

**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	
---	--

**SECOND SET OF INFORMATION REQUESTS  
SERVED UPON GREEN MOUNTAIN POWER CORPORATION  
BY THE VERMONT DEPARTMENT OF PUBLIC SERVICE**

The Vermont Department of Public Service (“Department” or “DPS”), by its counsel, Erin C. Brennan and Alex Wing, hereby serves this Second Set of Information Requests on Green Mountain Power Corporation (“GMP”), in accordance with Vermont Public Utility Commission (“Commission” or “PUC”) Rule 2.214 and 2.230, in the above-referenced matter. The Department requests that GMP answer the requests herein, conforming to Commission Rule 2.230, and deliver its answers and all requested documents and materials to the Department’s offices in Montpelier no later than January 29, 2024. Please provide GMP’s answers in electronic format (i.e. word document or other standard file form readable by the Department) and please provide any spreadsheets in an electronic format.

**INSTRUCTIONS**

1. Reproduce the request being answered above your response thereto, pursuant to Commission Rule 2.230(M).
2. Responses to any and all Department requests, either contained herein or filed subsequently, should be submitted to the Department as soon as GMP is able to provide an answer or production. In other words, GMP should not withhold a response to any requests for which it has responsive data, documents, etc. until GMP is able to fully answer all pending requests when a reply is forthcoming for some questions.
3. Commission Rule 2.230(M)(3) requires that the response to each request is to be made under oath by a person competent to testify concerning the response, as well as all documents and exhibits produced as part of said response. When responding to each request please state: (1) the name(s) and title(s) of the person(s) responsible for preparing the response; (2) the

administrative unit which maintains the records being produced or the data from which an answer was derived; and (3) the date upon which the question was answered.

4. Where requested information is unavailable in the exact format requested in the question or is not available for the entire range (e.g. a span of time, such as years, or other periods and classifications) requested in a series, please provide all available information that is responsive to the subject matter of the question.

5. These requests shall be considered continuing and shall be supplemented and updated as provided for in Commission Rule 2.230(D). GMP must supplement, update, correct, and change its answers to be consistent with all relevant information as it becomes available to GMP. For example, actual data must be substituted for estimated data. Responses to requests for information regarding a period of time not entirely in the past (or for which complete actual data is yet to be available) should include all actual data available when requested and be supplemented with the remaining actual data as it becomes obtainable.

6. Whenever and wherever responses include estimated information please include an explanation, or reference to a previous explanation, of the methodology and calculations used to derive the estimates.

7. Some of the Department's requests may reference a particular portion of GMP's filing. Notwithstanding the specific citation, all such requests should be understood to seek all available information that is responsive to the question.

8. With respect to each document produced by GMP, please identify the person who prepared the document and the date on which it was prepared.

9. If any interrogatory or request necessitates a response that GMP believes is totally or partially privileged, please state the complete legal and factual basis for the claim of privilege as described in Commission Rule 2.230(A)(6) and respond to all parts of the interrogatory or request of which no claim of privilege is asserted.

10. If any interrogatory or request is objected to in whole or in part, please describe the complete legal and factual basis for the objection and respond to all parts of the interrogatory or request to the extent to which it is not objected. If an objection is made regarding any requested document(s), please identify the document by author, title, date, recipient(s), and generally describe the nature and subject matter of the document(s) in addition to providing the complete legal and factual basis for the objection.

11. To expedite the discovery process and the resolution of this case, if GMP wishes to have clarification on any of these information requests it should contact the Department as soon as possible and before the deadline for response indicated above.

12. The Department reserves the right to submit additional information requests to GMP.

### DEFINITIONS

13. “Identify,” when used in reference to natural person(s) or legal entities shall be interpreted to request the full name and current business address of said person(s) or entities.

14. “GMP,” as used herein, shall refer to Green Mountain Power Corporation.

15. “Document,” as used herein, shall be construed as broadly as possible to encompass any and all means and media by which information can be recorded, transmitted, stored, retrieved, or memorialized in any form. “Document” shall also include all drafts, copies, or versions which differ in any respect from the original. All spreadsheets submitted must have all formulae accessible and intact.

16. “Petition” shall mean GMP’s Petition and associated attachments, including prefiled testimony and exhibits, filed in the above captioned docket with the Vermont Public Utility Commission, unless context indicates otherwise.

17. “FY” means Fiscal Year.

18. “COS” means Cost of Service.

