STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 23-3501-PET

| Petition of Green Mountain Power for approval of its zero outages initiative as a strategic opportunity pursuant to 30 V.S.A. § 218d and GMP's multi-year regulation plan | Hearings via GoToMeeting June 11, 2024 |
|---|---|

Order entered: 10/18/2024

PRESENT: Edward McNamara, Chair
Margaret Cheney, Commissioner
J. Riley Allen, Commissioner

APPEARANCES: Erin C. Brennan, Esq.
James H. Porter, III, Esq.
Alexander Wing, Esq.
For Vermont Department of Public Service

Geoffrey H. Hand, Esq.
Malachi T. Brennan, Esq.
SRH Law PLLC
For Green Mountain Power Corporation

# ORDER GRANTING IN PART THE PETITION OF GREEN MOUNTAIN POWER CORPORATION FOR APPROVAL OF THE ZERO OUTAGES INITIATIVE

## Table of Contents

## I. INTRODUCTION

This case involves a petition filed by Green Mountain Power Corporation ("GMP") with the Vermont Public Utility Commission ("Commission"), pursuant to 30 V.S.A. § 218d and Section IV(A)(6) of GMP's multi-year rate plan ("MYRP"). GMP seeks authorization to spend up to $280 million on additional transmission, distribution, and storage investments over the final two years of the MYRP as part of GMP's proposed Zero Outages Initiative ("ZOI").[1] The ZOI will include a series of grid-hardening upgrades and energy storage installations that are intended to enhance network resilience and lay a foundation for GMP's stated goal of zero customer outages by 2030. As part of its petition in this case, GMP requests permission to spend

[1] The MYRP, which governs GMP's rates through September 30, 2026, was approved by the Commission on August 31, 2022, in Case No. 21-3707-PET. *Petition of Green Mountain Power Corporation for approval of a new Multi-Year Regulation Plan pursuant to 30 V.S.A. Sections 209, 218, and 218d*, Case No. 21-3707-PET, Order of 8/31/22.

up to $250 million on transmission and distribution projects and up to $30 million on residential storage systems in fiscal years 2025 and 2026.

We have carefully reviewed the evidence and arguments presented by GMP and the Vermont Department of Public Service ("Department") throughout this proceeding. GMP has convinced us that changes to Vermont's climate and the corresponding frequency of damaging weather events warrant a more aggressive approach for upgrading and hardening the utility's distribution grid. Vermont has experienced multiple catastrophic storm events in recent years that caused widespread utility outages, including several major storms that occurred during the pendency of this case. The increasing frequency and strength of these events underscores the need to begin implementing ZOI projects as soon as practicable. We are also persuaded that GMP has developed a framework for designing and implementing a series of initial projects that will serve as a baseline for the development of a more comprehensive approach to the ZOI and grid resilience in the near-term future.

We recognize the need for immediate action on climate resiliency and we are largely supportive of the direction that GMP is taking with the ZOI. However, we also remain mindful of our regulatory oversight responsibilities and our statutory mandate to ensure that GMP's rates remain just and reasonable. Like the Department, we note the thin financial detail and cost-benefit analyses that GMP has presented in support of the ZOI to date. Testimony filed in this case shows that GMP will likely need to spend approximately $1.5 billion on new capital projects between now and 2030 to complete the ZOI. That figure represents a substantial investment for a utility of GMP's size and scale that will affect GMP's retail rates for decades. The ZOI, however, has the potential for positive impacts, especially with respect to mitigating storm recovery costs. As the ZOI unfolds, both the Commission and the Department must be able to scrutinize GMP's planning and spending to ensure that the ZOI investments are cost-effective and that GMP's ratepayers are the ultimate beneficiaries of the program. It will be imperative for GMP's ZOI spending to remain firmly rooted in Vermont's traditional ratemaking standards and the principles of least-cost utility planning. We must also ensure that financial risk associated with these projects is appropriately shared between GMP and its customers. Having considered the evidence provided by the parties in this case, we find that we do not currently have an adequate amount of data or financial information from GMP to conclusively make these determinations at this time.

Based on these competing considerations, we have decided to partially approve GMP's petition. Specifically, we authorize an amendment to the MYRP that will allow GMP to spend up to $150 million on ZOI projects over the remaining term of the MYRP. This decision reflects our initial determination that GMP is taking appropriate and necessary steps to mitigate the impacts of recurring major storm events. It also makes clear that GMP is expected to engage in more detailed planning—based on data and experience—before fully committing to a major capital program that will affect retail rates for the foreseeable future. We are convinced that GMP should pursue increased investments to mitigate storm impacts. However, with respect to the remaining term of the current MYRP, GMP's ZOI investments should be more narrowly directed at gathering meaningful experience and data to inform the development of a more robust ZOI proposal in the near-term future.

The $150 million of investments that we authorize today should enable GMP to immediately complete a range of ZOI projects within geographically diverse areas of its distribution network. It will also allow GMP to focus on circuits that are most in need of upgrades and hardening. It is our expectation that this initial round of projects will establish a foundation for GMP to develop the more detailed planning and financial analyses that would be necessary to support future proposed ZOI spending.

With respect to GMP's proposed $30 million of residential storage investments, we may authorize an amendment to the MYRP to potentially allow for this spending in the future. We have several concerns regarding the residential storage components of the ZOI, which we briefly discuss in this order. GMP must address these concerns in more detail in a future tariff filing and GMP will not be authorized to commence residential storage installations as part of the ZOI until we have approved a separate tariff for this work.

## II. PROCEDURAL HISTORY

On October 9, 2023, GMP filed a petition with the Commission seeking approval of an amendment to its MYRP that would authorize up to $280 million of investments in ZOI projects.

The petition was supported by prefiled testimony and exhibits of witnesses Michael Burke, Joshua Castonguay, and Laura Doane.

On November 16, 2023, the Commission held a scheduling conference for this case, which was attended by representatives of GMP and the Department.

On November 30, 2023, the Commission issued a scheduling order for this case.

On December 7, 2023, the Commission held a remote workshop for this case. The workshop was attended by representatives of GMP and the Department and included a presentation from GMP on its proposed ZOI program.

On March 15, 2024, the Department filed the direct testimony and exhibits of Walter (TJ) Poor, Carol Flint, Bill Jordan, Anne Margolis, Sean Foley, Jacob Davis, Kevin Mara, and Steven Hunt.

On April 15, 2024, GMP filed the rebuttal testimony and exhibits of Michael Burke, Joshua Castonguay, Laura Doane, Tiana Smith, Donald Mills, and Kyle Buxton.

On May 13, 2024, the Department filed the surrebuttal testimony and exhibits of TJ Poor, Carol Flint, Bill Jordan, Anne Margolis, Claire McIlvennie, Kevin Mara, and Steven Hunt.

On June 11, 2024, the Commission conducted an evidentiary hearing. During the evidentiary hearing, we admitted Stipulated Exhibit 1 into the evidentiary record. Stipulated Exhibit 1 lists all prefiled testimony and exhibits that were admitted into the evidentiary record for this proceeding.

On July 1, 2024, the Department and GMP filed direct briefs.

On July 12, 2024, the Department and GMP filed reply briefs.

## III. LEGAL STANDARDS

GMP's current MYRP was approved by the Commission pursuant to 30 V.S.A. § 218d.[2] Section 218d authorizes the Commission to "approve alternative forms of regulation for an electric company" if the Commission finds that the proposed form of alternative regulation will:

> (1) establish a system of regulation in which such companies have clear incentives to provide least cost energy service to their customers;
> (2) provide just and reasonable rates for service to all classes of customers;
> (3) deliver safe and reliable service;

[2] *Petition of Green Mountain Power Corporation for approval of a new Multi-Year Regulation Plan pursuant to 30 V.S.A. Sections 209, 218, and 218d*, Case No. 21-3707-PET, Order of 8/31/22.

