MI POWER GRID

Making the Most of Michigan's Energy Future

Emissions Reporting Requirements for Utility IRPs

Michigan Public Service Commission Staff Report

MI Power Grid: Integration of Resource/Distribution/Transmission Planning

Filed to the docket for Case No. U-20633 on

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MPSC

Michigan Public Service Commission

Michigan Public Service Commission
MI Power Grid: Advanced Planning Processes – Integration of Resource/Distribution/Transmission Planning

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Executive Summary

On October 17, 2019, the Michigan Public Service Commission (MPSC or Commission), in collaboration with Governor Gretchen Whitmer, launched the MI Power Grid initiative. MI Power Grid is a customer-focused, multi-year stakeholder initiative intended to ensure safe, reliable, affordable, and accessible energy resources for the state's clean energy future. The initiative is designed to maximize the benefits of the transition to clean, distributed energy resources for Michigan residents and businesses. MI Power Grid is divided into three core areas with multiple sub-topics that work groups focus on. One of the three core areas, 'Optimizing Grid Investments and Performance' includes a work group focused on the 'Advanced Planning Processes' necessary to facilitate an integration of the discrete resource (generation, distribution, and transmission) planning processes.

The Commission, through a series of orders, opened multiple dockets to house the activities related to each of the MI Power Grid work areas. In its August 20, 2020 Order in Case No. U-20633, the Commission directed MPSC Staff (Staff) to begin a series of stakeholder outreach sessions to begin research into the 'Integration of Resource/Distribution/Transmission planning' work area, and directed Staff to publish a report of its findings on May 27, 2021.

Beginning in 2019, Governor Whitmer issued a series of executive directives and orders committing Michigan to the U.S. Climate Alliance and directed the Department of Environment, Great Lakes, and Energy to develop an implementation plan to meet the environmental goals established. Governor Whitmer also created a Council on Climate Solutions (Executive Order 2020-182) to act in an advisory role in the development of the MI Healthy Climate plan. Executive Directive 2020-10 (ED 2020-10) initiated the most immediate goal of the Governor's executive actions, which was for Michigan to achieve a 28% reduction to economy-wide carbon emissions, compared to 2005 historical levels.

The Commission responded to ED 2020-10 by issuing its October 29, 2020 Order in Case No. U-20633, instructing Staff to include consideration of how to implement the Governor's emissions reduction goals into its recommendations for updating the utility planning process. The Commission instructed Staff to present a straw proposal to the work group, to solicit alternate proposals from interested parties, to solicit comments from stakeholders on the proposals presented to the group, and to summarize and provide its recommendations for a final proposal for utility IRPs to reflect these emissions goals.

Staff developed its set of recommendations after conducting a series of stakeholder meetings where proposals were presented for consideration by the group, reviewing comments on the various proposals received by stakeholders, and conducting a review of utility planning processes in states that have enacted similar goals. The Commission's Order directed Staff to develop recommendations consideration by the Commission as to how both utilities filing before updates to the Michigan Integrated Resource Planning Parameters (MIRPP) and IRP filing requirements are finalized, and those filing after these updates, may best consider the emissions reduction targets set forth by Governor

Whitmer.[1] This report contains Staff's recommendations for utilities that are filing IRPs prior to finalization of the next MIRPP and IRP filing requirements updates (Near-term filings).[2] Staff is not recommending options for utilities filing after the updates to the MIRPP and IRP filing requirements are approved by the Commission (Long-term filings) at this time. Those proposals will continue to be developed throughout the remainder of Phases II and III of this work group and require a more extensive discussion that includes consideration of how to incorporate these proposals into the utility planning process through updates to the MIRPP and IPR filing requirements, expected to occur in 2022.

Staff recommends the Commission consider the following two options for Near-term filings. The options proposed here are to be considered separate and in addition to existing requirements for utility IRPs provided in the MIRPP and IRP Filing Requirements.[3, 4] Staff also provides its recommendations for multi-state utilities to show how their IRP aligns with, and puts them on a glidepath towards, the carbon reductions outlined in ED 2020-10.

Option 1

Perform one additional IRP modeling run to illustrate a path toward an electrification future and meet the interim goal of 28% carbon reduction by 2025 and continue along a trajectory toward net zero carbon emissions by 2050, as stated in ED 2020-10. This approach will help identify potential risks of this future scenario, such as consideration for resource interconnections and overall system reliability.

- Run the Environmental Policy scenario as defined in the MIRPP[5] and apply the Company's proposed course of action through the 15-year planning horizon, including the following changes in that run. Allow the model to build additional resources as needed.[6]
- Reduce carbon emissions by at least 28% of the utility's 2005 amounts by 2025, accomplished by modeling a hard cap on carbon emissions in 2025. Demonstrate a reasonable path to achieving carbon neutrality in 2050 by continuing to reduce carbon emissions through the end of the planning horizon.
- Apply a high load growth through the study period of 2% annually, up from the required 1.5% sensitivity included in the MIRPP Environmental Policy scenario. The increase in annual load growth will reflect an increase in load due to electrification.
- Include all carbon emissions for owned generation units, power purchase agreements, MISO market energy purchases, and electricity used for the organization. Compare the projected

[1] *C.O.M. Energy Assessment (IRP and Distribution Plan Alignments), 10/29/20 Order, MPSC Case No. U-20633, p 7.*
[2] *Updates to the MIRPP and IRP Filing Requirements are expected to be complete by the end of 2022.*
[3] *In the matter on the Commission's own motion to implement the provisions of Section 6t(1) of 2016 PA 341, 11/21/17 Order, MPSC Case No. U-18418.*
[4] *In the matter on the Commission's own motion to implement the provisions of Section 6t of 2016 PA 341, 12/20/17 Order, MPSC Case No. U-18461.*
[5] *11/21/17 Order, MPSC Case No. U-18418, Exhibit A, pp 20-21.*
[6] *Staff is not recommending that utilities model out to the 2050 carbon neutrality goal timeframe, due to declining certainty in projections over a thirty-year timeframe.*

carbon reduction achieved by the model through the 15-year planning horizon to the 2025 goal of a 28% carbon reduction and illustrate a trendline to the eventual 2050 goal. Given the likelihood of significant carbon emissions reductions occurring in single year intervals coinciding with the retirement of existing high-capacity fossil-fueled generation, this trendline should be levelized to provide the analogous annual emissions reduction rate through the planning horizon and beyond. Supply supporting evidence with necessary testimony and exhibits, including identifying any years in the planning horizon in which the model varies in carbon emissions significantly from the trendline, why this variation is occurring, and any actions planned to ensure the utility will stay on track to meet the 2050 goal.