19. “ROW” means right of way.

20. “ZOI” means GMP’s Zero Outages Initiative.

21. “SAIDI” means System Average Interruption Duration Index.

22. “CAIDI” means Customer Average Interruption Duration Index.

23. “SAIFI” means System Average Interruption Frequency Index.

24. “MYRP” means GMP’s Multi-Year Regulation Plan.

25. “IRP” means an Integrated Resource Plans under 30 V.S.A. § 218c.

26. “BESS” means Battery Energy Storage System.

27. “ESS” means Energy Storage Systems.

28. “Bring Your Own Device” means GMP’s Bring Your Own Device tariff.

29. “RZ” means both a GMP Resiliency Zone.
30. “EV” means electric vehicle.
31. “GRIP” means Grid Resilience and Innovation Partnership under the U.S. Department of Energy’s Grid Deployment Office.
32. “DOE” means the United States Department of Energy.
33. “OCED” means the DOE’s Office of Clean Energy Demonstrations.
34. “NOMAD” means Nomad Transportable Power Systems.
35. “O&M” means Operations and Maintenance.
36. “FERC” means the Federal Energy Regulatory Commission.
37. “IBR” means inverter-based resources.
38. “T&D” means Transmission and Distribution.
39. “AMI” means Advanced Metering Infrastructure.

**SECOND SET OF INTERROGATORIES AND REQUESTS TO PRODUCE SERVED  
UPON GREEN MOUNTAIN POWER CORPORATION**

- Q.DPS.GMP.2-1.** Has GMP performed any cost-benefit analyses for the proposed expenditures in the Petition? If so, please provide all analyses. If not, why not?
- Q.DPS.GMP.2-2.** What is the detailed breakdown of the estimated capital expenditures for the T&D projects and energy storage systems? Please provide.
- Q.DPS.GMP.2-3.** How does GMP quantify the long-term O&M cost savings from the proposed ZOI investments?
- Q.DPS.GMP.2-4.** What are the major cost components of the ZOI, including construction, equipment, labor, engineering, and commissioning? Please provide a cost breakdown.
- Q.DPS.GMP.2-5.** Please provide GMP's ten-year historical data on O&M costs, specifically related to storm-damage repairs and vegetation management.
- Q.DPS.GMP.2-6.** Please describe how O&M costs related to storm-damage repairs and vegetation management will evolve with and without the proposed investments in the Petition.
- Q.DPS.GMP.2-7.** What are the assumptions and methodologies used in GMP's cost-benefit analyses for the expenditures requested pursuant to the Petition?
- Q.DPS.GMP.2-8.** What depreciation method and rate will GMP apply to each asset/expenditure requested pursuant to the Petition?
- Q.DPS.GMP.2-9.** What is GMP's current weighted average cost of capital ("WACC")?
- Q.DPS.GMP.2-10.** How does GMP plan to finance the ZOI investment, and what are the expected impacts on GMP's WACC?
- Q.DPS.GMP.2-11.** What discount rate is GMP using for the Net Present Value calculations, and how is it derived?
- Q.DPS.GMP.2-12.** Please explain how the discount rate from Q.DPS.GMP.2-11 reflects the specific risks associated with the ZOI investment.
- Q.DPS.GMP.2-13.** Please provide a detailed projection of how the ZOI investment will affect GMP's revenue requirements over time.
- Q.DPS.GMP.2-14.** How does GMP anticipate the revenue requirement changes described in response to Q.DPS.GMP.2-13 will translate into rate impacts for customers?

**Q.DPS.GMP.2-15.** What key variables has GMP identified for sensitivity analysis in GMP's Cost Benefit Analysis?

**Q.DPS.GMP.2-16.** Please provide the results of the sensitivity analysis described in Q.DPS.GMP.2-15, including best-case, worst-case, and most likely scenarios.

**Q.DPS.GMP.2-17.** How does the net-benefit of the proposed ZOI investment compare to the "do nothing" scenario?

**Q.DPS.GMP.2-18.** Please provide a detailed 20 year-by-year comparison of the scenarios discussed in Q.DPS.GMP.2-17.

**Q.DPS.GMP.2-19.** Are there any anticipated costs related to regulatory compliance as a result of the ZOI investment? If so, please provide the costs and associated cost breakdowns.