> (4) offer incentives for innovations and improved performance that advance state energy policy such as increasing reliance on Vermont-based renewable energy and decreasing the extent to which the financial success of distribution utilities between rate cases is linked to increased sales to end use customers and may be threatened by decreases in those sales;
> (5) promote improved quality of service, reliability, and service choices;
> (6) encourage innovation in the provision of service;
> (7) establish a reasonably balanced system of risks and rewards that encourages the company to operate as efficiently as possible using sound management practices; and
> (8) provide a reasonable opportunity, under sound and economical management, to earn a fair rate of return, provided such opportunity must be consistent with flexible design of alternative regulation and with the inclusion of effective financial incentives in such alternatives.

Section IV(A)(1) of the MYRP sets a fixed amount of new capital spending over the term of the MYRP. Specifically, Section IV(A)(1) states that fixed capital spending encompasses:

> Plant Additions during each fiscal year, including climate resiliency work similar to work described in the Climate Plan approved by the Commission in Case No. 20-0276-PET, ongoing new initiatives capital projects, and forecasted amounts for GMP's anticipated capital spending for customer battery storage such as through an extension of the Energy Storage System ("ESS") program. These amounts will remain fixed in rates unless supplemented with approved new initiative tariff plant additions . . . , approved Unexpected Circumstances and Strategic Opportunities plant additions . . . , Cybersecurity plant additions . . . , and any annual broadband deployment work as approved by the Commission in Case No. 21-0544-TF or otherwise allowed in support of the State's broadband deployment goals during the term of the Plan.

Section IV(A)(6) of the MYRP establishes a process under which GMP can request that the Commission modify the capital spending limits included in Section IV(A)(1). Section IV(A)(6) provides that:

> Notwithstanding the other provisions of this Plan, GMP may petition the [Commission] for approval at any time during the Plan for incremental plant in service additions, expenses and revenue to be included in rates when either unexpected circumstances or new strategic opportunities arise that provide material benefit to customers.
>
> Strategic opportunities here may include, but are not limited to, categories of investments that provide new opportunities to increase the resiliency of the distribution system or help to better monitor, manage, and operate the distribution system for more effective integration of distributed energy systems and loads that were not reasonably anticipated at the onset of the Plan. These opportunities help

> to advance GMP's objectives of lower-cost service to customers and increased integration of distributed energy resources.
>
> In its petition for relief, GMP will bear the burden of demonstrating that the proposed investments, expenses, and revenue for unexpected circumstances or new strategic opportunities are in customers' best interests and will result in just and reasonable rates in the long run. Base rates may be adjusted at the next quarter after any approval under this provision, or at the next Annual Base Rate filing, unless otherwise ordered by the Commission.

Our findings of fact and discussion sections below are framed by the eight factors set out in 30 V.S.A. § 218d(a) and the sections of the MYRP quoted above.

## IV. FINDINGS

*Background for the ZOI*

1. Vermont is approximately 70-80% forested, trees throughout the state are getting taller each year, severe storms appear to be increasing in frequency, and people are becoming more dependent on electricity. Bill Jordan, Department, ("Jordan") pf. at 8-9.

2. Vermont's climate is getting wetter and warmer. In recent winters, Vermont has experienced more heavy, wet snow events that can tear down trees and knock down poles and lines. In summer periods, downpours that quickly inundate communities are expected to happen more frequently. In the fall and spring, anticipated higher moisture content in warmer air will likely lead to stronger and deeper low-pressure systems that create damaging gradient wind events that interact with Vermont's geography by down-sloping and gaining speed down ridgelines and into communities. These wind events are also increasing in both frequency and intensity. Michael Burke, GMP, ("Burke") pf. at 15-17.

3. These changing climate trends are expected to result in saturating and destabilizing soil and creating faster vegetation growth, both of which in turn increase the likelihood of outages, particularly when gradient winds increase and knock down large trees growing outside utility rights-of-way ("ROWs"). Burke pf. at 15.

4. In the twelve-month period before GMP filed its petition in this case, GMP incurred $45 million in major storm damage in addition to approximately $8 million in routine and recurring smaller storm response. GMP's major storm costs in 2023 were the highest the utility has ever experienced. Burke pf. at 20; exh. GMP-MB-4.

5. Over the past ten years, GMP has incurred $115 million in direct major storm costs, with 40% of that total experienced in 2022 and 2023. Burke pf. at 20; exh. GMP-MB-4.

6. If GMP had recovered the major storm costs it incurred during 2023 in a single year, there would have been an approximately 7% rate impact. The MYRP includes a smoothing mechanism for these costs to spread their impact over several years, but the 2023 storms will add approximately 2.3% to rates over the next three years. Burke pf. at 21.

7. GMP has experienced several additional major storm events during the pendency of this proceeding, incurring an additional $20 million in storm recovery costs as of April 2024. Burke pf. reb. at 6-7.

8. Many outages during these recent storm events were caused by tall, otherwise healthy trees that fall on overhead electric lines from outside the utility's ROWs, which means that routine vegetation maintenance within the ROW will not be sufficient to reduce outage events caused by severe storms. Jordan pf. at 9.

9. Commission Rule 4.900 requires electric utilities to report on an annual basis the system-wide, calendar-year values for the System Average Interruption Frequency Index ("SAIFI") and Customer Average Interruption Duration Index ("CAIDI"), a breakdown of customer hours out by outage cause, and an overall assessment of reliability addressing locations and causes of outages. SAIFI is a measure of the average number of times a customer has experienced an outage, and CAIDI is a measure of the average length of time, in hours, that was required to restore service to customers who experienced an outage. Jordan pf. at 4-5.

10. GMP reports its SAIFI and CAIDI scores as part of its Service Quality and Reliability Plan ("SQRP"), which includes a variety of performance standards related to service quality. GMP's performance measure for SAIFI under the SQRP is 2.4, and GMP's performance measure for CAIDI is 2.7. These metrics mean that the yearly system-wide average of the number of outages experienced by GMP customers should not be more than 2.4, and that the yearly system-wide average outage duration should not be more than 2.7 hours. However, GMP's (and the other Vermont distribution utilities') SQRP allows it to exclude "major storms" that meet all three of the following criteria: (1) extensive mechanical damage to the utility infrastructure has occurred; (2) more than 10% of the customers in a service territory are out of

service due to the storm or the storm's effects; and (3) at least 1% of the customers in the service territory are out of service for at least 24 hours. Jordan pf. at 5-6.

11. GMP is meeting its official reliability metrics. Those metrics, however, are measured net of major storms. They are also based on system-wide averages. Therefore, even though the company meets its metrics, these metrics do not encapsulate the impact of major storms and there are customers on the tail end of the curve experiencing a large number of outages. Jordan pf. at 11.

12. Utilities can plan and build a power system for normal weather, but it is difficult to create a system that is immune to all severe weather. Thus, utilities, to an extent, are at the mercy of these events. That is why the impacts of extreme storms are excluded from reliability indices. However, from a customer standpoint, the power is out regardless of the cause, and these customers suffer through these extreme events, especially if the events are long in duration. Kevin Mara, Department, ("Mara") pf. at 7.

13. For the 2020 through 2023 period, GMP's Rule 4.900 reports show that trees caused more than 50% of the outages and more than 70% of the duration of the outages in GMP's service territory. Because a number of outages are not caused by vegetation, and because a number of outages are caused by vegetation outside the ROW, the solution to this problem must go beyond vegetation management. Jordan pf. at 9.

*Structure of the ZOI Program*

14. The proposed ZOI program includes a multi-layered approach for designing resiliency and hardening upgrades to reduce outages caused by storm events. GMP first separates each of its circuits into four different zones, which are generally categorized by type of conductor line and customer density. Then, within each zone, GMP designs discrete projects for resiliency upgrades that generally consist of three major layers or components: (1) undergrounding lines; (2) spacer cable; and (3) residential storage. Burke pf. at 4-5; Joshua Castonguay, GMP ("Castonguay") pf. at 22.

