

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case 18-4166-PET

Petition of Green Mountain Power Corporation for approval of its 2018 Integrated Resource Plan	
--	--

Order entered: 09/26/2019

**FINAL ORDER APPROVING GREEN MOUNTAIN POWER CORPORATION'S
2018 INTEGRATED RESOURCE PLAN**

In today's Order, the Vermont Public Utility Commission ("Commission") adopts the conclusions and recommendations in the Hearing Officer's proposal for decision and directs Green Mountain Power Corporation ("GMP") to maximize opportunities for public input when developing its next integrated resource plan.

**PROPOSAL FOR DECISION APPROVING GREEN MOUNTAIN POWER CORPORATION'S
2018 INTEGRATED RESOURCE PLAN**

This proceeding concerns the 2018 least-cost integrated resource plan ("IRP") filed by Green Mountain Power Corporation ("GMP") on December 10, 2018, for approval by the Commission pursuant to 30 V.S.A. § 218c. In this proposal for decision, I recommend that the Commission approve the revised 2018 IRP filed on March 6, 2019 (Table of Contents, Chapters 1 and 6-9, and Appendices) and March 25, 2019 (Chapters 2-5), subject to conditions. I also recommend that the Commission adopt the memorandum of understanding ("MOU") entered between GMP and the Vermont Department of Public Service ("Department") and filed on June 14, 2019.

I. PROCEDURAL HISTORY

On December 10, 2018, GMP filed its 2018 IRP and requested that the Commission approve it pursuant to 30 V.S.A. § 218c.

On December 27, 2018, the Commission issued a scheduling order, notice of prehearing conference, and information request.

On January 11, 2019, GMP filed a response to the Commission's December 27 request.

On January 14, 2019, the Department filed comments stating that it concurred with GMP's January 11 response to the Commission.

On January 23, 2019, a prehearing conference was held in this proceeding.

On January 25, 2019, GMP filed a response to Commission questions raised in the prehearing conference about what GMP had done to date regarding customer outreach for the 2018 IRP.

On January 29, 2019, Roy John Van Steinburgh filed a public comment stating that his cross-country distribution line is inadequately maintained by GMP.

On February 5, 2019, a prehearing conference and scheduling order was issued. The Commission also directed GMP to file a guide to where the 2018 IRP addressed improvements that were requested in the Commission's approval of GMP's last IRP – the "2014 IRP."¹

On February 8, 2019, GMP filed a guide to where the 2018 IRP addressed improvements that were required as conditions of the Commission's approval of the 2014 IRP.

On February 21, 2019, a status conference was held to discuss the status of GMP's and the Department's positions on topics to be explored further throughout the coming year in lieu of attempting to resolve them in the 2018 IRP.

On February 27, 2019, GlobalFoundries U.S. 2 LLC ("GlobalFoundries") filed a motion to intervene and the Department filed a response stating that it had no objection to GlobalFoundries' motion to intervene.

On March 4, 2019, Renewable Energy Vermont ("REV") filed a motion to intervene.

On March 6, 2019, GMP filed revisions to the 2018 IRP based on the Department's review.

On March 8, 2019, the Commission issued a memorandum requesting that GMP respond to questions about the 2018 IRP by March 20, 2019.

On March 12, 2019, a public hearing was held in Rutland, Vermont.

On March 18, 2019, a public hearing was held in Montpelier, Vermont.

¹ *Petition of Green Mountain Power Corporation for approval of its 2014 Integrated Resource Plan*, Docket No. 8397, Order of 7/29/15.

On March 18, 2019, the Department filed written comments in response to the Commission's inquiries at the February 21 status conference, and in response to GMP's February 8 filing.

On March 20, 2019, a public hearing was held in Brattleboro, Vermont.

Also, on March 20, 2019, GMP filed a response and supporting documents in response to the Commission's March 8 memorandum.

On March 25, 2019, GMP filed a response to the motions to intervene as well as minor editorial revisions to several sections of the IRP.

On March 26, 2019, the Commission conducted a workshop in this proceeding.

On April 1, 2019, the Department filed a response to REV's motion to intervene stating that it had no objection to the motion.

On April 10, 2019, GMP filed a response to the Commission's requests from the March 26 workshop.

On April 12, 2019, the Commission issued an order granting GlobalFoundries' and REV's motions to intervene and establishing the next steps in the proceeding.

On April 24, 2019, the Department filed information in response to the Commission's inquiries at the March 26 workshop.

On May 2, 2019, the parties filed a joint proposed schedule for the next steps in the proceeding.

On May 3, 2019, GMP filed an additional response to the Commission's inquiries at the March 26 workshop.

On May 10, 2019, the Commission issued a second scheduling order.

On June 10, 2019, the Commission requested that GMP respond to the public comment filed in the case.

On June 14, 2019, GMP filed an MOU between GMP and the Department – the "2019 MOU," testimony, and a brief.

Also, on June 14, 2019, the Department filed a brief recommending that the Commission approve the 2018 IRP. The Department concluded that the 2018 IRP meets the requirements of

30 V.S.A. § 218c, the Department's 2016 IRP Guidance,² and the 2015 memorandum of understanding entered by GMP, the Department, and the Vermont Energy Investment Corporation and approved by the Commission as a part of its approval of GMP's 2014 IRP.