**Q.DPS.GMP.2-20.** How have the proposed ZOI costs been factored into the overall cost-benefit analysis?

**Q.DPS.GMP.2-21.** Has GMP calculated the anticipated rate increase or decrease of this ZOI? If so, please provide a detailed breakdown for Phase I of the ZOI as well as for the entirety of the ZOI.

**Q.DPS.GMP.2-22.** What other cost-benefit scenarios has GMP considered under different conditions, such as varying demand or capital costs, lower-than-expected costs, etc.?

**Q.DPS.GMP.2-23.** Please describe the regulatory recovery mechanism GMP proposes for GMP's ZOI investments.

**Q.DPS.GMP.2-24.** How will the costs of the ZOI be allocated among different customer classes?

**Q.DPS.GMP.2-25.** What specific costs are included in the recovery mechanism?

**Q.DPS.GMP.2-26.** Does the recovery mechanism include any adjustment clauses or performance-based elements?

**Q.DPS.GMP.2-27.** Please provide detailed financial projections, including capital expenditures, operational savings, depreciation, and financing costs for the proposed ZOI.

**Q.DPS.GMP.2-28.** What is GMP's risk assessment for the proposed ZOI investments, including construction, technological, and regulatory risks?

**Q.DPS.GMP.2-29.** How will the proposed ZOI investments impact GMP's overall financial health, including credit ratings and debt levels?

**Q.DPS.GMP.2-30.** How do GMP's proposed ZOI investments align with existing regulatory requirements and energy policies?

**Q.DPS.GMP.2-31.** What are the regulatory compliance costs or incentives related to the proposed ZOI investments?

**Q.DPS.GMP.2-32.** Has GMP studied the impacts of the proposed ZOI investments on different customer classes, including both direct and indirect effects? If so, please provide the results of the study or studies.

**Q.DPS.GMP.2-33.** How does GMP ensure equity regarding spending and ZOI implementation across various socioeconomic groups?

**Q.DPS.GMP.2-34.** What are the externalities and societal benefits, such as environmental impacts, associated with GMP's proposed ZOI investments? Please provide supporting qualitative and quantitative data.

**Q.DPS.GMP.2-35.** What performance metrics and accountability measures has GMP set for all ZOI investments? Please explain in detail for each proposed investment.

**Q.DPS.GMP.2-36.** How will GMP benchmark and report on reliability improvements and cost management during and after the ZOI?

**Q.DPS.GMP.2-37.** Please detail GMP's financing strategy for the proposed ZOI investments, including the mix of equity and debt.

**Q.DPS.GMP.2-38.** How will the financing strategy provided in response to Q.DPS.GMP.2-37 impact the utility's cost of capital?

**Q.DPS.GMP.2-39.** Over what time period does GMP anticipate recovering the costs of the proposed ZOI investments?

**Q.DPS.GMP.2-40.** Please provide documentation of GMP's stakeholder engagement efforts for the ZOI and a summary of the input received.

**Q.DPS.GMP.2-41.** What measures are in place to ensure transparency and accountability in the cost-recovery process for the ZOI?

**Q.DPS.GMP.2-42.** How do the proposed ZOI investments compare with industry best practices and initiatives by other utilities in New England and across the United States?

**Q.DPS.GMP.2-43.** What benchmarks or standards is GMP using for comparisons discussed in response to Q.DPS.GMP.2-42?

**Q.DPS.GMP.2-44.** How do the ZOI investments contribute to or detract from long-term rate stability and predictability? Please provide qualitative and quantitative data to support GMP's response.

**Q.DPS.GMP.2-45.** What are GMP's exit strategies and/or contingency plans if the proposed ZOI projects do not deliver as expected or in the event of significant market or regulatory changes?

**Q.DPS.GMP.2-46.** Please provide a thorough cost-benefit analysis demonstrating the long-term economic benefits of the proposed ZOI investments versus the status quo or alternative options. The analysis should include quantification of benefits such as improved reliability, reduced maintenance costs, and enhanced service quality.

**Q.DPS.GMP.2-47. Please provide the Long-Term Financial Projections:**

Detailed financial projections showing the impact of the investments on the utility's revenue requirements and customer rates over an extended period. The projections should include capital expenditures, operational savings, depreciation, and financing costs.

**Q.DPS.GMP.2-48. Please provide a Rate Impact Assessment with the following information:**

An analysis of how the proposed investments will impact customer rates in the short and long term. Please include scenarios under different conditions (e.g., varying demand growth, changes in capital costs) in the analysis.