15. In prioritizing ZOI projects, GMP plans to use the following screening criteria:

- Type, age, condition, and location of the asset;
- The number of customers served by each circuit;

• Outage hours and overall reliability of the existing line and infrastructure;

• Review of where the project falls within the 20 least reliable circuits; and

• The critical facilities and community resources served by the circuit.

GMP combines these criteria with information from its field crews to assess needed outage improvements and project priority based on factors like permitting, and availability of equipment and materials. Burke pf. reb. at 13.

16. In the future, GMP also plans to consult indicators of community vulnerability, such as the Center for Disease Control and Prevention's ("CDC") Social Vulnerability Index ("SVI") and the Vermont Climate Council's newly released Municipal Vulnerability Index ("MVI"), which includes numerous metrics on community vulnerability factors, in prioritizing ZOI projects. Tr. 6/11/24 at 28-29 (Burke).

17. GMP's proposal in this case, including the $250 million for transmission and distribution upgrades and $30 million for residential battery storage, concerns only the first two years of ZOI work through the end of GMP's fiscal year 2026. For this initial scope of work, GMP plans to prioritize rural areas of southern and central Vermont where severe storms have had a disproportionate impact in recent years. Burke pf. at 5.

18. GMP estimates that the total cost of the full ZOI program, which it hopes to complete by 2030, will be approximately $1.5 billion. Sean Foley and Jacob M. Thomas, Department, ("Foley and Thomas") pf. at 7-8; exh. DPS-AM-3.

19. For the initial two-year phase of ZOI work, GMP has identified 41 circuits where it plans to complete projects and has already conducted high-level planning. Of these circuits, 18 are included in GMP's list of "20 least reliable circuits," which is a component of GMP's annual Rule 4.900 report. GMP estimates that the total cost of ZOI projects for these 18 circuits, excluding residential storage installations, is approximately $125 million. The remaining circuits are in close proximity to the circuits on the least reliable list and are experiencing heavy impacts from weather similar to the 20 least reliable circuits. Exhs. GMP-Cross-1 and 2; tr. 6/11/24 at 88-92 (Burke).

20. GMP's planned initial ZOI projects include two circuits in which GMP plans to complete all zones within the circuit to demonstrate ZOI effectiveness. These circuits are EJ-G7 in Brattleboro and 56G1 in Wilmington. The EJ-G7 circuit is included on GMP's "20 least

reliable circuits" list. The 56G1 circuit is not included on that list, but its anticipated ZOI upgrade costs combined with the costs for the 18 circuits included on the least reliable circuit list total approximately $149 million. Tr. 6/11/24 at 87 (Burke); exhs. GMP-Cross-1 and GMP-Cross-2.

21. GMP represents that 33% of all outages over the past three years are on the 41 circuits that GMP identified for ZOI projects over the next two years. Tr. 6/11/24 at 99 (Burke).

ZOI Zones

22. To organize and prioritize the deployment of system upgrades, GMP expects to take a circuit-by-circuit approach across its approximately 300 circuits in developing ZOI projects. Burke pf. at 26.

23. For purposes of developing its ZOI planning, GMP will separate each of its circuits into four broad zones. Zone 1 includes main line distribution feeders that tie substations together and travel out to the first protective devices on an electrical circuit. Zone 2 includes three-phase radial-tap lines. Zone 3 includes long single-phase distribution lines that serve dozens of customers or more. Zone 4 includes single-phase lines that serve smaller groups of customers, typically 1 to 10 customers. Burke pf. at 28-29; exhs. GMP-MB-7 through MB-9.

24. Zone 1 lines are the backbone of GMP's transmission and distribution operations and tend to be closer to population centers. Zone 1 lines are typically three-phase distribution service and carry all customers off that electrical circuit. ZOI upgrades for these lines will require overhead storm-hardening solutions such as spacer cable and tree wire. Burke pf. at 29.

25. Zones 2 and 3 are sections of distribution lines between protection devices. Zone 2 has a higher customer count and is typically three-phase distribution. Zone 2 lines typically carry both commercial and residential customers and do not tie to adjacent substations. Zone 3 lines are in settings that are typically residential single-phase distribution with 10-20 customers or more. In both of these zones, undergrounding will be a preferred solution wherever possible, with storm-hardening overhead projects where it is not. Burke pf at 30.

26. Zone 4 lines are typically single-phase lines feeding the fewest customers per line mile, often single customers. Accelerated storm hardening of the infrastructure in all of these areas would be a very significant undertaking and may not be cost-effective in all locations. For

these locations, GMP proposes that providing storage directly for individual customers will be a preferred solution to eliminate outages. Burke pf. at 30.

Undergrounding Work

27. GMP has already been deploying cable-in-conduit undergrounding for several years, which does not require the use of open trench and conduit sections like legacy underground installation techniques. Burke pf. reb. at 32.

28. For the 50 miles of undergrounded distribution line GMP has already installed to date, no damage has occurred to any of these line sections during storms. Burke pf. at 11.

29. GMP's undergrounding projects will utilize new technologies and equipment that can trench and lay up to five ready-to-serve conduits with cable already in the conduit (including communications-empty innerduct conduits for later access as needed) and backfill all in one pass. This method can install up to one mile of distribution line in a day in ideal conditions. Undergrounding can also be used for three-phase lines in some conditions. Burke pf. at 11 and pf. reb. at 32-33.

30. GMP will work with any attaching telephone or cable companies on existing overhead lines with the hope that they will follow and underground their lines at the same time. The costs of undergrounding communications lines would be shared with the attaching company to match GMP's expense. Tr. 6/11/24 at 31-34 (Burke).

Spacer Cable

31. Spacer cable is a fully insulated line that takes advantage of a more than 0.5-inch-thick steel cable messenger that sits above the insulated aerial cable, which protects the cable from tree strikes or other hazards. Burke pf. at 30.

32. There are no cross arms for spacer cable installations except for the end of cable runs. Therefore, the spacer cable's three-phase configuration is only about 18 inches across, which results in fewer tree contacts because it has significantly less surface area than the typical eight-foot cross arm construction. Burke pf. at 30-31.

33. Spacer cable is a viable option for improving system reliability. The covered conductor can continue to deliver energy to customers when trees and tree limbs come into contact with the insulation over the conductor. Mara pf. at 18.

34. The spacer cable design is compact and supported by a messenger cable with a very high tensile strength to limit the sag that can also serve as the neutral conductor. This system of conductors should improve service reliability if it is designed properly and adequate ROW maintenance continues to allow an active hazard tree mitigation program. Mara pf. at 18-19.

35. GMP augments spacer cable construction with circuit tie reclosers and other automated technology to isolate faults on the system and create redundancies. The design also uses poles of appropriate height, strength, and age. Burke pf. at 29.

36. GMP estimates that spacer cable will reduce outages by over 90% compared to traditional infrastructure. Tr. 6/11/24 at 61-62 (Burke).

Residential Storage

37. Residential battery storage installations can provide customers with backup power during outage events. When deployed properly, these systems can also provide revenues for GMP and system benefits that include peak demand reduction, voltage regulation, reactive power, frequency regulation, and energy time shifting. Castonguay pf. at 23-25.

38. GMP intends to deploy residential storage to customers located in Zone 4 areas where: (1) the customer density is lower, and (2) the net cost of the storage system, after accounting for the benefits provided by the other battery use cases, is lower than undergrounding a line at the end of a circuit. Tr. 6/11/24 at 119 (Castonguay).

39. GMP will own the residential battery systems and enter into lease agreements with customers that receive the storage systems. GMP will not, however, charge customers lease payments for the storage systems. Castonguay pf. at 28-30.

40. GMP has not implemented any explicit screening mechanisms that would prioritize or limit participation in the ZOI residential storage program to particular customer groups based on income or other needs. GMP considers residential storage to be another reliability resiliency asset, no different than undergrounding or spacer cable. It intends to deliver storage to all customers located in Zone 4 areas. Tr. 6/11/24 at 117-119 (Castonguay).