Also, on June 14, 2019, GlobalFoundries filed a brief requesting that the Commission direct GMP in its *next* IRP filing to present scenarios for lowest present-value life-cycle costs that take into consideration the requirements of 30 V.S.A. § 218e.³

On June 25, 2019, the Commission issued an order requesting that any comments on the briefs be filed by July 5, 2019.

On June 28, 2019, GMP filed comments on GlobalFoundries' brief in which it stated that, while its 2018 IRP fully complied with all statutory requirements, it had no objection to specifically addressing industrial customers in its next IRP as provided in 30 V.S.A. § 218e.

On July 1, 2019, GMP filed a response to the public comment filed in the case.

No other comments or requests for hearing were received.

No party requested an evidentiary hearing or objected to the prefiled testimony and exhibits. Accordingly, the following prefiled testimony and exhibits are admitted as if presented at a hearing: 2018 IRP filed on March 6, 2019 (Table of Contents, Chapters 1 and 6-9, and Appendices) and March 25, 2019 (Chapters 2-5) (referred to collectively as exhibit GMP-1); Josh Castonguay testimony; the 2019 MOU (referred to as exhibit Joint-1); Response of Green Mountain Power to Commission Request filed on January 11, 2019 (referred to as exhibit GMP-2); Green Mountain Power's Response to Public Utility Commission Information Requests filed on March 20, 2019 (referred to as exhibit GMP-3); Green Mountain Power's Response to Public Utility Commission Workshop Information Requests filed on April 10, 2019 (referred to as exhibit GMP-4); and Green Mountain Power's Response to Public Utility Commission Information Requests filed on May 3, 2019 (referred to as exhibit GMP-5).

² See Appendix B: Guidance for Integrated Resource Plans and 202(f) Determination Requests, available at: https://publicservice.vermont.gov/publications-resources/publications/energy_plan.

³ Section 218e states that implementation of the State's energy policy should "encourage recruitment and retention of employers providing high-quality jobs and related economic investment and support the State's economic welfare; and appropriately balance the objectives of this section with the other policy goals and criteria established in this title."

II. PUBLIC COMMENTS

Several members of the public attended the Rutland public hearing. One requested clarification of the purpose of the hearing and the IRP. Another commented that she thought the public notification for the event could be improved upon.

No members of the public attended the Montpelier public hearing.

Three members of the public provided comments at the Brattleboro public hearing. One commenter stated that she hoped GMP used the IRP to plan for meeting the State's renewable energy goals. Another commenter stated that he thought GMP does a good job, is committed to providing green energy in Vermont, and restores power during outages very quickly. This commenter stated that he recently installed a roof-top solar array and two Powerwalls. A third commenter also stated that he had a solar array and a Powerwall installed and was pleased that GMP was very responsive in turning on the system once it was installed.

One member of the public, Mr. Van Steinburgh, filed a written public comment expressing dissatisfaction with the length of time his home was without power during 2018 (217 hours), recommending that GMP manage the vegetation more aggressively along the cross-country distribution line servicing his home, and recommending that the circuit servicing his home be upgraded or relocated.

In response to Mr. Van Steinburgh's comment, GMP noted that Mr. Van Steinburgh's home is served from distribution lines fed from the Sherburne Substation, which is served off a 9.3-mile-long single-source cross-country transmission line, and that Mr. Van Steinburgh's home is fed off a circuit that is one of the 20 worst circuits in GMP's territory. GMP stated that for customers like Mr. Van Steinburgh, who are served by cross-country lines, GMP has been implementing a program to relocate and storm-harden those lines to improve reliability, particularly for customers who are fed off its 20 worst circuits. GMP stated that it is currently studying a project to establish a networked transmission system between the Mendon and Sherburne Substations, which would allow the Sherburne Substation to stay in service for faults on the 9.3-mile-long line. GMP stated that it may be able to begin the permitting process for that project as early as 2020. Additionally, GMP stated that it is currently planning to try to underground a portion of the line feeding Mr. Van Steinburgh's home and that it may be able to start construction as early as this fall.

III. FINDINGS

2018 IRP

1. The 2018 IRP includes background information about GMP's current business and systems and an analysis of regional trends in the electric industry. Exh. GMP-1 at Sections 1-1 through 1-21, and 3-1 through 3-27.
2. The 2018 IRP contains a 10-year load forecast, which accounts for the adoption of energy efficiency measures; distributed energy resources; and beneficial electrification measures, including electric vehicles and cold-climate heat pumps. The 2018 IRP also models different scenarios regarding the rate of adoption of those measures. Exh. GMP-1 at Sections 4-1 through 4-34.
3. The 2018 IRP includes analyses of GMP's existing power supply portfolio, GMP's reference portfolio, and an illustrative future portfolio, and provides the greenhouse gas emissions profile for each. Exh. GMP-1 at Sections 5-1 through 5-52, and 8-1 through 8-64; exh. GMP-4 at 2-3.
4. Due to several factors, GMP used an illustrative future portfolio, rather than a set of alternative options. Unlike in previous IRPs, GMP's open energy positions are modest, intentional, and several years out, and its portfolio consists largely of long-term committed sources that will remain in place over the next decade. Additionally, the 2018 IRP is informed by the Renewable Energy Standard (which did not exist when GMP developed previous IRPs), which establishes renewable energy requirements (referred to as Tier I and Tier II requirements), provides guidance for the types of resources utilities should pursue, and establishes the pace at which utilities should pursue those resources. Josh Castonguay, GMP ("Castonguay") pf. at 3-4; exh. GMP-1 at Sections 8-1 through 8-64; exh. GMP-3 at 36-37.
5. The 2018 IRP also includes projections and analyses regarding how GMP will comply with the energy transformation project portion of the Renewable Energy Standard (referred to as Tier III). Exh. GMP-1 at Sections 4-12 through 4-31; exh. GMP-3 at 10-11.
6. The 2018 IRP contains analyses of GMP's transmission and distribution system, including an analysis of its current state; upgrades completed since GMP's 2014 IRP, upgrades underway, and upgrades planned for 2020 and later; a description of GMP's planning process for maintaining its transmission and distribution system; and an analysis of the capability of the