**Q.DPS.GMP.2-49. Please provide a Risk Analysis containing the following:**

A comprehensive assessment of the risks associated with the investment, including construction risks, technological obsolescence, and regulatory risks.

Please include an analysis of how these risks will be managed and mitigated.

**Q.DPS.GMP.2-50. Please provide documentation of Regulatory Compliance and Alignment with Policy Objectives which contains:**

Evidence of compliance with existing regulatory requirements and alignment with state and federal energy policies. Please also explain how the investments support objectives like grid modernization, integration of renewable energy, and reduction of carbon emissions.



**Q.DPS.GMP.2-51. Please provide a Customer Impact Study including:**

A study on the impact of the proposed investments on different customer classes, considering both direct cost impacts and indirect benefits such as reliability improvements. Please include consideration of the equity implications for different socioeconomic groups.

**Q.DPS.GMP.2-52. Performance Metrics and Accountability Measures:**

Please define clear performance metrics and accountability measures for the investment. These measures should include benchmarks for reliability, customer service improvements, and cost management.

**Q.DPS.GMP.2-53. Stakeholder Engagement and Public Input Summary:**

Please provide documentation of stakeholder engagement efforts, including public meetings, surveys, and other forms of input. Please also provide summaries of stakeholder concerns and how the utility proposes to address them.

**Q.DPS.GMP.2-54. Please provide a Comparative Analysis with Industry Best Practices which includes:**

A comparison of the proposed investments with industry best practices and similar initiatives by other utilities. Please also compare the proposed investments by benchmarking against national or regional standards for grid investments and resiliency measures.

**Q.DPS.GMP.2-55. Please Provide GMP's Depreciation Strategy and Salvage Value, including:**

Details on the depreciation methods for the new assets and the expected salvage value at the end of their useful life. Please explain the impact of any depreciation strategy on long-term rate stability.

**Q.DPS.GMP.2-56. Please provide the Financing Strategy and Cost of Capital, including:**

Information on the financing strategy for the investments, including the mix of equity and debt, and the expected impact on the utility's cost of capital. Please include details of any external funding sources, such as grants or incentives and how this will have an impact on the costs GMP has requested.

**Q.DPS.GMP.2-57. Please provide the Exit Strategy and Contingency Plans, including:**

An outline of exit strategies or contingency plans in case the projects do not deliver as expected or if there are significant market or regulatory changes.

**Q.DPS.GMP.2-58. Please provide a comprehensive list of all regulatory approvals, permits, and compliance requirements that GMP anticipates will be necessary to undertake and implement the proposed investments towards a zero-outage system. This list should include, but is not limited to:**

Approval of Capital Expenditures  
Rate Case Filings  
Environmental and Land Use Permits  
Grid Integration and System Reliability Standards  
Cybersecurity and Data Protection Requirements  
Other Regulatory Compliance

**Q.DPS.GMP.2-59. Please refer to A.DPS.GMP.1-12:**

- a. How many older poles, that have been replaced by new poles, still have Consolidated Communications' and/or other utility lines on them that require either moving to the new poles or removal?
- b. What is the schedule for having the older poles removed? Please provide area-specific data for both questions (by town, circuit, road, etc.).
- c. What is the cost per pole for removal and who bears the cost?

**Q.DPS.GMP.2-60. Please refer to A.DPS.GMP.1-27.b:**

- a. Please explain which specific initiatives were put into place for the Sharon circuit on and after November 1, 2017; and
- b. Please provide CAIDI, SAIFI, and SAIDI data for this circuit for the 10 years prior to deployment of ZOI-similar initiatives (such as spacer cable, tree-wire, undergrounding, storage, and the like).

**Q.DPS.GMP.2-61. Please refer to A.DPS. GMP.1-44.e:**

- a. Please provide the CAIDI and SAIFI data for the CH-G11 circuit since inception of the Grafton pilot.

**Q.DPS.GMP.2-62. Please refer to A.DPS.GMP.1-48:**

- a. Has GMP developed a budget that includes outside funding sources to help pay for ZOI-related costs?
- b. If so, please provide all documents, spreadsheets, and working papers regarding same.
- c. If not, why not?

**Q.DPS.GMP.2-63.** Please refer to A.DPS.GMP.1-56:

- a. Please provide more details regarding the content and delivery of “active outreach ahead of major storms” that will be provided to customers, including the timing of delivery prior to storms, and the method(s) to convey the information; and
- b. Please provide any and all data (including map data) that GMP has regarding Zone 4 areas where there are fiber locations.