41. Of the initial $30 million proposed for residential storage upgrades, $20 million will be focused on completing full ZOI upgrades on the EJ-G7 and 56G1 circuits in connection with the planned distribution hardening. For the remaining $10 million, GMP will use its project screening criteria (including use of Vermont's MVI tool) to identify vulnerable customers and to

prioritize bringing storage to customers with the greatest need for battery backup. Castonguay pf. reb. at 8; Burke pf. reb. at 17; tr. 6/11/24 at 115-17 (Castonguay).

42. GMP has not yet conducted a cost-benefit analysis for residential storage systems installed under the ZOI program that includes potential revenue streams from the storage systems. Tr. 6/11/24 at 120 (Castonguay).

43. GMP intends to file a proposed battery storage tariff rider with the Commission before installing any residential storage systems under the ZOI program. Tr. 6/11/24 at 125 (Castonguay).

*Regulatory Accounting for and Rate Impact of ZOI Project Costs*

44. GMP will not include any ZOI capital projects in rate base until the capital projects have been completed and placed in service and are reviewed and approved by the Commission. Laura Doane, GMP ("Doane") pf. at 5; exh. GMP-LD-1.

45. ZOI-related operations and management ("O&M") expenses will not be included in GMP's cost-of-service in a rate filing until the costs have been incurred, reviewed, and approved by the Commission. Doane pf. at 5; exh. GMP-LD-1.

46. Once projects are completed, GMP will submit them for Commission review and approval in its subsequent Annual Base Rate filing during the MYRP to be included in base rates, upon approval, in the following fiscal year. Doane pf. at 6; exh. GMP-LD-1.

47. The second ZOI review filing (for projects completed between April 1, 2025, and September 30, 2025) will be submitted as part of the full traditional base rate case for GMP's 2027 fiscal year base rates. Projects completed on or after October 1, 2025, will be included in base rates as ordered by the Commission in any future regulation plan. Exh. GMP-LD-1; tr. 6/11/24 at 158 (Doane).

48. For each project developed under the Plan, GMP will continue to follow the required capital documentation standards outlined in GMP's Memorandum of Understanding with the Department and approved by the Commission in Case No. 17-3112-INV (the so-called "Exhibit #2" that was appended to the memorandum of understanding between GMP and the Department that was filed on November 9, 2017, in Case No. 17-3112-INV). Doane pf. at 5; tr. 6/11/24 at 34, 51-52 (Burke); exh. GMP-LD-1.

49. When GMP submits completed individual projects for Department and Commission review in its annual base rate filings under the MYRP or a traditional rate case, these cost-benefit and alternatives analyses will be available for review in capital folders to help determine the justness and reasonableness of any investment. Tr. 6/11/24 at 96 (Burke).

50. Prior to approval, GMP will record to a regulatory asset for future recovery from customers the depreciation, property taxes, and other project expenses between the time a ZOI capital project is completed and placed in service and when it is included in rate base in a rate filing and will defer collection of this regulatory asset until that project is approved. Doane pf. at 5-8; exh. GMP-LD-1.

51. This accounting framework is not expected to require any changes to GMP's capital structure, or to how debt costs, Allowance for Funds Used During Construction ("AFUDC"), construction work in process ("CWIP"), or other components are treated under the MYRP. Doane pf. at 7, 9.

52. GMP will be responsible for demonstrating that any O&M costs submitted for inclusion in a rate filing are incremental and not included in MYRP base rates, and no ZOI O&M cost will be included unless GMP makes this demonstration to the Commission's satisfaction. O&M expenses will be tracked through generally acceptable accounting principles and segregated by ZOI and MYRP projects. Doane pf. reb. at 3-4; Tr. 6/11/24 at 245 (Hunt).

53. Fully implementing GMP's requested $280 million of new ZOI capital projects would result in an estimated cumulative rate increase of 3.55% in the third year of the first phase of the ZOI plan. The Department roughly calculates that the total rate impact of the full ZOI program, which GMP estimates will cost approximately $1.5 billion, would be approximately 19%. Foley and Thomas pf. at 5-7.

## V. DISCUSSION

Below, we provide a summary of the parties' high-level positions and arguments in this case. We then address each discrete issue that remains in dispute between the parties, which include: (1) whether the ZOI qualifies as a strategic opportunity exemption under the MYRP; (2) whether the Commission should authorize GMP's requested $280 million for ZOI spending; and (3) whether it is necessary to adopt performance metrics and make modifications to GMP's

SQRP. Our order also discusses issues related to GMP's residential battery storage proposal and whether the ZOI satisfies applicable Section 218d criteria. We also briefly respond to the Department's request for a broader investigation into resilience planning that would include all distribution utilities.

## A. The Parties' Positions and the Department's Recommendations

### 1. GMP

GMP seeks approval to implement the first component of the ZOI over the remaining term of its current MYRP, which lasts through GMP's fiscal year ("FY") 2026. Its proposal includes up to $280 million of new investments above the capital spending caps included in the current MYRP. From the initial $280 million of ZOI spending at issue in this case, $250 million would be directed at transmission and distribution system upgrades and $30 million would be set aside for new residential storage systems.

GMP's testimony indicates that it will focus its initial ZOI work on its "20 worst" circuits (as tracked by reliability measures included in Commission Rule 4.900) and approximately 20 additional circuits that are experiencing similar challenges. GMP represents that the areas covered by these initial ZOI projects would account for about 33% of recent major storm outages, even though they serve less than 20% of GMP's customers. In other words, the initial ZOI projects will be directed at circuits most in need of immediate upgrades.

For its residential storage investments, GMP represents that it would provide new storage systems to customers located in so-called "Zone 4" areas where installing a storage system is more cost-effective than undergrounding a distribution line. GMP would own these systems, which would be leased to customers at no cost. As part of the initial phase of the ZOI, GMP indicates that it would prioritize two discrete circuits where GMP intends to complete comprehensive ZOI upgrades for residential storage installations.

GMP has filed a regulatory accounting proposal for all projects completed as part of the ZOI. It sets out the regulatory review process for all costs associated with the ZOI and generally limits recovery on ZOI investments until after the projects are in service and have been subjected to regulatory review.

Over the course of this proceeding, GMP has developed a series of metrics and data reporting categories that it will report on over the remainder of the current MYRP to track the rollout of ZOI, monitor initial outcomes, and help set a baseline for future measurement of success. GMP does not, however, propose that these metrics be paired with any financial incentives or penalties.

### 2. **The Department**

In its testimony and other filings in this case, the Department has emphasized that it supports the underlying intent of GMP's proposed ZOI. For example, in its briefing, the Department makes clear that it "generally supports the types of improvements GMP is proposing to increase reliability and resiliency for ratepayers."[3]

Throughout this proceeding, however, the Department has raised concerns about the adequacy of GMP's planning for the ZOI. In particular, the Department's testimony and briefing focus on a lack of cost-benefit and other financial analyses to justify the proposed amounts of spending for the initial ZOI projects. The Department also argues that the ZOI, as proposed by GMP, lacks measurable objectives and parameters to assess its effectiveness. The Department asserts that in the absence of detailed cost-benefit analyses and enforceable performance metrics, the Commission is not able to evaluate whether the ZOI investments will result in just and reasonable rates and strike the appropriate balance of risk between GMP and its customers. The Department also recommends that GMP be required to engage in more outreach with its customers, town and regional planning commissions, and regulators before returning to the Commission with a more comprehensive plan for the ZOI.

The Department's bottom-line recommendations include three discrete "options" for how the Commission should resolve this case.

The first option would require that GMP conduct more detailed planning and outreach before starting any ZOI projects. Under this approach, GMP would be directed to:

> properly plan, document, and pursue its ZOI through the appropriate Commission-directed channels—including its [integrated resource plan] and MYRP and with due consideration given to Vermont's Comprehensive Energy

[3] Department Brief at 4.