- Provide exhibits that chart carbon emissions reductions through the 15-year planning horizon and illustrate the continued carbon emissions reduction trajectory necessary to meet the 2050 goal. Include exhibits that provide annual projected emissions for CO2, SOx, NOx, Mercury, and PPM through the 15-year planning horizon for the proposed course of action and each scenario optimized plan, including any additional scenarios developed by the utility. A copy of all exhibits in their native format, with all formulae intact, should be provided in additional documentation that accompanies the IRP filing.
- This additional modeling run would apply to utilities who serve customers in MISO local resource zone 7 (Lower Peninsula) as well as local resource zone 2 (Upper Peninsula). Utilities serving customers in the Upper Peninsula may not have included the Environmental Policy scenario in previous IRPs, as provided for in the MIRPP previously approved by the Commission.[7]

Option 2

Perform one additional IRP modeling run to illustrate a path toward an electrification future and achieve an increased interim goal for the electric sector of a 32% reduction in carbon emissions from 2005 levels by 2025. This option increases the interim 2025 goal beyond the 28% carbon emissions reduction specified in ED 2020-10. This interim goal is responsive to stakeholder feedback and analysis that attempted to calculate the additional near-term carbon reductions the electric power sector would need to make to achieve an economy-wide reduction in carbon emissions of 28% by 2025. This option assumes that historical emissions reduction trends in other sectors will continue.

- Run the MIRPP Environmental Policy scenario[8] and apply the proposed course of action through the 15-year planning horizon, including the following changes in that run. Allow the model to select additional resources as needed.
- Decrease carbon emissions more aggressively by achieving at least a 32% reduction in utility carbon emissions by 2025 from 2005 amounts, modeled as a hard cap on carbon emissions in 2025. Demonstrate a reasonable path to achieving carbon neutrality in 2050 by continuing to reduce carbon emissions through the end of the planning horizon.

[7] *11/21/17 MPSC Order in Case No. U-18418, Exhibit A, pp. 20-23.*
[8] *Id, at pp 20-21.*

- Apply a high load growth through the study period of 2% annually, up from the required 1.5% sensitivity included in the MIRPP Environmental Policy scenario. The increase in annual load growth will reflect an increase in load due to electrification.
- Include all carbon emissions for owned generation units, power purchase agreements, MISO market energy purchases, and electricity used for the organization. Compare the projected carbon emissions reduction achieved by the model through the 15-year planning horizon to the 2025 goal of a 32% carbon emissions reduction and illustrate a trendline to the eventual 2050 goal. Given the likelihood of significant carbon emissions reductions occurring in single year intervals coinciding with the retirement of existing high-capacity fossil-fueled generation, this trendline should be levelized to provide the analogous annual emissions reduction rate through the planning horizon and beyond. Supply supporting evidence with necessary testimony and exhibits, including identifying any years in the planning horizon in which the model varies in carbon emissions significantly from the trendline, why this variation is occurring, and any actions taken to ensure the utility will stay on track to meet the 2050 goal.
- Provide exhibits that chart carbon emissions reduction through the 15-year planning horizon and illustrate the continued carbon emission reduction trajectory necessary to meet the 2050. Include exhibits that provide annual projected emissions for CO2, SOx, NOx, Mercury, and PPM over the 15-year planning horizon, and through 2050 for the preferred plan and each scenario optimized plan including any additional scenarios developed by the utility. All exhibits should be provided in their native format, with all formulae intact, in the workpapers included in the IRP filing.
- This additional modeling run would apply to utilities who serve customers in MISO local resource zone 7 (Lower Peninsula) as well as local resource zone 2 (Upper Peninsula). Utilities serving customers in the Upper Peninsula may not have included the Environmental Policy scenario in previous IRPs, as provided for in the MIRPP previously approved by the Commission.[9]

Multi-state utilities filing before the next update to the MIRPP and IRP Filing Requirements

Staff recommends that the Commission direct multi-state utilities to perform an additional modeling run that shows how its Michigan service territory will meet the carbon emissions reduction goals set forth in ED 2020-10. MCL 460.6t. section 4 requires the Commission to accept an integrated resource plan filed in another state for the purposes of filing in this state. That same section of the statute allows the Commission to "require supplemental information if necessary as part of its evaluation and determination of whether to approve the plan."[10] Staff finds that this additional modeling run is necessary to provide supplemental information to ensure multi-state utilities are on track to meet the carbon emissions goals of ED 2020-10..

The impact on multi-state utilities is different than the impact on utilities whose service territory is fully contained within the Michigan State boundaries. The impact of an electrification future in Michigan

[9] *Id, at pp. 20-23.*
[10] *MCL 460.6t, Section (4).*

would potentially increase the Michigan portion of the total multi-state utility load. The interim carbon goal should be appropriately proportioned to reflect the amount of the utility's Michigan service territory load as a portion of the total utility's system load, while considering anticipated load growth in the rest of the utility's service territory that may not have the same carbon emission reduction goals as Michigan. For example, if the Michigan portion of a multi-state utility's load represents 25% of its total service territory load and a 50% carbon emission reduction is required by a specific year then that utility would be expected to achieve a 12.5% carbon reduction to meet the ED 2020-10 goal for its Michigan service territory, (25%*50%=12.5%).

In the alternative, the Commission could allow multi-state utilities more flexibility to demonstrate compliance with the carbon emission reduction goals. This would require that supporting testimony and exhibits provide clear information from the multi-state utility's existing scenarios that illustrate an electrification and carbon neutral future in its Michigan service territory. This supporting evidence must show the overall impact to load, utility resources, and emissions and demonstrate a path towards the ED 2020-10 carbon emission reductions.

1. Introduction

In the February 7, 2019 Commission Order in Case No. U-20464, the Michigan Public Service Commission (MPSC or Commission) opened a docket to "conduct a review of the state's supply, engineering, and deliverability of natural gas, electricity, and propane," in response to the request made by the Governor on January 31, 2019.[11] This call for a review of the State's energy system was made in response to extreme weather events that occurred in late January 2019 which, among other factors, resulted in unseasonably lower than expected levels of natural gas on the system during a time of high demand. To ensure reliable natural gas delivery throughout its system, Consumers Energy asked its customers to voluntarily reduce their energy usage. The Commission, in its September 11, 2019 Order in Case No. U-20464, accepted and adopted a finalized version of the report, called the Statewide Energy Assessment (SEA). In the SEA, the Commission made a list of recommendations to mitigate risks for the safe and reliable delivery of energy, including:

> [T]he Commission recommends utilities better align electric distribution plans with integrated resource plans to develop a cohesive, holistic plan and optimize investments considering cost, reliability, resilience, and risk. As part of this effort, Staff, utilities, and other stakeholders should identify refinements to IRP modeling parameters related to forecasts of distributed energy resources (e.g., electric vehicles, on-site solar) reliability needs with increased adoption of intermittent resources, and the value of fuel security and diversity of resources in IRPs. A framework should also be developed to evaluate non-wires alternatives such as targeted energy waste reduction and demand response in IRPs and distribution plans;

and:

> MPSC Staff should work with Michigan utilities and stakeholders to propose revisions to the Commission-approved IRP modeling parameters and filing requirements to better accommodate the consideration of transmission alternatives in IRPs. In addition, the Commission observes that MPSC Staff should work with RTOs and stakeholders to ensure non-transmission alternatives are considered in a fair and equitable manner through the RTO transmission planning processes.[12]

The Commission followed up its adoption of the SEA by directing Staff to conduct a series of stakeholder collaboratives on wide-ranging issues and launched the MI Power Grid initiative to provide a foundation for these sessions.

