results. Therefore, it is essential that MPC provide for stakeholder's information on not just capacity credit assumptions, but all major operational assumption used to model both its current and planned resources (both conventional and renewables).

C. Renewables and storage are more modular and can be constructed to meet incremental increases in demand.

Additionally, unlike new gas generation infrastructure, renewable and battery storage technologies can be procured incrementally to meet demand, meaning that a smaller number of MW of resources can be built or acquired on a more frequent basis. Gas additions tend to be

⁴⁰ S&P Global. 2020. *Falling US solar-plus-storage prices start to level as batteries supersize*. Available at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/falling-us-solar-plus-storage-prices-start-to-level-as-batteries-supersize-56971432>.

⁴¹ Astrape Consulting. November 12, 2019. *SPP Energy Storage Study: Final Report*. Available at: <https://www.astrape.com/?download=9141>.

larger and “lumpier,” and the addition of large gas plants in a single year can result in oversupply situations in subsequent years, like the oversupply situation in which MPC currently finds itself.

D. MPC has not integrated distributed generation such as customer owned rooftop solar into its planning.

The Commission is presently considering revisions to its present distributed generation rule in Docket No. 2021-AD-19. As the Sierra Club understands it, one of the purposes of this docket is to encourage a robust and economically beneficial net metering (“NEM”) program. There is no indication, however, of how MPC is including distributed generation in its planning processes.

Distributed generation and storage can benefit utility customers by displacing high-cost generation resources, reducing transmission costs, and mitigating environmental risk such as coal ash disposal. In addition, and critically for MPC customers, recent modeling indicates the substantial benefits of distributed generation to the electric grid.⁴² These benefits include resilience, of particular interest in coastal Mississippi.

The failure to provide any information on assumptions about distributed generation again deprive the public of the information necessary to assess MPC’s planning.

Recommendations

1. MPC should update its solar and battery storage costs assumptions to be consistent with industry cost forecasts, which reflect recent dramatic cost declines that are projected to be sustained into the future.
2. MPC currently relies on overly conservative capacity credit assumptions for renewables and battery storage. The Company should conduct a study to identify accurate capacity credit assumptions for renewables and battery storage on its system. Alternatively, MPC could utilize the findings of existing analysis, such as the SPP study discussed above, to represent the value of capacity on its system.
3. MPC should provide all of the cost and operational assumption uses to model all existing and new resource option considered as part of its IRP.
4. MPC should model renewable and battery storage resources as available in small blocks, which can be procured incrementally to meet demand.

IV. THE MAJORITY OF MPC’S IRP SCENARIOS DO NOT PUT THE COMPANY ON TRACK TO MEET THE SOUTHERN COMPANY’S CORPORATE CARBON REDUCTION GOALS.

⁴² Vibrant Clean Energy, Why Local Solar for All Costs Less: A New Roadmap for the Lowest Cost Grid (2020), available at https://www.vibrantcleanenergy.com/wp-content/uploads/2020/12/WhyDERs_TR_Final.pdf

MPC's parent Company, Southern Company, announced an emissions reduction goal of "low-to-no" carbon emissions by 2050. Specifically, Southern Company has indicated a commitment to an intermediate goal of a 50 percent reduction in carbon emissions from 2007 levels by 2030, and a long-term goal of net zero carbon operations by 2050.⁴³ To meet those emission reduction goals, MPC, as a Southern Company subsidiary with some of the largest CO₂ emitting facilities in Mississippi, must also take action to reduce their CO₂ emissions.

In 2019, MPC's generators were responsible for approximately ten percent of Southern Company's total emissions, with about half of that generation going to MPC retail customers⁴⁴ (Southern Company dispatches all its unit as a single pool rather than just dispatching MPC's units to meet MPC's load). MPC's current resource portfolio is composed almost exclusively of fossil resources. Although the Company is expected to retire some of these resources in the next decade (per the Commission order), the Company's apparent baseline portfolio⁴⁵ in its IRP contains no new renewable resources or battery storage, and instead continues to rely on fossil resource (new Combustion Turbines ("CT") and Combined Cycle Plants ("CC")). The Company provided very minimal information on when it plans to retire existing resources, when it plans to add new ones, and how it plans to operate each of its units. The Company did provide cumulative resource additions by resource type for each portfolio over the years 2021-2040. Based on this limited information, the Company's known current resource mix, and the Commission order to retire 950 MW of existing fossil resources by 2027, we were able to estimate the Company's likely future resource mix and emissions trajectory.