> Plan ("CEP"), GMP's ratepayers, town and regional planning commissions, the Department, and any other stakeholders . . . .[4]

This approach would require that GMP develop a "master plan" for the ZOI that is supported by a comprehensive cost analysis and is backstopped by performance-based metrics by which investment progress would be tracked. GMP would not be authorized to proceed with the ZOI investments until the plan is approved by the Commission in a separate proceeding, most likely GMP's upcoming IRP proceeding or a future alternative regulation filing.

The second option would allow GMP to immediately start ZOI projects on a limited scale. It would authorize GMP to spend up to $50 million on ZOI projects over the remaining term of the current MYRP while the company engages "in meaningful ZOI deliberation to incorporate the initiative into the existing regulatory IRP and MYRP case framework."[5]

The third option, which is the Department's preferred option,[6] is a variation of the limited approach set out in the second option. It would authorize GMP to complete all planned ZOI work on the EJG7 and 56G1 circuits, which carries an expected cost of $80 million. The Department states that this approach will allow GMP to complete work on the two circuits that "are the furthest along in planning and development"[7] and enable the company to "demonstrate the effectiveness and outline any learnings and improvements for continued work of the ZOI."[8]

The Department further argues that if the Commission orders either the second or third option, then the Commission should also adopt a set of interim metrics, targets, and potentially disallowance mechanisms. The Department argues that these requirements would "allow ratepayers, the Department, and the Commission to monitor ZOI progress to ensure GMP's investments are working in the best interests of ratepayers as GMP continues to formulate its ZOI."[9]

### B. The Strategic Opportunity Exemption from the MYRP

As a threshold matter, the Department argues that the scale of GMP's proposed initial ZOI spending conflicts with the MYRP. In support of this argument, the Department focuses on

---

[4] Department Brief at 5.
[5] Department Brief at 5-6.
[6] Department Brief at 6.
[7] *Id*. at 6.
[8] *Id.* (internal quotation marks omitted).
[9] *Id.* at 6-7.

two discrete portions of Section IV(A)(6) of the MYRP, which includes the so-called Strategic Opportunity Exemption ("SOE") that GMP cites as a basis for pursuing the ZOI at this time. The full text of the SOE is quoted above, but portions of Section IV(A)(6) that the Department highlights include: (1) language that limits new SOEs to opportunities that were "not reasonably anticipated at the onset of the [MYRP]"; and (2) a requirement that GMP "bear the burden of demonstrating that the proposed investments, expenses, and revenue for unexpected circumstances or new strategic opportunities are in customers' best interests and will result in just and reasonable rates in the long run."[10]

The Department also argues that GMP's ZOI proposal in this case conflicts with previous guidance we have provided to GMP regarding climate-related capital spending. Specifically, the Department cites to our decision in Case No. 20-2766-PET, when we approved a Climate Plan from GMP and directed the company to "include climate resiliency planning in its 2021 [IRP] and any future multi-year regulation plans it proposes."[11]

The Department does not appear to argue that the ZOI itself runs afoul of the MYRP. Rather, its position is more nuanced. It focuses on the scale of the proposed ZOI investments coupled with a lack of cost-benefit analyses and "urges the Commission to require GMP to tackle this task through the robust and transparent planning processes within the existing frameworks specifically created by GMP and approved by the Commission and by which the Company assured regulators it would abide."[12]

We agree with the Department that the scale of the ZOI, even limited to the $280 million requested by GMP in this case instead of the overall $1.5 billion expected cost of the full ZOI, exceeds the financial scope of SOEs that we initially contemplated when approving the MYRP. GMP's proposal in this case would essentially double the overall capital spending cap for the final two years of the MYRP. In setting that spending cap, which is a critical component of the MYRP, we made a deliberate decision to set bounds on GMP's rate base growth to allow for a relative degree of retail rate stability over the term of the MYRP. Indeed, in Case No. 21-3707-PET, we made clear that the "capital spending cap proposed by GMP and supported by the

[10] MYRP at Section IV (A)(6).

[11] Department Brief at 11 (quoting *Petition of Green Mountain Power Corporation for approval of its Climate Plan pursuant to the Multi Year Regulation Plan proceeding*, Case No. 20-0276-PET, Order of 8/31/22 at 13).

[12] Department Brief at 12-13.

Department here strikes a reasonable balance and will allow GMP to maintain its system while moderating overall upward rate pressures."[13] Effectively doubling GMP's capital spending for the final two years of the MYRP, which will have a corresponding increase in GMP's rate base, has the potential to substantially alter that balance.

However, in approving the MYRP, we did not contemplate the scale of storm recovery costs that GMP would confront over the term of the MYRP. As detailed in our findings of fact above, the storm recovery costs that GMP has incurred in the initial years of the MYRP substantially dwarf the historical average. The MYRP enables GMP to collect $6 million annually for its storm recovery fund. The company, however, incurred $45 million in the 12-month period that preceded the filing of this case alone. This scale and cost of storm damage that has occurred over the course of the MYRP to date was not foreseeable, and unfortunately the evidence filed in this case indicates that this trend will likely continue. Based on these considerations, we conclude that it is in GMP's customers' best interests for ZOI work to begin as soon as possible.

We agree with the Department that the ZOI does not fall within the SOE. However, to ensure that GMP is able to commence ZOI work during the term of the current MYRP, we instead will authorize GMP to amend the MYRP to account for the ZOI spending that we authorize in today's order. GMP, therefore, will be directed to file an amended version of the MYRP that is consistent with this order.

### C. Partial Approval of GMP's Requested ZOI Spending

We have decided to partially approve GMP's request for an initial tranche of ZOI spending. We will authorize GMP to increase the capital spending cap in the MYRP by $150 million to allow for new ZOI projects. We arrived at this amount after carefully considering the arguments presented by the parties. We thoroughly evaluated GMP's proposed $280 million request and each of the Department's proposed three "options." Ultimately, we identified a balanced approach that builds off GMP's intention to comprehensively complete ZOI buildouts on two discrete circuits and prioritize its "20 worst" circuit list for upgrades over the remaining term of the MYRP.

---

[13] *Petition of Green Mountain Power Corporation for approval of a new Multi-Year Regulation Plan pursuant to 30 V.S.A. Sections 209, 218, and 218d*, Case No. 21-3707-PET, Order of 8/31/22 at 13.

Throughout this proceeding, the Department and GMP both presented credible testimony from competent witnesses highlighting the benefits and potential drawbacks of the proposed ZOI. Although the parties dispute the best approach for tackling the increasingly complex engineering and resiliency challenges that have arisen as a result of Vermont's changing climate, they both agree that GMP will need to prioritize grid hardening and resiliency in the immediate future. Stated differently, the Department and GMP both appear to agree that doing nothing is not an option.

The parties, however, differ strongly in their recommendations regarding how and when GMP should proceed with the ZOI. It appears to us that the parties' principal positions reflect a fundamental disagreement over the appropriate role of the Commission's regulatory oversight over GMP and its capital spending under the MYRP and the proposed ZOI program. The Department, on the one hand, advocates for a regulatory review process that prioritizes more detailed upfront planning, financial analyses, and outreach before GMP is authorized to begin any ZOI projects. The Department does not expressly advocate for pre-approval of specific ZOI investments, but it challenges that GMP's "proposal as filed poses a risk to ratepayers that is simply too great to authorize without a full understanding of the costs and benefits."[14]

GMP, on the other hand, argues for an approach that more closely mirrors the traditional regulatory review process. It seeks authorization for a cap on proposed ZOI spending, but anticipates that regulatory review of specific ZOI investments will be completed only after the investments are in service. Specifically, GMP's proposal contemplates that the Commission will review discrete ZOI projects as part of GMP's MYRP annual base rate filing within the context of traditional ratemaking standards, such as the prudence and used-and-useful standards. In support of this approach, GMP argues that:

> Commission approval of the ZOI Strategic Exception here does not authorize or approve any specific ZOI projects. Rather, under GMP's regulatory accounting proposal, no projects will be included in rate base until they are completed, producing benefits for customers, and have been reviewed and approved by the Commission.[15]

[14] Department Brief at 13.
[15] GMP Brief at 32.