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[11] *In the matter, on the Commission's own motion, to issue a report on the state's supply, engineering, and deliverability of natural gas, electricity, and propane, and contingency planning, as requested by the Governor, 02/07/19 Order, MPSC Case No. U-20464, p 3.*

[12] *In the matter, on the Commission's own motion, to issue a report on the state's supply, engineering, and deliverability of natural gas, electricity, and propane, and contingency planning, as requested by the Governor, 09/11/19 Order, MPSC Case No. U-20464, pp 196-197.*

1.1 MI Power Grid Initiative

The Commission, in partnership with Governor Gretchen Whitmer, established the MI Power Grid initiative in its October 17, 2019 Order in Case No. U-20645. This Order provided a working statement for the initiative as a "focused, multi-year stakeholder initiative to maximize the benefits of the transition to clean, distributed energy resources for Michigan residents and businesses".[13] The Order describes the electric industry as "on the cusp of transformational change" as the electric power supply transitions from "large, central-station power plants to cleaner and more distributed energy resources such as wind and solar energy."[14] However, while new developments in technology "present opportunities to unlock cost savings and other benefits, there are also significant challenges to overcome to maximize value for customers while maintaining safe, reliable electric service."[15]

To help facilitate the goals of the MI Power Grid initiative, ongoing and future discussions were consolidated in three core areas of emphasis: Customer Engagement, Integrating Emerging Technologies, and Optimizing Grid Investments and Performance. To facilitate a focused discussion, each core area was separated into different sub-topics, and Staff-led stakeholder workgroups were formed for each to focus on its individual set of objectives. Detailed descriptions of each core area and the different sub-topics that work groups are formed around can be found on the Commission's website.

2. Background and Executive Actions Taken

Actions to address the effects of climate change are increasingly becoming the focus of Federal, State, and local governments, as its impacts (e.g., higher energy demands due to increasing temperatures, increases in the frequency and intensity of weather events, water and other essential resource concerns for vulnerable populations) become more frequent and wide-spread. In the past decade, there has been action on the Federal level through both the executive branch (e.g., the Clean Power Plan, the Affordable Clean Energy Rule) and the legislature (tax credits for renewable generation) to reduce the impact of the energy sector on the environment. Additional actions have been taken at the State and local level beyond national efforts to mitigate the impacts of climate change, such as statewide renewable energy generation standards or carbon neutrality goals adopted in some cities and municipalities. These actions at the State and local level often impose more stringent requirements for the energy industry to adopt in addition to federal requirements. Beginning in 2019, Michigan Governor Gretchen Whitmer issued a series of executive actions that provide the basis for a statewide policy on addressing climate change, a timeline for economy-wide carbon reduction and eventual neutrality, and established an advisory council to assist the department of state government responsible for implementation of an action plan to address these requirements.

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[13] *In the matter, on the Commission's own motion, to establish MI Power Grid, 10/17/19 Order, MPSC Case No. U-20645, p 1.*
[14] *Id, at p 2.*
[15] *Id.*

2.1 Executive Directive 2019-12

On December 12, 2015, 196 state parties adopted the Paris Agreement under the United Nations Framework Convention on Climate Change (Paris Agreement), which is a long-term agreement with the purpose of preventing an increase in average global temperature of 2° C above pre-industrial levels, with a goal of keeping an increase in average global temperature below 1.5° C above pre-industrial levels.[16] Signatories to the Paris Agreement each calculated their own nationally determined contributions (NDC) to the global reduction efforts, and metrics were created for each Country to achieve its determined NDC. On June 1, 2017, United States' (U.S.) President Donald Trump notified the U.N. Secretary-General of the U.S.'s decision to withdraw from the Paris Agreement, effective on November 4, 2020. On that same day, in response to President Trump's public announcement of his plans to withdraw the U.S. from the Paris Agreement, the Governors of the states of California, New York, and Washington announced the formation of the U.S. Climate Alliance. The U.S. Climate Alliance is a coalition of Governors who have committed to upholding their State's NDCs established under the Paris Agreement, and to meet the Paris Agreement's goals of a 26-28% reduction in economy-wide greenhouse gas emissions by 2025.[17]

On February 4, 2019, Governor Gretchen Whitmer issued Executive Directive No. 2019-12 (ED 2019-12) which identified some of the conclusions the Fourth National Climate Assessment issued in November 2018 on the impacts of climate change on the national scale, as well as some regional effects of climate change already being felt in Michigan. In ED 2019-12, Governor Whitmer committed Michigan to the objectives of the U.S. Climate Alliance, specifically:

1. (a.) Implement policies that advance the goals of the Paris Agreement, aiming to reduce greenhouse gas emission[s] by at least 26-28 percent below 2005 levels by 2025.

   (b.) Track and report progress to the global community in appropriate settings, including when the world convenes to take stock of the Paris Agreement.

   (c.) Accelerate new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.

3. The director of the Department of Environmental Quality [now EGLE] shall coordinate state efforts under this directive, including any recommendations for changes in state policies, procedures, administrative rules, or laws, and can assist departments and agencies with any questions that may arise with implementation of this directive. The director of the Department of Environmental Quality shall regularly report to me on efforts to implement this directive.[18]

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[16] *C.O.M. Energy Assessment (IRP and Distribution Plan Alignments), 10/29/20 Order, MPSC Case No. U-20633, pp 4-5.*

[17] *http://www.usclimatealliance.org/. Retrieved 12/1/20.*

[18] *https://www.michigan.gov/documents/whitmer/Executive_Directive_2019-12_646944_7.pdf. Retrieved 12/1/20.*

2.2 Executive Directive 2020-10

With the issuance of ED 2019-12, Governor Gretchen Whitmer joined the U.S. Climate Alliance, committing the State of Michigan to pursuing the goals established in the Paris Agreement. While ED 2019-12 committed Michigan to pursuing the goals of the Paris Agreement, it did not identify the necessary steps or initiate development of an actionable plan to achieve the goals of the U.S. Climate Alliance. To this end, on September 23, 2020, Governor Whitmer issued Executive Directive No. 2020-10 (ED 2020-10), which established specific metrics to be achieved and called for the creation of an actionable plan to achieve these metrics.