As shown in Figure 5, we find that the Company is not on track to reduce its emission to near the level needed to meet a net zero by 2050 goal. We find that retiring Plant Daniel instead of Watson 5 by 2027 will result in lower cumulative CO₂ emissions on MPC's system.⁴⁶ But overall, given that the Company has no new renewable resources or battery storage included in its base portfolio, the Company is on track to only marginally reduce its CO₂ emission over the next two decades. Even if MPC retires all its existing fossil units except for the Plant Daniel Gas unit, based on the new gas resources it has planned, it will only reduce its CO₂ emissions by less than 20 percent by 2040. In order to even approach the level of emission reductions needed to reach Southern Company's corporate emission reduction goal of net zero by 2050, MPC has to build renewables and battery storage instead of new gas resources, and transition off its existing fossil resources.⁴⁷

⁴³ Southern Company: Implementation and action toward net zero. September 2020. Accessible at <https://www.southerncompany.com/content/dam/southerncompany/pdfs/clean-energy/Net-zero-report.pdf>.

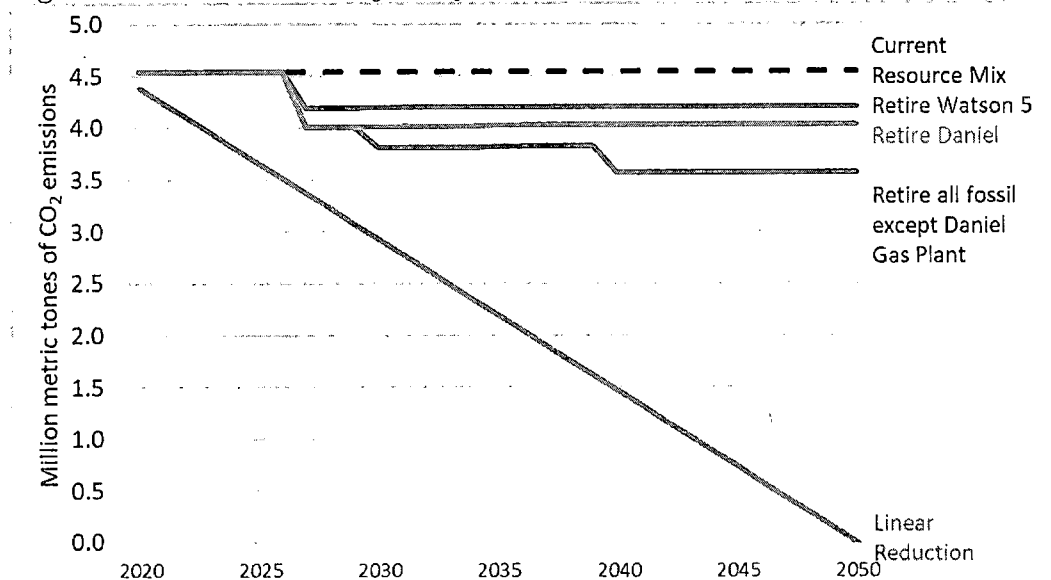
⁴⁴ EIA 2019 Carbon Dioxide Emission at Electric Power Plants, Accessible at <https://www.eia.gov/electricity/data/emissions/>; EIA form 923; EIA form 960; EIA form 861; Southern Company: Implementation and action toward net zero. September 2020.

⁴⁵ We refer to the portfolio labeled MG0 as the Baseline portfolio. It utilizes a moderate natural gas price path, \$0 CO₂ fee, baseline technology costs and performance assumptions, and reference load forecast.