system to handle increasing levels of distributed generation. Exh. GMP-1 at Sections 6-1 through 6-62 and Appendix C; exh. GMP-3 at 37-38; exh. GMP-5 at 1.

7. The 2018 IRP describes GMP's vegetation management program; procedures for severe weather events, emergencies, and outages; and reliability efforts. Exh. GMP-1 at Sections 6-1 through 6-62, and Appendix D; exh. GMP-3 at 26-31; exh. GMP-4 at 5; exh. GMP-5 at 1-4.

8. The 2018 IRP contains an action plan for implementing the conclusions and objectives identified in the IRP. Exh. GMP-1 at Sections 9-1 through 9-2.

9. As required by the Commission's Order approving GMP's 2014 IRP, the 2018 IRP incorporates methodological improvements, as discussed below.

- a. GMP provided public notice of the 2018 IRP by posting to its website, accessible from the home page, the full IRP and a blog summarizing the IRP; issuing a press release about the IRP to all Vermont media outlets; providing on-bill noticing of the IRP and the public hearings about the IRPs; and doing outreach to Town Energy Committees. Exh. GMP-2 at 1-3; Tr. 3/26/19 at 18 (Kelly).
- b. The 2018 IRP quantifies and integrates distributed energy resources, with emphasis on responsive demand resources and GMP's innovative pilots and program. Exh. GMP-1 at Sections 2-6 through 2-17, 4-6 through 4-26, 5-32 through 5-42, 6-23 through 6-27, 6-31 through 6-36, 6-52 through 6-55, and 8-1 through 8-64.
- c. The 2018 IRP discusses GMP's web-based distributed energy resource map, which provides the public with location-specific technical grid information that can assist individuals in determining where distributed energy resources may be more or less costly to interconnect. Exh. GMP-1 at Sections 6-25 through 6-27; exh. GMP-3 at 22-23.
- d. The 2018 IRP includes information about GMP's innovative pilots, including the potential number of participants and potential costs and savings. Exh. GMP-1 at Sections 2-6 through 2-17, 4-12 through 4-22, 6-31 through 6-32, 7-11 through 7-13, and Appendix B at 22-23.
- e. The 2018 IRP as a whole demonstrates coordination among several sub-organizations within GMP, including Power Supply, Transmission and Distribution Planning, Engineering, Rates/Finance, and Innovation. Exh. GMP-1.

- f. The 2018 IRP uses common metrics that may be used in current and future planning processes, including metrics used by the Department, Efficiency Vermont, Vermont Energy Investment Corporation, the Technical Advisory Group, and the Vermont System Planning Committee. Exh. GMP-1 at Sections 4-7, 4-13 through 4-14, 4-18, 6-9 through 6-12, and 6-28.
- g. The 2018 IRP includes expected revenue requirement impacts and assesses how the trends that are driving those impacts affect GMP's cost-of-service filings. Exh. GMP-1 at Sections 7-1 through 7-22.
- h. The 2018 IRP uses common assumptions for load forecasting, including data developed by Vermont Energy Investment Corporation, Vermont Electric Power Company, Inc. and Vermont Transco, LLC, and the Vermont System Planning Committee. Exh. GMP-1 at Sections 4-12 through 4-22, and Appendix B at 6, 17-18.
- i. The 2018 IRP depicts the load forecast before and after the incorporation of energy efficiency. Exh. GMP-1 at Appendix B at 17-18.
- j. The 2018 IRP uses heating and cooling degree-day trends instead of flat multi-year averages. Exh. GMP-1 at Sections 4-31 through 4-32.
- k. The 2018 IRP considered and quantified the magnitude and timing of distributed energy resources on GMP's peak and total energy requirements. Exh. GMP-1 at Sections 4-12 through 4-22, 5-1 through 5-52, 6-31 through 6-32, and Appendix B.

MOU

10. GMP and the Department agree that the 2018 IRP should be approved by the Commission, pursuant to 30 V.S.A. § 218c(b), because it includes a decision-making framework that will meet the need for energy services, after safety concerns are addressed, at the lowest present-value life-cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission and distribution capacity, transmission and distribution efficiency, and comprehensive energy efficiency programs. Exh. Joint-1 at 4 and 7.

11. GMP and the Department agree that the 2018 IRP includes a decision-making framework that will comply with the Renewable Energy Standard established under 30 V.S.A. §§ 8004 and 8005. Exh. Joint-1 at 4.

12. GMP and the Department agree that the 2018 IRP is consistent with the State's Comprehensive Energy Plan. Exh. Joint-1 at 4.