ED 2020-10 addressed the need for Michigan to transition to a carbon-neutral state, for not only the environment and public health, but also to ensure the resilience of the state's economy, citing the vulnerabilities of relying on out-of-state fossil fuel supplies to provide for the state's energy needs as one example. ED 2020-10 cites the challenges of this large-scale transition to a carbon-neutral state, but also the potential benefits it will provide if properly executed in an equitable fashion. To ensure the State is prepared to put into action the necessary measures to support this transition, ED 2020-10 included the following directives:

1. Michigan will aim to achieve economy-wide carbon neutrality no later than 2050, and to maintain net negative greenhouse gas emissions thereafter. To ensure steady progress toward this ultimate statewide goal, and to prevent irreparable harm to our ecosystem, residents, and businesses in the interim, the state will aim to achieve a 28% reduction below 2005 levels in greenhouse gas emissions by 2025.
2. The Department of Environment, Great Lakes, and Energy ("Department"), through its Office of Climate and Energy, must develop and issue the MI Healthy Climate Plan ("Plan"), which will serve as the action plan for this state to reduce greenhouse gas emissions and transition toward economy-wide carbon neutrality. The Plan must provide strategies and recommendations for achieving and tracking progress towards the statewide goals set forth in section 1 of this directive, with a focus on near-term objectives that Michigan can achieve in five years. The Department must submit the Plan to me by December 31, 2021 and must submit a draft of the Plan to me by September 1, 2021. The Department must make these submissions publicly available on its website.[19]

2.3 Executive Order 2020-182

On September 23, 2020, Governor Whitmer issued Executive Order No. 2020-182 (EO 2020-182), which worked in conjunction with ED 2020-10 to provide an avenue for the State to develop and implement an action plan to meet the goals of the U.S. Climate Alliance. ED 2020-10 established the MI Healthy Climate Plan as the action plan for the State to achieve its goals of carbon neutrality, and tasked the Department of Environment, Great Lakes, and Energy (EGLE) with the development and issuance of this

[19] https://www.michigan.gov/whitmer/0,9309,7-387-90499_90704-540278--,00.html. *Retrieved 12/1/20.*

plan. EO 2020-182 established a Council on Climate Solutions (the Council) to provide guidance to support EGLE's development of the MI Healthy Climate Plan.

EO 2020-182 provided specific details on the Council, including its various membership, the charge given to the Council, its expected operations, and guidance on the implementation of the Council's functions. The Council is composed of the directors of several departments of state government (including the chairperson of the Commission), leaders of industry groups, and members of the public. Additional details of the Council pertinent to its work advising the MI Healthy Climate Plan, as provided in EO 2020-182, are specified below:

> **2. Charge to the Council**
>
> (a) The Council must act in an advisory capacity to the governor and the Department, and must do the following:
>
> (1) Advise the Department in formulating and overseeing the implementation of the MI Healthy Climate Plan, which will serve as the action plan for this state to reduce greenhouse gas emissions and transition toward economywide carbon neutrality. This work must include, but is not limited to:
>
> (a) Identifying and recommending opportunities for the development and effective implementation of emissions-reduction strategies.
>
> (b) Identifying solutions to resolve impact disparities across Michigan and recommending targeted solutions for communities disproportionately impacted by the changing climate.[20]

3. Commission's Orders Related to MI Power Grid

In its September 11, 2019 Order in Case No. U-20464, the Commission adopted the finalized version of the SEA, which provided recommendations for further actions to improve the reliability and resiliency of the State's energy system. The Commission's Order acknowledged the significant time and resources that implementing each of the SEA's recommendations would require and encouraged continued stakeholder participation through the appropriate avenues to accomplish these objectives.[21] Additional Commission orders have been filed in multiple dockets opened since the publication of the SEA, in response to both its recommendations and executive actions taken by the Governor. These Commission orders have provided different avenues and guidance for the Staff and other stakeholders to evaluate and implement the directed outcomes of the SEA.

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[20] https://content.govdelivery.com/attachments/MIEOG/2020/09/23/file_attachments/1553297/EO%202020-182%20Climate_Council.pdf. *Retrieved 12/1/20.*

[21] *In the matter, on the Commission's own motion, to issue a report on the state's supply, engineering, and deliverability of natural gas, electricity, and propane, and contingency planning, as requested by the Governor, 09/11/19 Order, MPSC Case No. U-20464, p 5.*

3.1 Commission's Orders Establishing MI Power Grid and Work Groups

On October 17, 2019, the Commission issued an order in Case No. U-20645 (October 17 Order), which opened the docket and provided the "impetus, vision, objectives, process and next steps" for the MI Power Grid initiative, established by the Commission in partnership with Governor Gretchen Whitmer.[22] The Order describes MI Power Grid as a "focused, multi-year stakeholder initiative to maximize the benefits of the transition to clean distributed energy resources for Michigan residents and businesses."[23] The Order acknowledges the rapid advancement in technologies like renewable generation and DERs, and the opportunities these developments present; while also acknowledging that many of these emerging technologies face market and regulatory barriers that could impact the pace and scale of adoption.[24]

To achieve the overarching goals of the initiative, the MI Power Grid initiative is organized into three core areas of emphasis: Customer Engagement, Integrating Emerging Technologies, and Optimizing Grid Investment and Performance. The October 17 Order provided an objective for each and subdivided the core areas into separate work groups focused around on a specific topic. The description of the core area 'Optimizing Grid Investments and Performance' contained the following details:

> **3. Optimizing Grid Investments and Performance**
>
> **Objective:** Integrating transmission, distribution, and resource planning to increase transparency and optimize solutions; enhancement of tools, financial incentives, and regulatory approaches to adapt to technology change and customer preferences.
>
> **Work areas:**
>
> - **Advanced planning processes** for electric investment (resources, transmission, and distribution) will be examined to ensure modeling tools, assumptions, and processes are adapting to technology change, and to better integrate discrete planning activities currently being conducted for new resources (e.g., generation, demand-side options), transmission, and distribution, as detailed in the 2019 Statewide Energy Assessment. Work will also be done to quantify the value of resilience, particularly as it relates to distributed energy resources, as well as the value of diversity in the electric resource mix, in order to ensure proper consideration of both when evaluating proposed investments.[25]

In its August 20, 2020 Order in Case No. U-20633 (August 20 Order), the Commission provided a connection between some of the recommendations that resulted from the SEA, specifically related to gaps in the planning process and valuing generation diversity, and the stated objectives of the

[22] *In the matter, on the Commission's own motion, to establish MI Power Grid, 10/17/19 Order, MPSC Case No. U-20645, p 1.*
[23] *Id.*
[24] *Id, at p 3.*
[25] *Id, at 7.*

'Advanced Planning Processes' work group of the MI Power Grid Initiative. In this order, the Commission opened a docket to house activities related to the 'Integration of Resource, Transmission, and Distribution Planning' portion of MI Power Grid, and directed Staff to begin a series of stakeholder outreach sessions and research best practices for the following areas:

1. Potential ways to align distribution plans with IRPs and examination of best practices from other jurisdictions, including:

a. Methodologies to develop distributed energy resource forecasts over a five and ten-year period;

b. Potential sources or methodologies to forecast electric vehicle (EV) penetration over a five and ten-year period;

c. Methodologies or frameworks to forecast the impact of the expected EV penetration on the load forecast over a five and ten-year period; and

d. Methodologies or frameworks to evaluate non-wires alternatives (NWAs) such as targeted energy waste reduction and demand response in distribution plans and IRPs.