⁴⁶ For all trajectories except for the Current Resource Mix also assumed the retirement of Greene County Units 1 and 2, and Watson Unit 4 in 2027

⁴⁷ EIA 2019 Carbon Dioxide Emission at Electric Power Plants; EIA form 923; EIA form 960; EIA form 861; Southern Company: Implementation and action toward net zero. September 2020; Cost and Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2021.

Figure 5: CO₂ emission trajectory for MPC



Source: EIA 2019 Carbon Dioxide Emission at Electric Power Plants; EIA form 923; EIA form 960; EIA form 861; Southern Company: Implementation and action toward net zero. September 2020; Cost and Performance Characteristics of New Generating Technologies, Annual Energy Outlook 2021. MPC IRP Technical Conference, CONFIDENTIAL Slide Deck.

As the Commission is aware, 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.⁴⁸ Public opinion strongly supports action to control climate change.⁴⁹ Any new fossil fuel resources added to a utility portfolio will face increased regulatory risk. The Commission is already familiar with this from the hundreds of millions in unnecessary costs expended on Plant Daniel over the past decade.

Accessible at https://www.eia.gov/outlooks/aeo/assumptions/pdf/table_8.2.pdf. Mississippi Power Company IRP Technical Conference, CONFIDENTIAL Slide Deck. February 25, 2021.

⁴⁸ IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland. Available at https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf. Powell, James, "Scientists Reach 100% Consensus on Anthropogenic Global Warming". *Bulletin of Science, Technology & Society*. 37 (4): 183–184.

⁴⁹ Pew Research Center, June 2020. "Two Thirds of Americans Think Government Should Do More on Climate Change." Available at <https://www.pewresearch.org/science/2020/06/23/two-thirds-of-americans-think-government-should-do-more-on-climate/>.

Short and mid-term deployment of non-emitting technologies are critical to addressing the climate crisis on any effective timeframe.⁵⁰ Planning processes like this one are the fundamental building blocks of a transition to sources that will allow mitigation of climate change damage. While there are multiple technically and economically feasible pathways to addressing energy sector emissions, action within the next few decades is critical.⁵¹ MPC's use of inflated costs for renewables and its failure to plan for accelerated deployment of non-emitting technologies will place customers at greater economic and social risk.

Recommendations

1. MPC is not on track to reduce its emission to near the level needed to meet Southern Company's net zero by 2050 goal. To meet those emission reduction goals, the Company must take more aggressive action in retiring fossil resources—including Daniel as well as existing gas generation—and replacing them with renewable and battery options.

V. MPC CONTINUES TO UNDERINVEST IN DEMAND SIDE MANAGEMENT.

A. MPC lags significantly behind the rest of the Southeast and the entire country in energy efficiency investments.

MPC's energy efficiency programs saved about 20,000 MWh of energy over the past few years representing about 0.2 percent of annual energy sales.⁵² This is one of the lowest savings levels seen across both the Southeast and the country as a whole. As shown in Figure 6 below, MPC's achievement was below the regional average of 0.26 percent in the Southeast and far below the U.S. average of 0.67 percent found by the Southern Alliance for Clean Energy ("SACE") in a survey of over 500 US utilities.⁵³ The company also lags far behind the two leading utilities in the Southeast - Duke Energy Carolinas and Duke Energy Progress which achieved energy efficiency savings of nearly one percent of prior year retail sales.⁵⁴

⁵⁰ National Academies Press, *Accelerating Decarbonization of the U.S. Energy System* (2021).