13. GMP and the Department agree that the 2018 IRP incorporates and satisfies the 2015 MOU conditions incorporated into the Commission's Order approving GMP's 2014 IRP. Exh. Joint-1 at 4.

14. GMP and the Department agree that approval of the 2018 IRP will constitute approval of the decision-making process described in the IRP only and will not constitute approval of any of the specific decision-making tools, analytical methods, or outcomes described in the IRP. Exh. Joint-1 at 4.

15. Under the MOU, GMP and the Department have agreed to explore the following topics in greater detail throughout the coming year:

- a. Portfolio Analysis. GMP will engage with the Department with respect to the appropriate quantitative methods to evaluate multiple competing electricity supply portfolios, and to identify and demonstrate the merits of the preferred resource supply portfolio.
- b. Grid modernization/distribution system planning. GMP will engage with the Department and other stakeholders through formal and/or informal processes on the topic of distribution system planning and grid modernization. "Formal process" will include a grid modernization docket, if one is opened by the Public Utility Commission. "Informal process" will include Department-led discussions commencing in 2019, to culminate in potential inputs into GMP's next IRP. "Grid modernization" and "distribution system planning" are understood to refer to the process of identifying how to build the distribution system and integrate non-wires solutions to integrate and optimize distributed energy resources and other aspects of a rapidly evolving energy ecosystem while maintaining and improving safety and reliability, consistent with the State's energy policies, goals, and longstanding least-cost planning principles. GMP also plans to collaborate further with the Department

- and other distribution utilities to determine the locational value of distributed energy resources. GMP will continue working with the Department on specific analyses such as the impacts of electric vehicle penetration and electrification of heating on the distribution system.
- c. Rate design. GMP will continue to participate as an effective collaborator and contributor to Department-led processes and potential future Commission efforts to foster advancements in rate design in service of objectives for grid modernization and distribution system planning, and will report on and analyze the outcomes of those processes in its next IRP.
 - d. Market-based mechanisms. GMP will consult and collaborate with the Department to establish an appropriate approach for GMP to periodically issue requests for information, requests for proposals, or similar methods to inform its system needs and to collect data and input from third parties to aid the selection of preferred least-cost solutions that allow for a fuller consideration of wires and non-wires solutions at the distribution-system level.

Exh. Joint-1 at 5.

16. Under the MOU, GMP has agreed to engage with the Department and other stakeholders, as follows, before filing its next IRP:
- a. Approximately one year before filing, GMP will schedule a kick-off meeting with the Department to discuss components of the next IRP and a meeting schedule.
 - b. During the year before filing, GMP will initiate meetings with the Department to discuss each topic area/chapter of the forthcoming IRP, including Forecasting, Power Supply, Transmission & Distribution System Planning, and Portfolio Analysis. GMP will provide a draft chapter outline to the Department before each subject-matter meeting.
 - c. GMP will provide the Department with a comprehensive draft at least one month before the deadline for filing the final plan with the Commission. This draft should demonstrate a measure of consistency with its existing or any proposed regulation plan, and the ensuing traditional rate case for fiscal year 2023 due to be filed no later

than January 15, 2022. GMP will consider incorporating the Department's comments before filing its final plan with the Commission.

- d. GMP will either (a) incorporate its IRP draft planning into one of its publicly noticed meetings required pursuant to the Multi-Year Regulation Plan in Docket 18-1633-PET or (b) schedule a publicly noticed meeting including customers and other stakeholders to gather feedback before filing its plan with the Commission.

Exh. Joint-1 at 6.

17. Under the MOU, GMP has agreed to incorporate the following methodological improvements:

- a. GMP will discuss, analyze, and incorporate wherever appropriate the methodological improvements and outcomes of processes set forth in Paragraph 28 of the MOU, including rate design, market mechanisms, and portfolio planning, in its next IRP.
- b. An analysis of distribution-level impacts of electrification of transportation and heating (based on observed spatial patterns of such deployment and/or a proxy such as the historical deployment distribution of net-metering, batteries, etc.) and an assessment of strategies to manage these new loads to minimize integration challenges and costs. GMP may utilize a sample set of circuits that represent a cross section of the system to inform its assumptions regarding future distribution of electric vehicles and electric heating.
- c. An implementation or action plan that includes the elements identified in Section 6.4 of the Department's Appendix B: Guidance for Integrated Resource Plans and 202(f) Determination Requests.
- d. GMP's next IRP will include the methodological improvements identified in paragraph 14 of the MOU filed on March 11, 2015, in Docket 8397, which GMP and the Department agree are binding on all subsequent GMP IRPs.

Exh. Joint-1 at 6-7.

18. Under the MOU, GMP has also agreed to include the following addition to its next IRP:

- a. Grid modernization/distribution system planning. GMP will include a section in its next IRP addressing the concepts of grid modernization and distribution system planning (as those terms are explained in Paragraph 28 of the MOU), unless providing such information is superseded by a formal process directing the manner and content of a grid modernization/distribution system planning effort. Otherwise, GMP's IRP will be responsive to the outcomes of any formal grid modernization/distribution system planning effort. Exh. Joint-1 at 7.