**Q.DPS.GMP.2-64.** Please refer to the benefit/cost analysis for undergrounding distribution lines provided in Attachment GMP.DPS.1.28a:

- a. The analysis assumes that the project is a rebuild of an existing end-of-life distribution line. Will all undergrounding under the ZOI be completed on only end-of-life distribution lines? If not, then please describe what percentage of lines would be replaced with underground before the end of their useful life, and how the remaining lifetime of the distribution line will affect the cost-effectiveness of undergrounding, providing any analysis that has been done to estimate the cost effectiveness of this portion of the ZOI. If no such analysis has been done, why not?
- b. Please provide the source(s) for the assumption of the lifetime of underground rebuild of 63 years, relative to the overhead lifetime of 50 years.
- c. Please provide the source(s) for the assumption of spending per mile of both underground and overhead rebuilds.
- d. In cells D23 and D24, of Attachment GMP.DPS.1.28a, capital spending for 1 mile of underground line is assumed to be \$179,180. In Discovery response A.DPS.GMP.1-42.a (and elsewhere in discovery), GMP estimates using the CIC method the cost per mile of undergrounding rebuild to be \$300,000. Please explain this difference, and how it affects the cost benefit analysis.
- e. Please confirm that the estimates in this workbook are for single phase lines. Please also describe any differences in overhead and underground rebuild costs for three phase lines, and how it impacts the benefit cost analysis.

**Q.DPS.GMP.2-65.** Please refer to A.DPS.GMP.1-34.e.: Does the goal of “customers not to experience outages” equate to a CAIDI and/or a CAIFI and/or a SAIDI and/or a SAIFI metric of 0?

**Q.DPS.GMP.2-66.** Please refer to Attachment A.DPS.GMP.1.54. Please provide any supporting documentation and analysis that created the calculated percentages shown in Row 25. These numbers are currently hardcoded into the attachment. Please explain and describe how the incremental investment has a negative rate impact in FY28-FY30.

**Q.DPS.GMP.2-67.** Please refer to A.DPS.GMP.1-100. GMP indicates no adjustments for economically disadvantaged customers because the “ZOI is about ensuring all customers have access to reliable, resilient service no matter their location.” As GMP notes, the ZOI is proposed to occur in phases, meaning that some customers will benefit before others. Will economically disadvantaged customers be prioritized to receive services first, or will other Vermonters be prioritized? Please explain why.

**Q.DPS.GMP.2-68.** Please confirm that the increase to the allowed capital expenditures of \$280 million is over the first two years of the initiative. Please compare this to currently allowed capital spending under the MYRP. Is this magnitude of an increase feasible given Vermont’s workforce constraints? Please explain why or why not.

**Q.DPS.GMP.2-69.** Please refer to A.DPS.GMP.1-126.d. What are the advantages and disadvantages of GMP owning the battery, instead of the asset becoming the property of the customer? Please describe.

**Q.DPS.GMP.2-70.** Please refer to A.DPS.GMP.1-129. Please provide the referenced manufacturer installation best practices, in particular with regard to fire safety in single-family detached homes. Have any batteries which were installed through GMP programs experienced fire or other health and safety incidents? If so, please summarize and describe.

**Q.DPS.GMP.2-71.** Please confirm whether GMP has, in each of the fiscal years since the MYRP has been approved, used the entire allowable amounts utilized to plant per the Climate Plan.

**Q.DPS.GMP.2-72.** What are GMP’s plans for the disposition of GMP-owned pole lines after GMP completes undergrounding of GMP’s own lines?

**Q.DPS.GMP.2-73.** Has GMP had any discussions with other users of GMP-owned pole lines as to relocation of their facilities after GMP completes undergrounding of the GMP lines presently affixed to the GMP-owned pole lines? If so, please summarize.

**Q.DPS.GMP.2-74.** Has GMP analyzed what, if any, effects the loss of rental revenues from GMP will have on other pole-line owners when GMP completes undergrounding of GMP’s lines? If so, please summarize.

**Q.DPS.GMP.2-75.** As to pole lines located within highway rights-of-way, does GMP have any plans for the orderly decommissioning of such lines after GMP undergrounds its facilities so that responsibility for orphaned pole lines does not devolve on VTrans (in the case of state highways) and municipalities (in the case of town highways)? If so, please provide details.