2. Identifying potential revisions to the Commission-approved IRP modeling parameters or the filing requirements to better accommodate transmission alternatives in IRPs in preparation for the next formal review of the Michigan IRP Planning Parameters expected to take place in 2022; and

3. Methodologies to quantify and value generation diversity in IRPs.[26]

The Commission's Order also directed Staff to conduct outreach and stakeholder sessions on the topics outlined, and to provide the Commission with a report that summarizes the findings and any recommendations to be considered, in the Case No. U-20633 docket on or before May 27, 2021.[27] The Commission directed Staff to "coordinate with EGLE on the inclusion of appropriate public health and environmental justice considerations in future IRP cases, and to include a status update and any related recommendations in the May 27, 2021 report."[28]

3.2 Commission's October 29, 2020 Order in Case No. U-20633

On October 29, 2020, the Commission issued an order in Case No. U-20633 (October 29 order), which provided updated guidance for the 'Integration of Resource, Distribution, and Transmission Planning' workgroup of the MI Power Grid initiative, specifically the 'Advanced Planning Processes' work area. In this order, the Commission discussed the current legislation that has created the IRP planning process, and how this process has enabled utilities in the state to be on track to meet current legislative standards related to renewable and other 'clean' generation sources (i.e. the requirement that 35% of

[26] *C.O.M. Energy Assessment (IRP and Distribution Plan Alignments), 08/20/20 Order, MPSC Case No. U-20633, pp 3-4.*
[27] *Id.*
[28] *Id, at p 5.*

generation be sourced from the 'cleanest' resources by 2025.)[29] However, the order also identifies the new economy-wide emissions targets that have been established through the Governor's executive actions. In light of these directives, the Commission "finds that the process of updating utility IRP planning parameters and filing requirements should take into account the goals set by Michigan's utilities and how those goals align with the greenhouse gas emissions targets set by Governor Whitmer."[30] To this end, the Commission "expects that the work of the stakeholder group established in the August 20 order to ultimately feed into the process of updating the IRP planning parameters and filing requirements that are set to be complete in 2022."[31] However, due to multiple utilities having filing dates for their next IRPs set in 2021, "it is imperative that the Staff develop recommendations to be considered by the Commission as to how these three utilities, and other utilities who file IRPs in the future, may best consider the emissions reductions targets set by Governor Whitmer."[32] These three utilities are Indiana Michigan Power Company (I&M), Consumers Energy Company, and Upper Michigan Energy Resources Company.

To accomplish the objectives it set forth in its order, the Commission provided the following specific tasks and dates for the deliverables of this work group:

- Staff is to file, not later than 5:00 p.m. Eastern time on December 15, 2020, a report in Case No. U-20633 (December 15 report). This report should include the following:
    - A summary of a Straw proposal for advancing the objectives detailed in this order;
    - Include other proposals from states with similar greenhouse gas emission objectives or proposals identified in the stakeholder process;
    - Any stakeholder feedback received; and
    - This report should also recommend a proposal to be utilized by utilities filing IRPs before the next update to the IRP planning parameters and filing requirements are finalized in 2022.
- Stakeholders and interested persons may file comments in Case No. U-20633 in response to the December 15 report and recommendations on or before 5:00 p.m. Eastern time on January 12, 2021.[33]

3.3 Advanced Planning Work Group Timeline

The October 29 Order provides several important dates for the work group related to the IRP emissions reporting proposals. This timeline includes dates for presenting various proposals during stakeholder sessions, solicitation of comments on these proposals, and the date that comments must be filed in the

[29] https://www.michigan.gov/mpsc/0,9535,7-395-93308_93325_93423_93502-500271--,00.html. *Retrieved 12/6/20.*
[30] *C.O.M. Energy Assessment (IRP and Distribution Plan Alignments), 10/29/20 Order, MPSC Case No. U-20633, p 6.*
[31] *Id, at p 7.*
[32] *Id.*
[33] *Id.*

Case No. U-20633 docket. A summary of important dates and the activities or deliverables due on those dates was originally presented in the October 21, 2020 workgroup stakeholder meeting, and is provided below:

Table 1. Timeline for work group's activities related to the emissions reporting proposals.

MPG Advanced Planning, Integration of GD&T Planning	
Date	Activity
October 21, 2020	Staff Presents Straw Proposal
November 6, 2020	Stakeholders present alternate proposals for consideration
November 30, 2020	Stakeholder Feedback on all presented proposals due
December 15, 2020	Staff submits report in Case No. U-20633 docket that summarizes the Straw Proposal, any other proposals, stakeholder feedback, and its recommendations
January 12, 2021	Interested persons may file comments in Case No. U-20633 docket in response to December 15, 2020 report filed by Staff

4. Discussion

The following sections provide a summary of the various proposals introduced to the workgroup, any additional proposals from other states considered, and feedback from participants in the workgroup on these proposals, as directed in the October 29 order.

4.1 Staff's Initial Proposal

In the October 21, 2020 stakeholder session, Staff presented its straw proposal for updating the utility IRP process to account for and show a potential future that meets the objectives of ED 2020-10. Staff developed two different sets of proposals, one proposal for utilities filing before the next updates to the Michigan Integrated Resource Planning Parameters (MIRPP) and IRP Filing Requirements are approved by the Commission (Near-term filings), and one for utilities filing after these are approved by the Commission (Long-term filings). Each proposal provided multiple options for stakeholders to consider, with each option varying one or more of the following parameters: updates to the MIRPP (for Long-term filings), need for an optimized run if the preferred plan does not meet compliance, a chart that tracks annual carbon emissions of the Company's preferred plan, and reporting requirements for other greenhouse gas emissions. For example, 'option 1' for utilities filing Long-term filings requires a chart that provides the utilities annual carbon emissions through 2025, while 'options 2 and 3' require the same chart of annual carbon emissions through the 15-year planning horizon. The proposal for utilities filing Near-term filings includes options with similar changes to parameters, however these options do not consider an update to the MIRPP due to time constraints detailed in the Commission's October 29, 2020 order in Case No. U-20633.