19. GMP and the Department agree that GMP will file its next IRP on or before December 10, 2021. Exh. Joint-1 at 8.

IV. DISCUSSION

Section 218c of Title 30 of the Vermont Statutes Annotated sets out the statutory standards that the 2018 IRP must meet. Section 218c(a)(1) defines a "least cost integrated plan" as:

a plan for meeting the public's need for energy services, after safety concerns are addressed, at the lowest possible present value life cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission, and distribution capacity, transmission and distribution efficiency, and comprehensive energy efficiency programs.

In addition, Section 218c(a)(1) provides that, in developing a least-cost plan, economic costs shall be determined with due regard to:

- (A) the greenhouse gas inventory developed under the provisions of 10 V.S.A. § 582;
- (B) the State's progress in meeting its greenhouse gas reduction goals;
- (C) the value of the financial risks associated with greenhouse gas emissions from various power sources; and
- (D) consistency with section 8001 (renewable energy goals) of this title.

The statute provides that the Commission may approve a company's least-cost plan if it complies with the requirements of Section 218c(a)(1) and 30 V.S.A. §§ 8004 and 8005 (the Renewable Energy Standard) and is consistent with the Comprehensive Energy Plan issued under 30 V.S.A. § 202(b). In reviewing the 2018 IRP and the MOU, I conclude that the 2018 IRP addresses the statutory standards outlined in 30 V.S.A. § 218c and will promote the general

good of the State. Accordingly, I recommend that the Commission approve the 2018 IRP and accept the MOU.

Although the statute establishes a standard for the review of IRPs, it does not specify what Commission approval of an IRP means. The Commission's overarching goal in reviewing and approving IRPs is to ensure that utilities are engaging in an appropriate process to address the planning components defined by statute. Regarding the details specific to each IRP, the Commission principally relies on the expertise and analytical work of the Department in reviewing the IRP. Therefore, consistent with previous Commission decisions⁴ and as stipulated by GMP and the Department, I recommend that the Commission determine that approval of the 2018 IRP extends to the decision-making processes included in the IRP, but not to the specific decision-making tools, analytical methods, or outcomes described in the IRP.

GMP and the Department have agreed to provisions regarding GMP's next IRP, as explicitly recited in the MOU and stated in the findings above. The MOU includes: topics to be explored throughout the coming year, including grid modernization and rate design; requirements for engagement with the Department and stakeholders before GMP files its next IRP; and methodological improvements. I recommend that the Commission include compliance with the MOU as a condition of its approval of the 2018 IRP, based on the agreement of GMP and the Department and because these measures will enhance the way future IRPs address the statutory requirements of 30 V.S.A. § 218c.

Additionally, at the request of GlobalFoundries, GMP has agreed that in its next IRP it will include a specific discussion that gives due consideration to how the strategies in the IRP are designed to provide electric service while meeting the State energy policy articulated in 30 V.S.A. § 218e. Based on GlobalFoundries' request and GMP's agreement, I recommend that the Commission require GMP to address Section 218e in its next IRP as a condition of its approval of the 2018 IRP.

Finally, utilities are required to file IRPs at least every three years. I recommend that the Commission establish December 10, 2021 (three years from the date that the 2018 IRP was originally filed) as the deadline for GMP's next IRP, as agreed to by GMP and the Department.

⁴ See *e.g.*, Docket 7319, Order of 3/6/2008 at 6; Docket 6895, Order of 7/13/2006 at 8.

V. CONCLUSION

In this proposal for decision, I recommend that the Commission approve the 2018 IRP filed by GMP on March 6, 2019 (Table of Contents, Chapters 1 and 6-9, and Appendices) and March 25, 2019 (Chapters 2-5), and accept the MOU signed by GMP and the Department that was filed on June 14, 2019.

In the MOU, GMP and the Department waived their rights to file comments on a proposal for decision in this proceeding if it was consistent in all material respects with the MOU.⁵ However, not all parties to this proceeding were signatories to the MOU. Therefore, I have circulated this proposal for decision to the parties for their review and comment pursuant to 3 V.S.A. § 811.

Dated at Montpelier, Vermont, this 30th day of August 2019.



Elizabeth Schilling, Esq.
Hearing Officer

⁵ Exhibit Joint-1 at 8.

VI. COMMISSION DISCUSSION

Commission staff circulated the proposal for decision for comment. On September 13, 2019, GMP filed a letter stating that it had no suggested edits to the proposal for decision. The Commission did not receive any other comments on the proposal for decision.

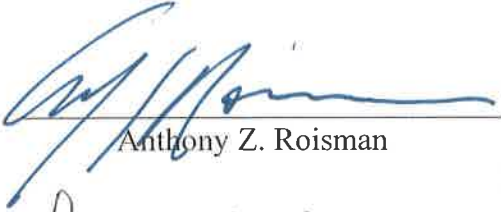
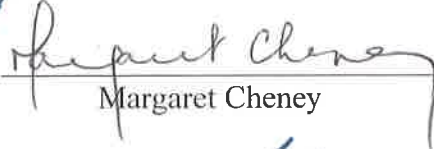

To ensure the public has adequate opportunities to help develop and review GMP's next IRP, the Commission directs GMP to provide opportunities for public input throughout the process of developing its next IRP. The Commission appreciates the MOU condition requiring GMP to provide information about its draft IRP at a publicly noticed meeting before filing its next IRP with the Commission. However, if GMP provides opportunities for public input and engagement during the IRP drafting process, it will ensure that the public's views are accounted for as the IRP is developed, not just after a first draft of the IRP is written. Therefore, the Commission directs GMP to identify and provide opportunities for public input and engagement as the IRP is developed, including at its meetings with the Department, as appropriate. GMP may elicit public input through a variety of means, including public meetings, outreach to groups like town energy committees, social media, the GMP website, and bill stuffers. Additionally, the Commission directs GMP to include a summary in its next IRP of the ways in which it has maximized opportunities for public input regarding the IRP.