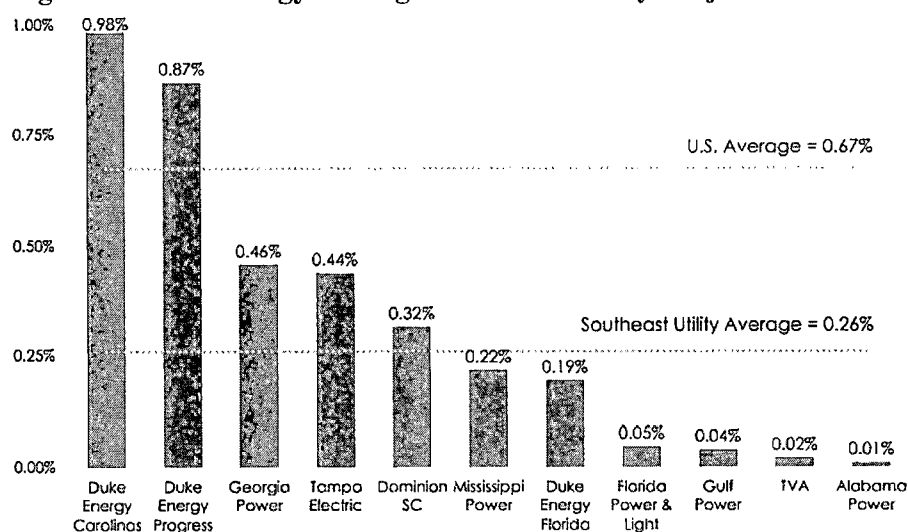
⁵¹ Williams, et al, *Carbon Neutral Pathways for the United States*, AGU Advances 2 (2021).

⁵² EIA. Annual Electric Power Industry Report, Form EIA-861 detailed data files, Available at: <https://www.eia.gov/electricity/data/eia861/>

⁵³ Southern Alliance for Clean Energy (SACE). *Energy Efficiency in the Southeast Annual Report*, January 2021. Accessible at <https://cleanenergy.org/blog/saces-third-annual-energy-efficiency-in-the-southeast-report-a-solution-to-multiple-crises/>

⁵⁴ *Id.*

Figure 6. 2019 Energy Savings as % of Sales by Major Southern Utilities



Source: SACE, Energy Efficiency in the Southeast Annual Report, January 2021.

MPC has historically underperformed in energy efficiency investment. As shown in Table 1, overall energy savings across all customer classes have only marginally improved over the past five years, with small increases seen in the residential and commercial sectors.

Table 1. MS Power Historical EE Program Savings (% of sales)

	RES	COM	IND	Total
2019	0.49%	0.37%	0.03%	0.22%
2018	0.41%	0.31%	0.03%	0.19%
2017	0.37%	0.30%	0.06%	0.19%
2016	0.35%	0.20%	0.10%	0.18%
2015	0.35%	0.28%	0.07%	0.19%
2014	0.29%	0.00%	0.00%	0.06%

Source: U.S. EIA 861 Database

The American Council for an Energy Efficient Economy (ACEEE) found that based on 2019 data, Mississippi ranked 48th among all U.S. states in energy efficiency efforts, and was the lowest ranked state in the southern region.⁵⁵

Altogether, this evidence suggests that MPC has been missing enormous energy savings opportunities and the associated economic and environmental benefits. As discussed above, Duke Energy companies' realized energy efficiency savings of more than five times the level experienced by MPC. A ramping up of MPC's energy efficiency programs to achieve a

⁵⁵ ACEEE. 2020. The 2020 State Energy Efficiency State Scorecard. Available at: <https://www.aceee.org/state-policy/scorecard>.

commensurate savings level would provide customers savings on their energy bills, create local jobs, and reduce emissions from generation.

An energy efficiency goal of one percent of retail sales per year it represents an attainable target for the Company with concerted efforts and sufficient funding. The national average savings is about 0.67 percent.⁵⁶ Further, utilities in the leading states such as Massachusetts, Rhode Island and Vermont have been saving energy at two to three percent per year.⁵⁷

B. MPC does not properly assess and model the potential of energy efficiency resources in its IRP.

Utilities typically model different scenarios for energy efficiency programs such as a program potential scenario and a maximum or economically achievable scenario. Such scenarios are often based on a detailed energy efficiency program potential study. MPC appears to be modeling two levels of energy efficiency program adoption: a Reference Case and a High EE & DER adoption scenario.⁵⁸ But, it is concerning that the Company does not appear to have performed any potential studies to inform the development the High EE & DER adoption scenario. [REDACTED]

The U.S. EPA's report *Guide for Conducting Energy Efficiency Potential Studies* describes the importance of conducting energy efficiency potential studies as follows:

Energy efficiency potential studies are an effective tool for building the policy case for energy efficiency, evaluating efficiency as an alternative to supply side resources, and formulating detailed program design plans. They are typically the first step taken by entities interested in initiating or expanding a portfolio of efficiency programs and serve as the analytic basis for efforts to treat energy efficiency as a high-priority resource equivalent with supply-side options.⁵⁹

The Commission should order MPC to conduct an energy efficiency potential study to inform the development of its energy efficiency scenarios for its IRP. If there is not sufficient time to undertake a potential study as part of the ongoing IRP process, we recommend the Company conduct a careful evaluation of achievable savings potential estimates by investigating how leading jurisdictions across the country are achieving high energy savings and reflect the results of this evaluation into its IRP scenario analysis.

⁵⁶ SACE. Energy Efficiency in the Southeast Annual Report, January 2021. Accessible at <https://cleanenergy.org/blog/saces-third-annual-energy-efficiency-in-the-southeast-report-a-solution-to-multiple-crises/>

⁵⁷ ACEEE's "State Energy Efficiency Scorecard" reports from 2015 to 2020. The latest report for 2020 is available at: <https://www.aceee.org/state-policy/scorecard>.

⁵⁸ Mississippi Power Company IRP Technical Conference, CONFIDENTIAL Slide Deck. February 25, 2021.

⁵⁹ U.S. EPA. 2007. Guide for Conducting Energy Efficiency Potential Studies – A Resource of the National Action Plan for Energy Efficiency. page ES-1. Available at: https://www.epa.gov/sites/production/files/2015-08/documents/potential_guide_0.pdf

C. MPC should evaluate the potential of electric heat pumps to increase the efficiency of electric-based heating.

Among the specific measures that MPC should consider in developing its energy efficiency program is the adoption of heat pumps. MPC can significantly reduce the energy required for space heating by promoting heat pumps for customers who are currently using electric resistance heating. According to EIA, more than 60 percent of the household in the East South-Central region, which includes Mississippi, use electricity for space heating.⁶⁰ Among these households, more than 60 percent rely on electric resistance systems. Electric resistance heating systems are extremely inefficient relative to alternative heating methods.

Electric heat pumps can perform more than 300 percent more efficiently (based on estimates of technical potential) than electric resistance heating. Because of this efficiency advantage and the high penetration of electric resistance heating, ACEEE estimated that there is the potential for annual energy bill savings of close to \$200 million among households in Mississippi, Kentucky, and Alabama that switch to heat pumps from electric furnace heating (in homes that already have central air-conditioning (“AC”)).⁶¹ ACEEE found a payback typically ranges from three to five years for these types of heat pump measures that replace an inefficient electric furnace and central AC.⁶²

D. Lagging energy efficiency investment is harmful to ratepayers and low-income households.

MPC has some of the highest electricity bills in the U.S., but its electricity rates are very close to the national average. Specifically, the average residential electricity bills in Mississippi were over \$1,600 per year, \$1,800 for MPC customers, ranking Mississippi’s electricity bill fourth highest in the U.S. (as shown in Figure 7).⁶³ Meanwhile, average residential electricity rates in Mississippi were \$0.11 in 2019 and \$0.13 for MPC, the latter of which was approximately equal to the national average rate. The combination of higher-than-average electricity bills and average electricity rates indicates that Mississippi electricity customers use more energy than the average electricity customers in the U.S. This relative inefficiency of energy use among MPCs customers can be at least partly attributed to MPC’s lack of investments in energy efficiency for its customers.