After Staff presented its straw proposal in this meeting, it solicited feedback from the work group on its proposal. Staff also provided the opportunity for interested parties to present alternate proposals to

meet the carbon emission reduction goals of ED 2020-10. Please refer to Appendix A.1, Staff's Straw Proposal, for the complete version of Staff's straw proposal.

4.2 Alternate Proposals

Staff presented its straw proposal to the workgroup at the October 21, 2020 stakeholder session. After its proposal was presented, Staff requested that parties communicate their interest in presenting an alternative proposal by October 23, 2020. Stakeholders could then present these alternate proposals at the November 6, 2020 stakeholder session. Two parties responded to Staff's request and presented their alternate proposals at the November 6, 2020 stakeholder meeting. Summaries of the two proposals are provided below. The complete proposal presentations are available in Appendix A.2: Stakeholder Alternate Proposals.

Andrew Williamson presented I&M's proposal, which advocated for continuing the current practice of allowing for a single, utility system-wide IRP to be developed for multi-state utilities filing in Michigan. By keeping this current structure, multi-state utilities would be permitted to file an IRP in Michigan for the Company's entire multi-state territory; while also requiring the Company to provide supplemental information determined necessary by the Commission. I&M also emphasized the importance of dispatchable generation to achieve a carbon-neutral future.

Douglas Jester, representing the groups the Ecology Center, the Natural Resource Defense Council, the Michigan Environmental Council, the Environmental Law and Policy Center, the Union of Concerned Scientists, Sierra Club, and Vote Solar (Joint Commenters), also presented an alternate proposal during the November 6, 2020 stakeholder session. The Joint Commenters' proposal focused on the need for the electric utilities to account for the timing and intensity of carbon emissions reductions from all other sectors of the economy, in order for the state to achieve the interim goal of a 28% reduction in economy-wide carbon emissions from 2005 levels by 2025. The Joint Commenters compared historical emissions trends by economic sector, and found that, while the energy sector has achieved significant reductions in carbon emissions over the last decade, other sectors that comprise a significant portion of the state's annual carbon emissions have not seen a similar reduction. The Joint Commenters analysis concluded that the slower rate of emissions reductions in the other sectors of the economy will make it difficult to achieve the target of a 28% reduction in economy-wide carbon emissions by 2025. With the current expected rates of the electrification of the transportation and building sectors, the Joint Commenters recommend the energy sector reduce its carbon emissions by approximately 36% by 2025 from 2018 levels, to achieve this target while also experiencing significant load growth.

Staff also conducted research into other states which have adopted similar emissions reduction goals, to research best practices in the adoption of these emissions goals into utility resource planning processes. Staff investigated how these emissions goals were incorporated into utility planning processes in the following states: California, Hawaii, Maine, Massachusetts, New York, and Washington. While these states all have adopted similar emissions reduction goals, Staff found significant differences in how these goals were incorporated into utility planning processes. For instance, many states have set a goal for achieving carbon neutrality, however there are differences in when the state plans to achieve it, and in any interim metrics that must be met in the years before achieving carbon neutrality.

Differences in the timing of when these goals were established also effect how developed the implementation process is. Table 2, shown below, details each state's carbon reduction goals, the specific metrics that must be met and when, and when these goals were established.

Table 2. Carbon reduction goals of various states, and their issuance dates.

State	Interim Carbon Goal	Issuance	Final Carbon Goal	Issuance
California	2030 - 40% below 1990 levels	2016	2045 - net zero	2018
Hawaii	-	-	2045 - net zero	2018
Maine	2030 - 45% below 1990 levels	2019	2050 - net zero	2019
Massachusetts	2020 - 25% below 1990 levels	2008	2050 - net zero	2020
Michigan	2025 - 28% below 2005 levels	2019	2050 - net zero	2020
New York	2030 - 40% below 1990 levels	2019	2050 - net zero	2019
Washington	2030 - net zero* 2030 - 45% below 1990 levels	2019* 2020	2045 - no emissions* 2050 - net zero	2019
*Electricity sector only. Other goals are industry-wide.				

Due to the significant differences in both the details of the various states goals, as well as differences in state and local regulations, additional legislative mandates, established utility resource planning parameters, market structures, and other additional metrics, it is difficult to apply solutions and practices from another jurisdiction directly to Michigan. While Staff found significant details on the development of tools and processes to help facilitate the procurement of non-emitting generation resources, there was more limited information included specific to the implementation of these metrics into the utility planning processes. Some states utilized a credit system similar to the renewable energy credit system that has been established in Michigan for the purpose of renewable portfolio accounting. Others instituted an economic tax or penalty for utilization of carbon emitting resources. One commonality between multiple plans, including in Michigan, is the use of a Climate Council to develop a multi-phased implementation plan to achieve these goals (ME, NY, WA). Overall, there was no clear methodology established in another state that Staff found to be applicable for adoption in Michigan IRPs. A summary of Staff's research into each state, as well as links for additional information is provided in Appendix A.4: Update to IRP Process in Other States with Carbon Reduction Goals.

4.3 Stakeholder Feedback

At the November 6, 2020 stakeholder meeting for this workgroup, Staff requested feedback from parties on both its straw proposal, and the alternate proposals presented by I&M and the Joint Commenters. The deadline to provide this feedback to Staff was extended to November 25, 2020 at the request of stakeholders. Staff received comments from seven parties: The Association of Businesses Advocating for Tariff Equity (ABATE), the American Council for an Energy Efficient Economy (ACEEE), Michigan Energy Innovation Business Council (MEIBC), Armada Power, DTE Energy, the Joint Commenters, and Consumers Energy. A complete version of all parties' comments is provided as Appendix A.3: Stakeholder Feedback on Proposals.

Staff received feedback from stakeholders representing a wide variety of interests in the energy sector, including investor-owned utilities, industry groups, technology developers, and advocacy groups. As could be expected from such a wide-ranging set of stakeholders, comments on the different proposals varied widely in content and focus. Generally, stakeholders were appreciative of the scope and depth of topics considered by this workgroup; emphasizing that significant refinement of utility planning processes would be necessary to plan for a carbon free future by 2050. The following is a partial list of topics highlighted by Stakeholders for further consideration: the need for equitable evaluation of non-wires alternatives and other non-traditional technologies, the need for a coordinated generation analysis for all retirement decisions, and the contributions of energy efficiency to building electrification.

Stakeholders varied in their views of Staff's and others' proposals: some commented with general support for options 1 and 2 of Staff's proposal, opposing option 4 as it extends modeling past the legislatively established planning horizon. Some stakeholders generally opposed the Joint Commenters proposal, citing its requirements to account for emissions outside of the Company's control as being too prescriptive and overly burdensome, as well as outside of the scope of an IRP. Other stakeholders supported the idea that utilities should account for the necessary emissions reductions to achieve the economy-wide goals of the Governor's executive actions. Stakeholders had a wide range of views about the effect of electrification on utility load growth. The Joint Commenters also proposed that all the MIRPP scenarios account for these economy-wide carbon reduction goals and the utilities role in achieving them. Several commenters agreed that further updates to the MIRPP or filing requirements to adopt these goals should continue to be discussed and evaluated in future meetings.