VII. ORDER

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Vermont Public Utility Commission that:

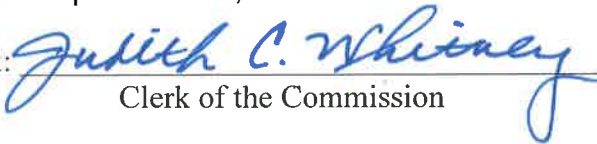
1. The findings and conclusions of the hearing officer are adopted.
2. The Integrated Resource Plan (“IRP”) filed by Green Mountain Power Corporation (“GMP”) on March 6, 2019 (Table of Contents, Chapters 1 and 6-9, and Appendices) and March 25, 2019 (Chapters 2-5), is approved.
3. The attached Memorandum of Understanding (“MOU”) signed by GMP and the Vermont Department of Public Service (“Department”) filed on June 14, 2019, is accepted, and GMP shall comply with all provisions of the MOU.
4. GMP’s next IRP shall include a specific discussion that gives due consideration to how the strategies in the IRP are designed to provide electric service while meeting the State energy policy articulated in 30 V.S.A. § 218e.
5. GMP shall identify and provide opportunities for public input and engagement as the IRP is developed, including at its meetings with the Department, as appropriate. GMP shall include a summary in its next IRP of the ways in which it has maximized opportunities for public input regarding the IRP.
6. GMP’s next IRP shall be filed no later than December 10, 2021.
7. This docket shall be closed.

Dated at Montpelier, Vermont, this 26th day of September, 2019.

)	
Anthony Z. Roisman)	PUBLIC UTILITY
)	
)	
Margaret Cheney)	COMMISSION
)	
)	
Sarah Hofmann)	OF VERMONT

OFFICE OF THE CLERK

Filed: September 26, 2019

Attest: 
 Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 18-4166-PET

Petition of Green Mountain Power Corporation)
for approval of its 2018 Integrated Resource)
Plan)

**MEMORANDUM OF UNDERSTANDING BETWEEN THE VERMONT
DEPARTMENT OF PUBLIC SERVICE AND THE GREEN MOUNTAIN POWER
CORPORATION**

This Memorandum of Understanding (“2019 MOU” or “Memorandum”) sets forth the agreements reached between the Department of Public Service (“Department”) and Green Mountain Power Corporation (“GMP”, “Green Mountain Power” or the “Company”) (together, the “Parties”), regarding the above-referenced petition of Green Mountain for approval of its 2018 Integrated Resource Plan (“2018 IRP”) filed with the Vermont Public Utility Commission (“Commission” or “PUC”).

1. On December 10, 2018, GMP filed a Petition with the Commission seeking approval of its 2018 Integrated Resource Plan (“IRP”) pursuant to 30 V.S.A. § 218c.

2. On December 27, 2018, the Commission issued an Order scheduling a prehearing conference on January 23, 2019, to discuss scheduling and other preliminary matters.

This Order further requested GMP to file additional information by January 11, 2019, and requested the Department file a reply no later than two weeks from the date of GMP’s filing.

3. On January 11, 2019, GMP filed a response to the Commission request.

4. On January 23, 2019, a prehearing conference was held in this proceeding.

5. On January 25, 2019, pursuant to the Commission's request at the prehearing conference, GMP filed a document identifying and explaining the extensive steps GMP took to proactively let customers know about the IRP and to provide full information with context including posting the full IRP on its website, a press release to all Vermont media outlets announcing the filing of the IRP, and an easy to understand blog on its website.
6. On February 5, 2019, the Commission issued a prehearing conference and scheduling order.
7. On February 8, 2019, GMP filed a guide to where the 2018 IRP addresses improvements that were requested in the Commission's approval of GMP's 2014 IRP. In this filing, GMP identified six types of MOU conditions in the 2014 IRP ("2014 MOU Conditions"): collaboration; distributed energy resources; integration; load forecast; public notification; and ongoing commitments. It also explained where and how the 2018 IRP incorporated and satisfied the 2015 MOU conditions.
8. On February 21, 2019, a Status Conference was held, and GMP and the Department provided an update on IRP issues and possible revisions to the IRP.
9. On February 27, 2019, GlobalFoundries U.S., LLC ("GlobalFoundries") filed a Motion to Intervene. No party objected to GlobalFoundries' intervention.
10. Three information sessions followed by public hearings were held in different locations across the state regarding GMP's IRP: Rutland, March 12, 2019; Montpelier, March 18, 2019; and Brattleboro, March 20, 2019. Members of the public attended the Rutland and Brattleboro public hearing, and members of the public attended all three information sessions.