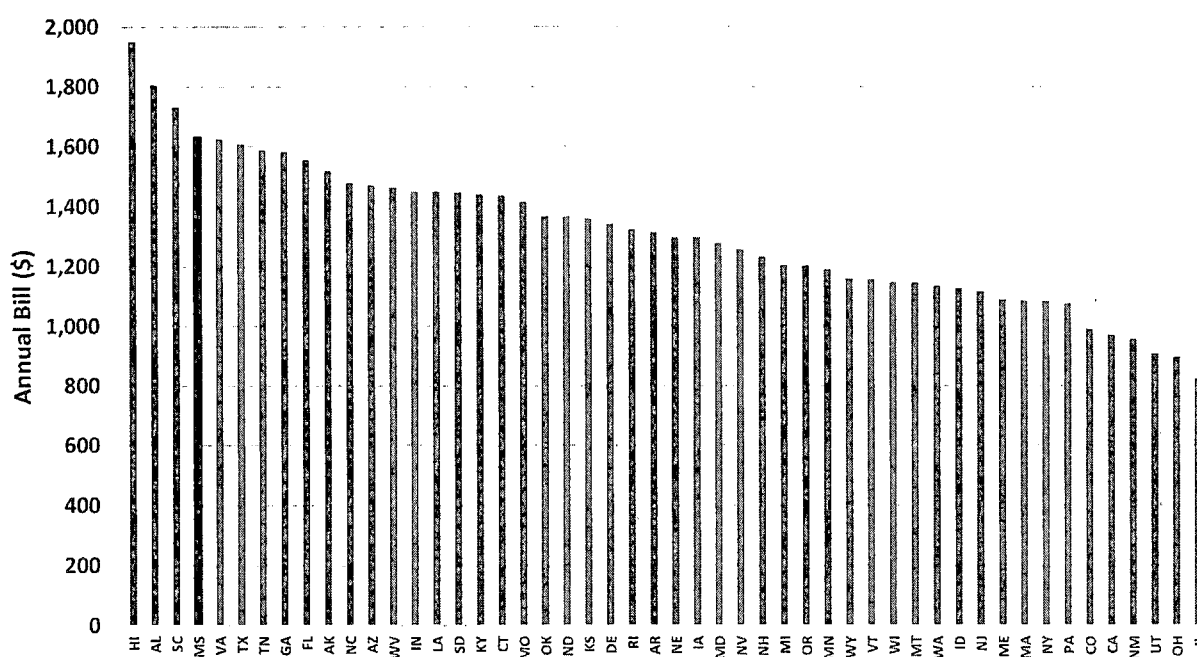
⁶⁰ EIA. Residential Energy Consumption Survey (RECS), Table HC6.8 Space heating in homes in the South and West regions, 2015. Accessible at <https://www.eia.gov/consumption/residential/data/2015/hc/php/hc6.8.php>

⁶¹ This estimate is for single-family homes and multifamily buildings with two to four units per building.

⁶² ACEEE. 2016. Opportunities for Energy and Economic Savings by Replacing Electric Resistance Heat with Higher-Efficiency Heat pumps. page 11 and 13. <https://www.aceee.org/sites/default/files/publications/researchreports/al603.pdf>

⁶³ EIA. Annual Electric Power Industry Report, Form EIA-861 detailed data files, Available at: <https://www.eia.gov/electricity/data/eia861/>

Figure 7. 2019 Annual Residential Electricity Bills by State



Source: EIA. Annual Electric Power Industry Report, Form EIA-861.

High electricity bills disproportionately impact low-income customers. Mississippi has a higher-than-average number of low-income households that face a high energy-burden, meaning they spend a larger portion of their monthly income on energy bills than the average residential customer.⁶⁴ An ACEEE study found, on average, half the low-income households in southeastern cities have an energy burden greater than 8.4 percent, and a quarter of them, over 14.8 percent. The national average is 3.5 percent.⁶⁵

EIA estimates that low-income customers in Mississippi have the highest energy burden across all the states in the nation. Low-income customers in the state are using about 10 to 12 percent of their income on energy bills. On the positive side, EIA also found that Mississippi and other southern states have a very high electricity savings potential in low-income households ranging from 25 to 29 percent.⁶⁶

It is therefore crucial that MS Power focuses on increasing its spending on efficiency programs that target low-income customers. Investment in low-income efficiency program not only helps

⁶⁴ ACEEE, How High Are Household Energy Burdens? (Sept. 2020), available at <https://www.aceee.org/research-report/u1602>

⁶⁵ ACEEE, How energy efficiency can help low-income households in Mississippi, available at <https://www.aceee.org/sites/default/files/pdf/fact-sheet/ses-mississippi-100917.pdf>