**Q.DPS.GMP.2-76.** Does GMP have any plans to investigate, and when necessary, remediate creosote or other contamination resulting from historic use of highway rights-of-way for pole lines by GMP and its predecessor companies?

**Q.DPS.GMP.2-77.** Has GMP analyzed how the presence of live underground conduits in rural highway rights-of-way will affect the ability of VTrans (in the case of state highways) and municipalities (in the case of town highways) to make emergency repairs to culverts and other highway drainage structures? If so, please explain.

**Q.DPS.GMP.2-78.** Is GMP intending to coordinate the scheduling of its undergrounding projects with VTrans' state highway and class 1 town highway paving program so that the need to make cuts in new pavement is minimized? If not, is GMP willing to do so?

**Q.DPS.GMP.2-79.** Has GMP developed a plan for when it encounters subsurface infrastructure that already occupies the space where it intends to place underground electrical lines? Please share any such plan. If no such plan exists, why not?

**Q.DPS.GMP.2-80.** How will GMP relocate underground lines when the Agency of Transportation needs the space for highway use? Who will pay for such relocation?

**Q.DPS.GMP.2-81.** What requirements will GMP have for Agency of Transportation staff or contracted staff when construction activities will be in proximity to underground lines?

**Q.DPS.GMP.2-82.** Is GMP prepared to share survey grade locations, including depth, of underground infrastructure with the State of Vermont, including VTrans?

**Q.DPS.GMP.2-84.** Please provide a detailed discussion of the type of affiliate overhead costs that will be allocated to the capital and O&M ZOI projects. In addition, provide a detailed explanation and example why such affiliate overhead costs are incremental to the costs currently included in base rates.

**Q.DPS.GMP.2-85.** Please explain whether GMP will include internal labor costs in ZOI O&M. If so, please demonstrate that the internal labor for the ZOI O&M is incremental to the labor cost for full-time equivalents currently included in base rates.

**Q.DPS.GMP.2-86.** Please refer to GMP's responses to DPS.GMP. 1-48, 1-91, 1-92, and 1-94. GMP indicated that it was not successful in receiving grants from the GRIP Grid Resilience Utility and Industry Program awards, the GRIP Grid Resilience Utility Innovation Program awards, and the OECD Energy Improvements in Rural Areas program, but was expecting new rounds of grant awards.

- a. Discuss the accounting and rate treatment in the ZOI project work orders of the cost of applying for grants and awards.
- b. Confirm whether GMP will actively pursue grants and awards associated with the ZOI projects.
- c. Explain how GMP will treat the amount of grants and awards received for the proposed ZOI projects should they be awarded to GMP.

**Q.DPS.GMP.2-87.** Please explain GMP's financial treatment of assets removed from service through the ZOI projects in the annual base rate filing.

**Q.DPS.GMP.2-88.** In reference to GMP's proposed cost of capital on the regulatory assets, please:

- a. Provide a detailed narrative discussion of how the cost of capital will be computed, including how accumulated deferred income taxes will be included in the computation.
- b. Provide an Excel spreadsheet illustrating the computation with representative values.

**Q.DPS.GMP.2-89.** Please confirm that GMP will maintain detailed transactional records supporting the costs of capital and O&M ZOI projects that will be available for review in the Annual Base Rate Filing.

**Q.DPS.GMP.2-90.** Please refer to GMP's response to Q.DPS.GMP.1-1 where GMP states the information the Department has requested is not available in the requested format:

- a. Please provide the requested information in raw data in the format in which GMP keeps it.
- b. Please identify the start and end dates/times for "storms" used in the SQRP filing for the last five years.

**Q.DPS.GMP.2-91.** Please refer to GMP's response to Q.DPS.GMP.1-3. Please provide the requested map of each circuit in kmz, Autocad, or GIS format.

**Q.DPS.GMP.2-92.** Please refer to GMP’s answer to Q.DPS.GMP.1-4. Please provide a copy of GMP’s ROW Management Plan.

**Q.DPS.GMP.2-93.** Please refer to GMP’s response to Q.DPS.GMP.1-6:

- a. Regarding Customers Experiencing Multiple Interruptions (“CEMI”) performance: Exhibit GMP-MB-8 East Jamacia and GMP-MB-9 Bethel are heat maps of CEMI coupled with Zone 1 through 4. Please provide all similar maps for other areas developed by GMP in the last two years.