GMP also adds that "GMP bears the risk of review at the time and must provide documentation that gives the Commission the ability to determine whether the requested projects are appropriate under regulatory standards."[16]

We recognize that GMP's proposal includes an opportunity for a regulatory review of every ZOI capital asset before the asset is included in rate base. This approach will allow the Commission to review all ZOI projects through the traditional known-and-measurable, prudence, and used-and-useful ratemaking standards before GMP can recover or earn a return on its investments in these assets. However, we have concerns about relying so heavily on after-the-fact reviews to assess a capital program on the scale of the ZOI, particularly because the ZOI entails many novel and untested grid-hardening techniques. There are considerable uncertainties and financial risks associated with the ZOI, and it would be preferable that GMP gets it right from the outset. We also emphasize that many, if not most, ZOI assets will be in service and on GMP's books for at least several decades.

Our interest is ensuring that GMP provides safe and reliable service with just and reliable rates. To best achieve this objective, it is imperative for us to ensure that the ZOI is designed appropriately at the outset, before shovels are in the ground. Ratepayers will benefit from and be best protected by a rigorously planned ZOI program that relies on data from actual on-the-ground experience, not the potential threat of a retroactively imposed financial penalty. We need more data, beyond simple assertions, to better evaluate the rate-impact and potential benefits of this program. We do not need to be convinced about the expected impacts of climate change. Instead, we need to be convinced that GMP has identified an appropriate solution to mitigating those impacts. For these reasons, we agree with the Department's general contention that GMP must improve its upfront financial planning and analyses in support of the ZOI.

We have decided, however, that we will not adopt any of the Department's three proposed options. As an initial matter, as we stressed in the introduction to this order, we agree with GMP that it is imperative for grid resiliency and ZOI work to begin as soon as practicable. Therefore, we decline to adopt the so-called "Option 1," which would require GMP to return to the Commission with a more detailed plan for the full ZOI as part of its IRP. We are concerned that this approach could delay the start of ZOI projects. It would also require GMP to develop a

[16] GMP Brief at 33.

more comprehensive ZOI plan without the benefit of experience with working through a series of initial ZOI projects and circuit upgrades. Likewise, for "Option 2," we have doubts that limiting GMP's capital spending to $50 million would allow for GMP to gather sufficient experience and data to meaningfully support the development of a more comprehensive ZOI plan.

We also conclude that the Department's "Option 3," which would authorize GMP to spend up to $80 million to complete all planned ZOI work on GMP's EJ-G7 and 56G1 circuits, is too narrowly limited. For example, the EJ-G7 and 56G1 circuits are both located in Windham County in relatively close proximity to each other.[17] The development of the ZOI would benefit from GMP conducting a series of initial projects in geographically diverse areas of the state, which will allow GMP to work in various areas that may have different soil and surface conditions and experience different weather events. This approach would likely yield better data in assessing the costs and potentially the efficacy of the ZOI projects. We are also concerned that the Department's third approach would force GMP to avoid working on several circuits that are most in need of immediate upgrades.

Although we have decided to not expressly adopt any of the Department's proposed options, we do recognize that "Option 3" represents a reasonable framework for establishing a baseline approach to starting ZOI work—particularly because it would allow GMP to complete comprehensive ZOI upgrades on two discrete circuits. With this option in mind, we re-examined the evidence in this proceeding and decided to adopt a different approach that builds off the Department's "Option 3." Specifically, we reviewed GMP's cost projections for its proposed ZOI work on circuits included in the "20 least reliable circuits" list and the complete ZOI upgrades to the EJ-G7 and 56G1 circuits.[18] In total, GMP projects these ZOI projects to cost approximately $149 million. This approach would almost double the amount of spending that would be authorized under the Department's "Option 3." However, it will allow for GMP to conduct its initial ZOI projects in more geographically diverse locations, directly address resiliency challenges on GMP's worst-performing circuits, and provide immediate resiliency benefits to a broader range of GMP customers. This approach achieves our desired outcome for this case. It will allow GMP to immediately begin work on a wide range of meaningful ZOI

[17] The EJ-G7 circuit is in Brattleboro and the 56G1 circuit is in Wilmington.

[18] As noted in the findings above, this information is included in Exhibits GMP-Cross-1 and GMP-Cross-2. It is also included on pages 21-22 of the GMP Brief.

projects in a manner that shields ratepayers from excessive risk. Therefore, we will authorize GMP to spend up to $150 million on ZOI projects with the expectation that the initial ZOI work will be primarily focused on the EJ-G7 and 56G1 circuits and upgrades to the circuits included on GMP's "20 least reliable circuits" list.

To be clear, our order today allows for GMP to make a substantial investment in an initial series of ZOI projects. The $150 million in ZOI investments that we authorize today represents a substantial financial commitment for a utility of GMP's size and scale. Our decision is based on our general support for the ZOI's underlying intent and GMP's commitment to improving grid resilience in the face of a changing climate and increased severe storm activity in Vermont. It also reflects our determination that the broader ZOI program should be developed iteratively over the next several years and be grounded in baseline data that are gathered through actual, on-the-ground experience. In rolling out the initial ZOI installations, we anticipate that GMP will encounter unexpected engineering and construction challenges, various cost overruns, and other unanticipated challenges that may increase the projected costs of the planned ZOI installations. GMP will likely also discover lower-cost alternatives as it implements new technologies. Our intent is to encourage GMP to be adaptable and pursue new opportunities that have the potential to provide resiliency benefits and overall cost savings. However, we must also ensure that ratepayers, who will be paying for the ZOI investments for decades, derive meaningful benefits from this program and are shielded from unnecessary financial risk. Therefore, we expect to see more detailed planning from GMP in the near-term future before we authorize the company to expand the scale of the ZOI program beyond the $150 million limit that we authorize today.

As noted above, we anticipate that GMP will include a much more expansive ZOI proposal as a major component of its next proposed alternative regulation plan. Our expectation is that GMP's proposal will be supported by granular-level data derived from ZOI projects that are completed in the near-term future. Specifically, we anticipate that GMP will present evidence assessing actual costs of completed construction projects to support its planning for future ZOI projects. GMP will need to thoroughly describe how it will account for any assets that become "stranded" as a result of the ZOI projects, such as utility poles that are no longer necessary in locations where GMP completes undergrounding projects. We also expect that GMP will be in a better position to assess the costs and benefits of various options for proposed upgrades, especially because it will have actual data for the costs of major components of the ZOI, including new spacer cable and undergrounding projects. GMP may also be able to provide meaningful data on the efficacy of the completed ZOI projects depending on the timing, location, and severity of storms and outage events that occur over the next couple of years.[19]

### D. Performance Metrics and the SQRP

The parties also dispute whether GMP's ZOI spending should be accompanied by reporting metrics that carry financial incentives or penalties.

In its testimony and briefing, the Department recommends that the Commission adopt a series of proposed performance metrics that would carry financial consequences for GMP. Specifically, the Department recommends that the Commission adopt the following five reporting metrics:

1. 33% improvement in System Average Interruption Duration Index ("SAIDI")/System Average Interruption Frequency Index ("SAIFI") for rural feeders over 2023 SAIDI/SAIFI;
2. Forced Outage Rate per Hundred miles of Zone 1 Spacer Cable ≤ 3.0;
3. Storm costs, downward trend in rolling five-year average costs – less than $13 million by 2030;
4. Battery Failure to Start Index ≤ 1%;
5. Report CEMI-8 for all residential customers

The Department argues that these five metrics should be paired with a disallowance mechanism that would impose a performance-based penalty on GMP if it fails to achieve the metrics. In support of this recommendation, the Department asserts that the "prospect of disallowance is designed to share performance risk between ratepayers and shareholders should voluntary ZOI projects get approved."[20]

The Department also recommends that GMP be required to work with the Department on proposed updates to GMP's current SQRP. The SQRP updates recommended by the Department include a requirement that GMP report its service compensation calculations annually on or before April 15 of each year. The Department also recommends that the SQRP be updated every

[19] We recommend that GMP consult with the Department well in advance of filing its next alternative regulation plan and request for additional ZOI spending to address many of the issues that have arisen in this case, particularly outreach that can be conducted by GMP regarding the ZOI and the appropriate degree of financial analysis that should be used to support future ZOI funding requests.