⁶⁶ U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy. Low-Income Household Energy Burden Varies Among States – Efficiency Can Help in All of Them. Accessible at https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden_final.pdf

to alleviate energy poverty in Mississippi but it also creates good quality, local jobs. But unfortunately, as part of this current IRP, MPC has projected program cost spending for its low-income program SELECT at only \$494,715 for 2021.⁶⁷ This represents only 0.02% of the residential revenue. Leading jurisdictions are spending as much as two to three percent of residential revenues on low-income efficiency programs.⁶⁸

E. MPC provided very minimal information and details around its energy efficiency program design and assumptions.

Accelerating the adoption of energy efficiency measures in the near term is critical to protecting customers, lowering bills, and reducing greenhouse gas emissions to mitigate the impacts of climate change.⁶⁹ But as with all other aspects of its IRP, MPC's has adopted an opaque and inadequate planning process regarding its energy efficiency program design. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] prevents meaningful stakeholder involvement in the Company's energy efficiency program design. MPC should be required to make details of its energy efficiency programs public prior to the publication of its IRP.

Recommendations

1. MPC should ramp up its energy efficiency programs with a goal of achieving savings that approach the national average of 0.67 percent of retail sales. This would result in customer savings on their energy bills, create local jobs, and reduce emissions from generation.
2. MPC should conduct an energy efficiency potential study to inform the development of its energy efficiency scenarios for its IRP. If the timeline of the current IRP process does not allow for a full potential study, the Company can estimate savings potential by investigating how leading jurisdictions across the country are achieving high energy savings.
3. MPC should ramp up its energy efficiency program investment to decrease the overall energy bills of its customers to approach the national average.

⁶⁷ Mississippi Power Company IRP Technical Conference, CONFIDENTIAL Slide Deck. February 25, 2021.

⁶⁸ Kallay et al. 2016. "Opportunities to Ramp Up Low-Income Energy Efficiency to Meet State and National Climate Policy Goals." Proceeding of the 2016 ACEEE Summer Study of Energy Efficiency in Buildings. Table 1. Accessible at <https://www.synapse-energy.com/sites/default/files/Opportunities-Low-Income-EE-66-015.pdf>

⁶⁹ *Id.*

4. MPC should increase its spending on low-income energy efficiency programs that target low-income customers and focus on reducing their energy burdens. Doing so would help alleviate energy poverty in Mississippi and create local jobs.
5. MPC should be required to make details of its energy efficiency programs public prior to the publication of its IRP.

VI. CONCLUSION

Sierra Club appreciates the opportunity to provide comments and feedback on Mississippi Power's IRP technical conference, and we welcome the Commission's and Staff's efforts to establish a transparent and robust process. Integrated resource planning is a crucial part of the Company's responsibility to ratepayers, and provides a mechanism by which stakeholders, the Company and the Commission may have an informed, deliberative, and collaborative process that takes into account the Company's interests and requirements, stakeholder concerns, and is ultimately in the best interests of Mississippi ratepayers.

Mississippi Power's technical conference failed to advance those goals, and instead continued the Company's "business as usual" approach, in which critical resource and planning decisions are made behind closed doors, only to be disclosed to the public and the Commission when it is too late to change course.

To correct course, the Commission should direct Mississippi Power to provide stakeholders with the Company's input assumptions. Moreover, we urge Mississippi Power to incorporate the substantive recommendations discussed above, which will ensure more robust stakeholder involvement, transparent and reliable assumptions and methodologies, and ultimately, a resource plan that is rigorously vetted by the Commission and stakeholders. Sierra Club looks forward to a continued engagement with Mississippi Power's planning process.

Respectfully submitted this 22nd day of March, 2021.

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CERTIFICATE OF SERVICE

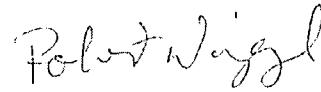
I, Robert B. Wiygul, counsel for Sierra Club do hereby certify that in compliance with RP6.122(2) of the Commission's Public Utilities Rules of Practice and Procedure (the "Rules").

(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

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

See attached Exhibit A

This the 22nd day of March, 2021.



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EXHIBIT A

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