11. On March 4, 2019, Renewable Energy Vermont (“REV”) filed a Motion to intervene in this proceeding. No party objected to REV’s request.
12. On March 5, 2019, and after consultation with the Department, GMP filed minor revisions to the IRP.
13. On March 8, 2019, the Commission Staff issued a memorandum requesting information from GMP regarding the IRP.
14. On March 18, 2019, the Department filed its comments on the 2018 IRP along with proposed additional discussion topics. In this filing, the Department identified topics it wished to explore further with GMP in the coming year. It also concluded that GMP’s 2018 IRP satisfied all of the 2015 MOU Conditions.
15. On March 20, 2019, GMP responded to Commission Staff questions.
16. On March 25, GMP submitted a minor revision to a chart in the IRP.
17. On March 26, 2019, a workshop was held where GMP provided a detailed presentation explaining the IRP and answered questions about the IRP.
18. On April 10, 2019, GMP filed responses to the Commission’s Information Requests propounded during the workshop held on March 26, 2019.
19. On April 24, 2019, the Department filed responses to Commission questions propounded at the Workshop.
20. On May 5, 2019, the Department filed a Joint Proposed Schedule agreed to by all parties: GMP, REV, GlobalFoundries, and the Department.
21. On May 3, 2019, GMP filed its response to Commission Information Requests regarding Grid Resiliency.

22. On May 10, 2019, the Commission issued an Order Establishing a Schedule for Next Steps.
23. After the Department's extensive review of the IRP including its inputs, models, and analyses, and based on discussions and collaboration between them, GMP and the Department have reached the following agreement with respect to GMP's 2018 IRP.

AGREEMENT

24. The 2018 IRP incorporates and satisfies the 2015 MOU Conditions incorporated into the Order adopting the MOU in the Docket 8397 review of GMP's 2014 IRP.
25. The 2018 IRP is consistent with the State's Comprehensive Energy Plan ("CEP").
26. The Parties agree that GMP's 2018 IRP may be approved by the Commission pursuant to 30 V.S.A. § 218c(b), as the decision-making framework embodied in the plan will meet the need for energy services, after safety concerns are addressed, at the lowest present value life cycle cost, including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, and transmission and distribution capacity, and transmission and distribution efficiency, and comprehensive energy efficiency programs as well as 30 V.S.A. § 8004 and 8005, all as required by 30 V.S.A. § 218c.
27. The Parties agree that approval of the proposed IRP shall constitute approval of the decision-making process described in the IRP only and shall not constitute approval of any of the specific decision-making tools, analytic methods, or outcomes described in the proposed IRP.

28. Post-2018 IRP engagement: While the parties are satisfied that the 2018 IRP filed by GMP fully satisfies the statutory requirements of Section 218c, because each party is committed to further improving efforts to advance those goals, the Parties seek to memorialize certain understandings with respect to GMP's next IRP and have identified topics to be explored in greater detail throughout the coming year.
- a. Portfolio Analysis: GMP will engage with the Department with respect to the appropriate quantitative methods to evaluate multiple competing supply portfolios, and to identify and demonstrate the merits of the preferred resource supply portfolio.
 - b. Grid modernization/distribution system planning: GMP will engage with the Department and other stakeholders through formal and/or informal processes on the topic of distribution system planning and grid modernization. "Formal process" will include, but is not limited to, a grid modernization docket, if one is opened by the Public Utility Commission. "Informal process" will include Department-led discussions commencing in 2019, to culminate in potential inputs into GMP's next long-range system plan (currently referred to as the "Integrated Resource Plan" or "IRP"). "Grid modernization" and "distribution system planning" are understood to refer to the process of identifying how to build the distribution system and integrate non-wires solutions to integrate and optimize distributed energy resources and other aspects of a rapidly evolving energy ecosystem while maintaining and improving safety and reliability, consistent with the state's energy policies, goals, and longstanding least-cost planning principles. GMP also plans to collaborate further with the Department and other Distribution Utilities ("DUs") to determine the locational value of distributed energy resources. GMP will continue working with the Department on specific analyses such as the impacts of EV penetration and electrification of heating on the distribution system.
 - c. Rate design: GMP will continue to participate as an effective collaborator and contributor to Department-led processes and potential future Commission efforts to foster advancements in rate design in service of objectives for grid modernization and distribution system planning, and will report on and analyze the outcomes of those processes in its next IRP.
 - d. Market-based mechanisms: GMP will consult and collaborate with the Department to establish an appropriate approach for GMP to periodically issue RFIs, RFPs, or similar methods to inform regarding its system needs and to collect data and input from third parties to aid the selection of preferred least-cost solutions that allow for a fuller consideration of wires and non-wires solutions at the distribution-system level.