[20] Department Brief at 26.

three years during the ZOI investment period and that service guarantees and service quality compensation values be adjusted by inflation. The Department also argues that SAIFI and CAIDI metrics and service quality compensation points in the SQRP should no longer exclude major storms. The Department further recommends that GMP be required to file annual reports that describe how GMP has planned for and implemented equitable investments in rural and otherwise disadvantaged areas.

GMP opposes the Department's five proposed reporting mechanisms. It challenges these reporting metrics on the basis that they "are not well-matched to the ZOI investments, not similar in type or scale to other approaches approved by the Commission, and are not just and reasonable to impose here."[21] Instead, GMP recommends that the Commission adopt a series of 32 discrete data reporting requirements. GMP represents that this list includes the initial list of 20 reporting items that it included in Exhibit GMP-MB-17 together with 12 additional reporting requirements proposed by the Department. (GMP's list excludes the Department's five proposed metrics listed above.) GMP included a copy of its proposed list of data reporting requirements as Attachment 1 to its brief.

With respect to the SQRP, GMP states that it "agrees with the recommendation of Department witnesses Bill Jordan and Carol Flint to amend GMP's SQRP with set outage targets that include major storms for completed ZOI areas."[22] GMP further represents that it "agrees that an addition to GMP's SQRP to account for ZOI specifically is the appropriate way to track outcomes and hold GMP responsible for results." GMP proposes that the Commission require that GMP consult with the Department and be required to file proposed SQRP revisions within six months of the order in this case to include "a ZOI-specific set of metrics [as] an additional layer to GMP's systemwide SQRP."[23]

Having reviewed the parties' proposals and arguments on performance metrics, we conclude that it would be premature to adopt performance metrics that carry a financial penalty for the initial $150 million of ZOI spending that we authorize today. We agree with the Department that the ZOI investments will need to be assessed for their efficacy. We will also need to ensure that customers do not carry a disproportionate share of financial risk associated

[21] GMP Brief at 36.
[22] GMP Brief at 36.
[23] GMP Brief at 37.

with the ZOI. Meaningful performance metrics are an appropriate regulatory mechanism for achieving those objectives. However, as we have stressed throughout this order, it will be important for GMP to gain meaningful experience in designing and constructing an initial series of ZOI projects as it develops a more comprehensive plan for completing the ZOI in future years. We likewise will benefit from having access to more data and information based on the initial ZOI projects before we are in a position to implement a series of metrics that could result in financial penalties for GMP.

We agree that performance metrics will be necessary for the ZOI in the future, but we want to have a greater degree of confidence that the metrics include realistic targets, are appropriately tailored to the ZOI projects, and set reasonable incentives or penalties. We do not find that the record presented in this case allows us to craft metrics that would achieve these objectives at this time. Therefore, we will not require that GMP's initial ZOI investments be subjected to performance metrics that could result in an automatic disallowance. GMP should, however, anticipate that we will expect future requests for additional ZOI spending to be paired with proposed performance metrics that carry financial consequences.

With respect to GMP's data reporting obligations, we have decided to require that GMP report on the data reporting metrics included in Attachment 1 to its brief. Although we are not adopting the Department's proposed disallowance mechanism at this time, we require that GMP also report on the Department's five contested reporting metrics for informational purposes.[24] Having access to this data will help inform future decisions regarding appropriate performance metrics that can be paired with ZOI spending.

We also flag for GMP that we share the Department's concerns about customer expectations around the ZOI. GMP represents that it is committed to a goal of "zero" customer outages by 2030. Zero customer outages on the GMP distribution grid is likely a physical impossibility. Although our primary regulatory concern in this proceeding is to ensure that GMP provides safe and reliable service at just and reasonable rates, GMP should be mindful of how its marketing and public outreach will affect customer expectations. As GMP prepares its next multi-year rate plan and conducts customer outreach associated with the ZOI, we strongly

[24] We note that the "Battery Failure to Start Index ≤ 1%" would be applicable only if the Commission approves a separate tariff for the residential battery storage component of the ZOI.

encourage GMP to ensure that its customers are provided with accurate and realistic information about the potential benefits of the ZOI.

### E. Battery Storage

GMP's proposal in this case also includes $30 million of investments that would be directed at residential battery storage. The battery installations would be completed in "Zone 4" areas where the net cost of the storage system, after accounting for the benefits provided by other battery use cases, is lower than undergrounding a line at the end of a circuit. GMP would own the battery systems, which would be leased to customers for no cost. For GMP's initial $30 million investment in ZOI residential storage, $20 million would be focused on completing full ZOI upgrades on the EJ-G7 and 56G1 circuits in connection with the planned distribution hardening and the remaining $10 million would be used for storage systems in other areas of GMP's service territory. During the evidentiary hearing, a GMP witness confirmed that GMP will not start installing residential storage systems as part of the ZOI until after it receives tariff approval from the Commission.[25]

Because GMP will file a tariff for the battery storage component of the ZOI, we have decided to defer issuing an order on this portion of GMP's petition as part of this case. We will instead review the battery storage proposal as part of GMP's expected tariff filing. We will authorize GMP to amend the MYRP for the requested $30 million of storage spending only if we approve a separate tariff authorizing the battery installations under the ZOI.

It is important to note, however, that we have several concerns about this aspect of the ZOI based on the evidence that was filed in this case. GMP is directed to address these concerns at the outset of a proposed tariff filing for this program. First, GMP did not file a cost-benefit analysis for residential storage in this case. GMP must do so when it seeks tariff approval for the storage systems. In contrast to its novel grid-hardening proposals, GMP has significant experience installing and dispatching residential storage systems that it can use to assess the costs and benefits of these systems. In completing the cost-benefit analysis, GMP should factor the cost of replacing or removing the battery storage systems at the end of their useful life. GMP will also need to explain whether these customers will need to have new storage systems

[25] Tr. 6/11/24 (Castonguay). The Department did not directly address the residential battery component of the ZOI in its briefing.

installed continually over time. Second, GMP must provide testimony and/or legal briefing as to whether and how providing the same residential storage systems to one class of customers at no cost but charging a different class of customers for the same service is consistent with 30 V.S.A. §§ 225 and 229. Third, GMP will need to present a detailed plan for how it will prioritize customers for selection in this residential storage program. This plan must address any equity-related or other screening mechanisms that GMP will consider in selecting and prioritizing participants. Fourth, GMP must specify the equipment that will be provided under the program and give a detailed explanation for all alternative solutions that were considered and rejected. We also expect that GMP will provide additional information, such as copies of proposed customer lease agreements, along with explanations for how GMP will have systems installed in rental properties and/or mobile homes and how lease agreements will be handled when property ownership is transferred.

### F. Section 218d Criteria

Because we are authorizing GMP to amend the MYRP to include ZOI spending, below we address each of the applicable Section 218d criteria.

#### 1. Establish a system of regulation in which such companies have clear incentives to provide least cost energy service to their customers;

Authorizing GMP to begin construction on ZOI projects will not affect the other components of the MYRP. The existing MYRP mechanisms that create incentives for the provision of least cost service, including the Power Supply Adjuster ("SPA") and the Earnings Sharing Adjustor Mechanism ("ESAM"), will remain in place. GMP's capital spending will also remain subject to a firm cap. The ZOI spending will increase that cap, but the individual ZOI projects that GMP completes over the remainder of the MYRP will be subjected to a regulatory review within the context of traditional ratemaking standards. Also, to be clear, the requirement to provide "least cost" service does not equate providing the lowest possible cost of service, particularly if limiting spending would be determinantal to resilience. GMP is expected to incur an amount of capital spending that is necessary for the provision of safe and reliable service. Our order in this case reflects our determination that approving a portion of GMP's requested ZOI spending will satisfy this requirement.