5. Recommendations

After consideration of the different proposals presented during the workgroup's stakeholder meetings, stakeholder discussion, examining best practices in other states, and reviewing the written feedback solicited from stakeholders, Staff has developed its final set of recommendations for the Commission to consider. As explained further in Section 5.1, Staff is providing its final recommended proposal for utilities filing before updates to the MIRPP and IRP Filing Requirements are finalized by the Commission, expected by the end of 2022, referred to as the 'Near-term Carbon Reduction Options' proposals, or Near-term filings. Due to the timing of these recommendations, Staff expects significant further development needed to create a proposal for utility IRPs filed after the next update to the MIRPP and IRP Filing Requirements are approved by the Commission, referred to as Long-term filings. Opportunities to develop these additional proposals, and to ensure these changes are reflected in the MIRPP and IRP filing requirements, will occur in later phases of the Advanced Planning Processes workgroup and are expected to be included in the May 27, 2021 Staff report to the Commission.

5.1 Selected Proposal

Near-term Carbon Reduction Options

(effective for IRP's filed before the next updates to the MIRPP and IRP Filing Requirements are approved by the Commission)

Staff recommends the following options in response to the carbon reduction goal stated in ED 2020-10. The Executive Directive identifies the Michigan Department of Environment, Great Lakes and Energy (EGLE) as leading the carbon reduction effort, therefore Staff's recommendations are offered as a near-term approach to illustrating what achieving the goals of ED 2020-10 may look like. Longer term methodologies will continue to be discussed in the context of the Phase II and Phase III Advanced Planning workgroup. Further discussion will integrate guidance available as a result of EO 2020-182 directing "the Department of Environment, Great Lakes, and Energy, through its Office of Climate and Energy, to develop, issue and oversee the implementation of the MI Healthy Climate Plan."[34]

Staff's recommendations take into account stakeholder responses to this topic, while also honoring the tight timelines for those utilities planning Near-term filings by aiming to build upon information that is, to the extent possible, part of the current MIRPP. Staff's overarching recommendation is that all utilities filing a Near-term IRP model one scenario that achieves the goals of ED 2020-10. Staff offers two options that evaluate a slightly different path toward achieving the net zero carbon emissions goal by 2050.

One of Staff's considerations hinged on the interpretation of compliance with ED 2020-10. Of consideration is whether compliance with this directive could be met by instituting requirements to model the stated interim goal of 28% carbon emissions reduction by 2025 from 2005 amounts, or if utilities would be required to consider the carbon emissions of the entire economy in its model. If required to consider the impact of the entire economy on carbon emissions, the assumption of a slower decarbonization transition in other sectors, such as transportation and industrial sectors, necessitates the electric power sector exceed the interim goal for the purpose of making up for the under-achievement in carbon emissions reductions in other sectors. Based upon stakeholder feedback, and without additional guidance from EGLE, Staff applied a separate interim 2025 goal for each option presented: a 28% and 32% reduction for options 1 and 2, respectively. Staff considered the analysis performed by the Joint Commenters when developing option 2's interim goal. Staff developed this goal by accounting for the necessary carbon emissions reduction in the energy sector to achieve an economy-wide reduction in carbon emissions of 28% by 2025, assuming other sectors continue to reduce carbon at historical rates. Staff's analysis is similar to the one performed by the Joint Commenters but differed in its assumption on other sectors continuing to reduce carbon emissions at a rate similar to historical levels.

Another of Staff's consideration was the overall impact of electrification on utility load growth. Staff clearly understands that there are a multitude of variables to consider when evaluating the overall impact of electrification on load growth. Some stakeholders believe that the impact of electrification will result in significant load growth for the utility, while others view electrification as resulting in flat or declining load. Both outcomes bare significant risk to ratepayers. Future MIRPP and filing requirement

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[34] *https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-540277--,00.html#:~:text=Executive%20Order%202020%2D182%3A%20Council%20on%20Climate%20Solutions,-EXECUTIVE%20ORDER&text=The%20science%20is%20clear%2C%20and,largely%20responsible%20for%20this%20change., retrieved 12/4/20.*

updates should include discussion about appropriate load forecast assumptions that allow for full evaluation of the risk associated with an increased need for grid resources with the risk of stranded investments in both existing and new resources.

Staff's near-term options aim to leverage data to build the scenario that simply alters an existing scenario specified as part of the current MIRPP, leveraging information that is already available to utilities. Both options will provide necessary information to the Commission about paths toward carbon neutrality for each of the utilities filing an IRP in the near-term.

Option 1

Perform one additional IRP modeling run to illustrate a path toward an electrification future and meet the interim goal of 28% carbon reduction by 2025 and continue along a trajectory toward net zero carbon emissions by 2050, as stated in ED 2020-10. This approach will help identify potential risks of this future scenario, such as consideration for resource interconnections and overall system reliability.

- Run the Environmental Policy scenario as defined in the MIRPP[35] and apply the Company's proposed course of action through the 15-year planning horizon, including the following changes in that run. Allow the model to build additional resources as needed.[36]
- Reduce carbon emissions by at least 28% of the utility's 2005 amounts by 2025, accomplished by modeling a hard cap on carbon emissions in 2025. Demonstrate a reasonable path to achieving carbon neutrality in 2050 by continuing to reduce carbon emissions through the end of the planning horizon.
- Apply a high load growth through the study period of 2% annually, up from the required 1.5% sensitivity included in the MIRPP Environmental Policy scenario. The increase in annual load growth will reflect an increase in load due to electrification.
- Include all carbon emissions for owned generation units, power purchase agreements, MISO market energy purchases, and electricity used for the organization. Compare the projected carbon reduction achieved by the model through the 15-year planning horizon to the 2025 goal of a 28% carbon reduction and illustrate a trendline to the eventual 2050 goal. Given the likelihood of significant carbon emissions reductions occurring in single year intervals coinciding with the retirement of existing high-capacity fossil-fueled generation, this trendline should be levelized to provide the analogous annual emissions reduction rate through the planning horizon and beyond. Supply supporting evidence with necessary testimony and exhibits, including identifying any years in the planning horizon in which the model varies in carbon emissions significantly from the trendline, why this variation is occurring, and any actions planned to ensure the utility will stay on track to meet the 2050 goal.