29. Pre-filing engagement on the next IRP: GMP's next IRP is due December 2021. GMP will initiate the following engagement with the Department, and other stakeholders, prior to filing its next IRP.
- a. Approximately one year prior to filing, GMP will schedule a kick-off meeting with the Department to discuss components of the next IRP and a meeting schedule.
 - b. During the year prior to filing, GMP will initiate meetings with the Department to discuss each topic area/chapter of the forthcoming IRP, including Forecasting, Power Supply, Transmission & Distribution System Planning, and Portfolio Analysis. GMP will provide a draft chapter outline to the Department prior to each subject-matter meeting.
 - c. GMP will provide the Department with a comprehensive draft at least one month prior to the deadline for filing the final plan with the Commission. This draft should demonstrate a measure of consistency with its existing or any proposed regulation plan, and the ensuing traditional rate case for FY2023 due to be filed no later than January 15, 2022. GMP will consider incorporating the Department's comments prior to filing its final plan with the Commission.
 - d. GMP will either (a) incorporate its IRP draft planning into one of its publicly noticed meetings required pursuant to the Multi-Year Regulation Plan in Docket 18-1633-PET or (b) schedule a publicly noticed meeting including customers and other stakeholders to gather feedback prior to filing its plan with the Commission.
30. 2021 IRP: GMP's next IRP will contain the following:
- a. Methodological improvements:
 - i. GMP will discuss, analyze and incorporate wherever appropriate the methodological improvements and outcomes of processes set forth in Paragraph 28 above, including rate design, market mechanisms, and portfolio planning, in its next IRP.
 - ii. An analysis of distribution-level impacts of electrification of transportation and heating (based on observed spatial patterns of such deployment and/or a proxy such as the historical deployment distribution of net-metering, batteries, etc.) and an assessment of strategies to manage these new loads to minimize integration challenges and costs. GMP may utilize a sample set of circuits that represent a cross section of the system to inform its assumptions regarding future distribution of EVs and electric heating.

- iii. An implementation or action plan that includes the elements identified in Section 6.4 of the Department's Appendix B: Guidance for Integrated Resource Plans and 202(f) Determination Requests.
 - iv. GMP's next IRP will include the methodological improvements identified in paragraph 14 of the MOU filed on March 11, 2015 in Docket 8397, which are binding on all subsequent GMP IRPs.
- b. Grid modernization/distribution system planning: GMP will include a section in its next IRP addressing the concepts of grid modernization and distribution system planning in its next IRP (as those terms are explained in Paragraph 28), unless providing such information is superseded by formal process directing the manner and content of a grid modernization/distribution system planning effort. Otherwise, GMP's IRP will be responsive to the outcomes of any formal grid modernization/distribution system planning effort.

31. In consideration of the above, the Parties agree that the Commission should issue an Order approving this MOU.
32. This MOU shall become effective upon the issuance of approval by the Commission in the manner contemplated herein.
33. This MOU is governed by Vermont law, and any disputes under this MOU shall be resolved by the Commission.
34. The Parties agree that this MOU and any Order approving this MOU relates only to these Parties and should not be construed by any party or tribunal as having precedential or any other impact on proceedings involving others. The Parties have made compromises on specific issues to reach this MOU. The MOU and any Order approving this MOU shall not be construed by any party or tribunal as having precedential impact on any future proceedings involving the Parties except as necessary to ensure GMP's implementation of this MOU or to enforce an order of the Commission resulting from this MOU. The Parties reserve the right in future proceedings to advocate positions that differ

from those set forth in this MOU, and this MOU and any Order approving this MOU may not in any future proceeding be used against any party except as necessary to enforce GMP's rights and obligations under this MOU or to enforce an order of the Commission resulting from this MOU.

35. Except as otherwise provided for herein, the Parties agree that this Memorandum shall be effective, and shall bind the Parties hereto, only if the Public Utility Commission issues an order in this matter containing terms consistent with this MOU in all respects.
36. The Parties agree that should the Commission fail to approve the MOU in its entirety, the Parties' agreements set forth herein shall terminate if so requested by any Party, and in which case, the Parties' agreements shall not be construed by any party or tribunal as having precedential impact on any future testimony or positions which may be advanced in these proceedings.
37. The Parties hereby waive their rights under 3 V.S.A. § 811 to review and comment upon a Proposal for Decision, and to present oral argument thereon, provided the Public Utility Commission issues an order that is consistent in all material respects with this MOU.
38. This MOU may be executed in multiple counterparts, which together shall constitute one agreement.
39. GMP's next IRP will be filed on or before December 10, 2021.

Dated at Montpelier, Vermont, this 14th day of June, 2019.

Vermont Department of Public Service:

By: Allison Bates Wormop
-AWW

Dated at Rutland, Vermont, this 14th day of June, 2019.

Green Mountain Power:

Caitlyn S. Anderson

PUC Case No. 18-4166-PET - SERVICE LIST

Parties:

Carolyn Browne Anderson, Esq. (for Green Mountain Power Corporation)
Green Mountain Power Corporation
2152 Post Road
Rutland, VT 05702
carolyn.anderson@greenmountainpower.com

^Justin B Barnard (for GLOBALFOUNDRIES U.S. 2 LLC)
Dinse P.C.
209 Battery Street
Burlington, VT 05401
jbarnard@dinse.com

^Olivia Campbell Andersen (for Renewable Energy Vermont)
Renewable Energy Vermont
33 Court St.
Montpelier, VT 05602
olivia@revermont.org

Elizabeth Miller, Esq. (for Green Mountain Power Corporation)
Dunkiel Saunders Elliott Raubvogel & Hand,
PLLC
P.O. Box 545
91 College Street
Burlington, VT 05401
emiller@dunkielsaunders.com

^Shapleigh Smith, Jr. (for GLOBALFOUNDRIES U.S. 2 LLC)
Dinse P.C.
209 Battery Street
Burlington, VT 05401
ssmith@dinse.com

Melissa Stevens (for Green Mountain Power Corporation)
Green Mountain Power Corporation
2152 Post Road
Rutland, VT 05701
melissa.stevens@greenmountainpower.com

Allison Bates Wannop (for Vermont Department of Public Service)
Vermont Department of Public Service
112 State Street
Montpelier, VT 05620-2601
allison.wannop@vermont.gov