**2. Provide just and reasonable rates for service to all classes of customers;**

As discussed above, our decision to partially approve GMP's petition is driven largely by the increasing frequency of major storm events and the substantial recovery costs that GMP's ratepayers have incurred in recent years. Although we have concerns about the level of financial analyses that GMP has provided to date to support the planned ZOI projects, the ZOI projects that GMP completes over the remainder of the MYRP should serve to mitigate storm recovery costs. More importantly, completing a series of initial ZOI investments will provide meaningful baseline data for conducting more comprehensive cost-benefit analyses to better assess resilience strategies that will result in long-term cost savings for GMP's customers.

**3. Deliver safe and reliable service;**

The ZOI projects that we authorize in this order will allow for targeted resiliency upgrades on GMP's worst-performing circuits. These investments will improve the safety and reliability of service for many of GMP's customers that have been most affected by major storm events in recent years.

**4. Offer incentives for innovations and improved performance that advance state energy policy such as increasing reliance on Vermont-based renewable energy and decreasing the extent to which the financial success of distribution utilities between rate cases is linked to increased sales to end use customers and may be threatened by decreases in those sales;**

The approval of ZOI spending will not affect the MYRP's Retail Revenue Adjustor, which decouples GMP's revenues from its electric sales to promote efficiency measures.

**5. Promote improved quality of service, reliability, and service choices;**

As discussed throughout this order, the primary purpose of the ZOI is to improve reliability throughout GMP's distribution grid. These upgrades will ideally lead to cost savings over the long-term future through reduced storm recovery costs. However, improving resilience is also important for achieving many of the state's broader energy policy objectives, particularly increased reliance on electric vehicles and electric thermal heating. As customers fuel-switch and become more reliant on electric service for transportation and heating, it will be imperative for customers to be able to rely on the delivery of electric service.

**6. Encourage innovation in the provision of service;**

The ZOI projects include many novel construction techniques, including new approaches for undergrounding distribution lines. Authorizing GMP to begin ZOI upgrades will enable GMP to gain experience with these construction techniques and better evaluate where undergrounding can be cost-effective in GMP's service territory.

**7. Establish a reasonably balanced system of risks and rewards that encourages the company to operate as efficiently as possible using sound management practices; and**

The current MYRP includes the ESAM and PSA, both of which include financial incentives for GMP to operate as efficiently as possible. The ESAM will encourage GMP to operate efficiently as it completes work on ZOI projects. It also serves to ensure that GMP does not achieve a windfall from any investments made over the remaining term of the MYRP. However, as we note throughout this order, our expectation is that GMP will pair future ZOI spending with performance metrics that are more narrowly designed to assess the efficacy of the ZOI investments. We are satisfied that the current MYRP includes sufficient financial incentives to protect ratepayers for the deployment of the initial tranche of $150 million of ZOI spending, but more expansive ZOI spending will likely need to be coupled with meaningful performance metrics.

**8. Provide a reasonable opportunity, under sound and economical management, to earn a fair rate of return, provided such opportunity must be consistent with flexible design of alternative regulation and with the inclusion of effective financial incentives in such alternatives.**

Approval of $150 million of ZOI spending will not affect the authorized return on equity ("ROE") formula included in the MYRP. Additionally, as discussed above, GMP will not be authorized to earn recovery of or a return on ZOI investments until after the investments have been reviewed as part of an annual base rate filing.

## G. Department Request for Resilience Proceeding

The Department also recommends that the Commission open a general proceeding to investigate issues related to storm resilience. Specifically, it requests that we "open a proceeding specifically focused on resilience, gathering all interested stakeholders—including all Vermont's utilities—to help develop a common framework for defining, valuing, measuring, and planning for resilience."[26] The Department represents that it is currently seeking to retain outside technical assistance to potentially provide support for any such proceeding. The Department further envisions that this process could encompass potential revisions to Commission Rule 4.900.

We agree with the Department that a broader, general resilience proceeding that involves all of Vermont's distribution utilities and other affected entities would be timely and beneficial. GMP is not alone in dealing with the recent uptick in severe weather and extended outages. All utilities in Vermont are confronting similar challenges and, like GMP, will need to begin to re-evaluate their distribution system planning to respond to evolving climate patterns. This issue is of particular concern as state energy policy continues to encourage greater reliance on electricity for heating and transportation.

This request from the Department is not directly relevant to our resolution of GMP's petition in this case. However, we encourage the Department to consult with GMP, the other distribution utilities, and other affected entities and provide either a status update or a petition requesting an investigation within 120 days of the issuance of this order.

## VI. CONCLUSION

We authorize GMP to amend its MYRP to spend up to $150 million on ZOI-specific transmission and distribution investments over the remainder of the current MYRP. This decision reflects the reality of Vermont's changing climate and the corresponding impacts on GMP's electric distribution system. We recognize that it is imperative for GMP to begin ZOI spending as soon as practicable, and our order today will enable GMP to make investments in the portions of its network that are most in need of upgrades. However, our order also makes clear that GMP will need to improve its planning processes and develop significantly more robust financial support and cost-benefit analyses before returning to the Commission for approval of additional ZOI spending.

[26] Department Brief at 28.

## VII. ORDER

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

1. Green Mountain Power Corporation's ("GMP") petition for approval of the Zero Outages Initiative ("ZOI") is partially approved.

2. Within 30 days of the issuance of this order, GMP is directed to file as a compliance filing in this case proposed amendments to the Multi-Year Rate Plan ("MYRP") approved by the Commission on August 31, 2022, in Case No. 21-3707-PET that incorporate the ZOI consistent with the discussion above. We request that the Vermont Department of Public Service file any comments or recommendations on GMP's compliance filing and proposed amendments to the MYRP within 14 days of GMP's filing.

3. All capital projects completed as part of the ZOI must be documented and accounted for as specifically set forth in GMP's Zero Outage Regulatory Accounting Proposal (Exh. GMP-LD-1) and may only be reflected in rates upon approval by the Commission. This requirement must be included as part of GMP's proposed amendments to the MYRP required by paragraph 2 above.

4. Within six months of this Order, GMP must file a proposed amendment to its Service Quality Reliability Plan with the Commission containing a proposed addition for ZOI-specific measures. This filing must be made as a new petition case in ePUC.

Dated at Montpelier, Vermont, this 18th day of October, 2024.

| | | |
|---|---|---|
| Edward McNamara | ) | PUBLIC UTILITY |
| | ) | |
| | ) | COMMISSION |
| Margaret Cheney | ) | |
| | ) | OF VERMONT |
| J. Riley Allen | ) | |

OFFICE OF THE CLERK

Filed: October 18, 2024

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)*

PUC Case No. 23-3501-PET - SERVICE LIST

Parties:

| | |
|---|---|
| Erin C. Brennan, Esq.<br>Vermont Department of Public Service<br>112 State Street<br>Montpelier, VT  05620<br>Erin.Brennan@vermont.gov | (for Vermont Department of Public Service) |
| Malachi T. Brennan<br>SRH Law PLLC<br>91 College Street<br>PO Box 545<br>Burlington, VT  05401<br>mbrennan@srhlaw.com | (for Green Mountain Power Corporation) |
| Geoffrey Hand, Esq.<br>SRH Law PLLC<br>91 College Street<br>PO Box 545<br>Burlington, VT  05402<br>ghand@srhlaw.com | (for Green Mountain Power Corporation) |
| Liz Miller<br>Green Mountain Power<br>163 Acorn Lane<br>Colchester, VT  05446<br>Liz.Miller@greenmountainpower.com | (for Green Mountain Power Corporation) |
| James Porter, Esq.<br>Vermont Department of Public Service<br>112 State Street<br>Montpelier, VT  05620<br>james.porter@vermont.gov | (for Vermont Department of Public Service) |
| Alexander Wing<br>Vermont Department of Public Service<br>112 State Street<br>Montpelier, VT  05620<br>alexander.wing@vermont.gov | (for Vermont Department of Public Service) |