[35] *11/21/17 Order, MPSC Case No. U-18418, Exhibit A, pp 20-21.*

[36] *Staff is not recommending that utilities model out to the 2050 carbon neutrality goal timeframe, due to declining certainty in projections over a thirty-year timeframe.*

- Provide exhibits that chart carbon emissions reductions through the 15-year planning horizon and illustrate the continued carbon emissions reduction trajectory necessary to meet the 2050 goal. Include exhibits that provide annual projected emissions for CO2, SOx, NOx, Mercury, and PPM through the 15-year planning horizon for the proposed course of action and each scenario optimized plan, including any additional scenarios developed by the utility. A copy of all exhibits in their native format, with all formulae intact, should be provided in additional documentation that accompanies the IRP filing.
- This additional modeling run would apply to utilities who serve customers in MISO local resource zone 7 (Lower Peninsula) as well as local resource zone 2 (Upper Peninsula). Utilities serving customers in the Upper Peninsula may not have included the Environmental Policy scenario in previous IRPs, as provided for in the MIRPP previously approved by the Commission.[37]

Option 2

Perform one additional IRP modeling run to illustrate a path toward an electrification future and achieve an increased interim goal for the electric sector of a 32% reduction in carbon emissions from 2005 levels by 2025. This option increases the interim 2025 goal beyond the 28% carbon emissions reduction specified in ED 2020-10. This interim goal is responsive to stakeholder feedback and analysis that attempted to calculate the additional near-term carbon reductions the electric power sector would need to make to achieve an economy-wide reduction in carbon emissions of 28% by 2025. This option assumes that historical emissions reduction trends in other sectors will continue.

- Run the MIRPP Environmental Policy scenario [38] and apply the proposed course of action through the 15-year planning horizon, including the following changes in that run. Allow the model to select additional resources as needed.
- Decrease carbon emissions more aggressively by achieving at least a 32% reduction in utility carbon emissions by 2025 from 2005 amounts, modeled as a hard cap on carbon emissions in 2025. Demonstrate a reasonable path to achieving carbon neutrality in 2050 by continuing to reduce carbon emissions through the end of the planning horizon.
- Apply a high load growth through the study period of 2% annually, up from the required 1.5% sensitivity included in the MIRPP Environmental Policy scenario. The increase in annual load growth will reflect an increase in load due to electrification.
- Include all carbon emissions for owned generation units, power purchase agreements, MISO market energy purchases, and electricity used for the organization. Compare the projected carbon emissions reduction achieved by the model through the 15-year planning horizon to the 2025 goal of a 32% carbon emissions reduction and illustrate a trendline to the eventual 2050 goal. Given the likelihood of significant carbon emissions reductions occurring in single year

[37] *11/21/17 MPSC Order in Case No. U-18418, Exhibit A, pp. 20-23.*
[38] *Id, at pp 20-21.*

intervals coinciding with the retirement of existing high-capacity fossil-fueled generation, this trendline should be levelized to provide the analogous annual emissions reduction rate through the planning horizon and beyond. Supply supporting evidence with necessary testimony and exhibits, including identifying any years in the planning horizon in which the model varies in carbon emissions significantly from the trendline, why this variation is occurring, and any actions taken to ensure the utility will stay on track to meet the 2050 goal.

- Provide exhibits that chart carbon emissions reduction through the 15-year planning horizon and illustrate the continued carbon emission reduction trajectory necessary to meet the 2050. Include exhibits that provide annual projected emissions for CO2, SOx, NOx, Mercury, and PPM over the 15-year planning horizon, and through 2050 for the preferred plan and each scenario optimized plan including any additional scenarios developed by the utility. All exhibits should be provided in their native format, with all formulae intact, in the workpapers included in the IRP filing.
- This additional modeling run would apply to utilities who serve customers in MISO local resource zone 7 (Lower Peninsula) as well as local resource zone 2 (Upper Peninsula). Utilities serving customers in the Upper Peninsula may not have included the Environmental Policy scenario in previous IRPs, as provided for in the MIRPP previously approved by the Commission.[39]

Multi-state utilities filing before the next update to the MIRPP and IRP Filing Requirements

Staff recommends that the Commission direct multi-state utilities to perform an additional modeling run that shows how its Michigan service territory will meet the carbon emissions reduction goals set forth in ED 2020-10. MCL 460.6t. section 4 requires the Commission to accept an integrated resource plan filed in another state for the purposes of filing in this state. That same section of the statute allows the Commission to "require supplemental information if necessary as part of its evaluation and determination of whether to approve the plan."[40] Staff finds that this additional modeling run is necessary to provide supplemental information to ensure multi-state utilities are on track to meet the carbon emissions goals of ED 2020-10..

The impact on multi-state utilities is different than the impact on utilities whose service territory is fully contained within the Michigan State boundaries. The impact of an electrification future in Michigan would potentially increase the Michigan portion of the total multi-state utility load. The interim carbon goal should be appropriately proportioned to reflect the amount of the utility's Michigan service territory load as a portion of the total utility's system load, while considering anticipated load growth in the rest of the utility's service territory that may not have the same carbon emission reduction goals as Michigan. For example, if the Michigan portion of a multi-state utility's load represents 25% of its total service territory load and a 50% carbon emission reduction is required by a specific year then that

[39] *Id, at pp. 20-23.*
[40] *MCL 460.6t, Section (4).*

utility would be expected to achieve a 12.5% carbon reduction to meet the ED 2020-10 goal for its Michigan service territory, (25%*50%=12.5%).

In the alternative, the Commission could allow multi-state utilities more flexibility to demonstrate compliance with the carbon emission reduction goals. This would require that supporting testimony and exhibits provide clear information from the multi-state utility's existing scenarios that illustrate an electrification and carbon neutral future in its Michigan service territory. This supporting evidence must show the overall impact to load, utility resources, and emissions and demonstrate a path towards the ED 2020-10 carbon emission reductions.

5.2 Next Steps for Incorporation of Proposal into IRP Planning Process

This report will be filed in the docket for Case No. U-20633 by 5:00 PM (EST) on December 15, 2020. Stakeholders are encouraged to provide comments on the report, to the docket, on or before January 12, 2021 at 5:00 PM (EST). Staff recommends the Commission select one option for utilities filing IRPs before the next updates to the MIRPP and IRP Filing Requirements are finalized, and one option for multi-state utilities to meet the goals of ED 2020-10. As stated in Section 5.1, discussions will continue in Phases II and III of the MI Power Grid Advanced Planning processes work group on the development of a proposal for utilities filing after the next updates to the MIRPP and IRP Filing Requirements are approved by the Commission, expected in 2022. A proposal for the long-term filings will require updates to the MIRPP and IRP filing requirements, and its implementation will include any guidance from EGLE and the Council on Climate Solutions that is available to Staff at that time.

Staff appreciates the robust involvement of the various stakeholders in the workgroup sessions so far. Utility and stakeholder participation have been invaluable to the development of this report. Continued participation is vital to this process as Staff and the Commission consider future updates to the MIRPP and IRP filing requirements necessary to model and plan for the carbon emission reduction goals set forth in the Governor's executive actions