**Q.DPS.GMP.2-94.** Please refer to GMP’s response to Q.GMP.DPS.1-12. Please provide GPS\_X in latitude in degrees and GPS\_Y in longitudinal degrees.

**Q.DPS.GMP.2-95.** Please refer to GMP’s response to Q.GMP.DPS.1-13. Please provide GPS\_X in latitude in degrees and GPS\_Y in longitudinal degrees.

**Q.DPS.GMP.2-96.** Please refer to GMP’s response to Q.DPS.GMP.1-16. Please provide the engineering design standards and/or overcurrent philosophy for setting the phase overcurrent relay, ground overcurrent, and any other relay that may be in use for high impedance faults. Please include sample settings for a feeder that currently has spacer cable in Zone 1.

**Q.DPS.GMP.2-97.** Please refer to GMP’s response to Q.DPS.GMP.1-31 and Attachment GMP.DPS.1-31a – Battery Outage Data by Customer:

- a. The Department understands that the residential batteries are rated 13.8 kWh and sometimes two are used at one home to achieve 27.6 kWh. Please confirm.
- b. Please explain why several of the installations had more than 50 kWh energy export during an outage. Specifically, why locations GMP 024202003 had 525 kWh, GMP 1473920160 had 364 kWh and GMP 3524920369 had 276 kWh on the 2-hour outage on May 31, 2019, that started at 5PM.
- c. The data provided was in MWh of export. Please confirm these values are MWh and not kWh.
- d. Can GMP explain why in 17,905 events (customer with battery discharging for an outage) out of data set of 34,780 such events, or 50% of the events, the batteries discharged less than 1 kWh? If so, please explain why. Is this because there was no capacity in the battery, or the customer used less than 1 kWh for events that averaged over 130 minutes, or some other reason?

**Q.DPS.GMP.2-98.** Please refer to GMP’s response to Q.DPS.GMP.1-34. Please provide the circuit map showing the location of the improvements listed in Attachment GMP.DPS.1.34c.

**Q.DPS.GMP.2-99.** As a follow-up to GMP’s response to Q.DPS.GMP.1-42(d). Please provide an example sketch or actual work order of undergrounding a single-phase line with continued use of overhead transformers.

**Q.DPS.GMP.2-100.** As a follow-up to GMP's response to Q.DPS.GMP.1-44:

- a. The Grafton Study contained Table 2 depicting the comparison of status quo, storm hardening, and residential storage. Please explain how SAIFI, CAIDI, and SAIDI were calculated for this table.
- b. Please explain how GMP proposes to count an outage for battery systems that do not provide whole home backup.
- c. Is the GMP-owned battery system installed on the customer side of the meter or the utility side of the meter?
- d. Does GMP provide an automatic transfer switch to move from grid power to the standby battery system?
- e. Please confirm NEC Article 702.4 and Article 710.15 rules will apply to backup batteries installed by the ZOI. If not, why not.

**Q.DPS.GMP.2-101.** As a follow-up to GMP's response to DPS.GMP.1-45:

- a. Please provide any analysis or workpapers related to Mr. Burke's statement on page 32 of his direct testimony that "[w]e know that for many of these customers, individual residential storage solutions will be more cost effective now than the available storm hardening techniques."
- b. Will a storm-hardened line have lower restoration costs than a non-storm hardened line? Please explain and provide documentation.

**Q.DPS.GMP.2-102.** As a follow-up to GMP's response to DPS.GMP.1-46, please confirm that undergrounding as proposed in the ZOI does not include converting overhead transformers to pad-mounted transformers.

**Q.DPS.GMP.2-103.** As a follow-up to GMP's response to DPS.GMP.1-50, the weighted average calculation appears to be an error in Attachment GMP.DPS.1-50. Please provide backup data or spreadsheet with formulae intact.

**Q.DPS.GMP.2-104.** As a follow-up to GMP's response to DPS.GMP.1-52, please provide documentation of GMP's wildfire mitigation strategies for underground and overhead power lines.

**Q.DPS.GMP.2-105.** As a follow-up to GMP's response to DPS.GMP.1-54 and referring to Attachment GMP.DPS.1-54.xlsx, please provide the Excel model(s) with fully functioning formulas and links intact that GMP relied upon to develop the rate impact estimates provided in the Attachment.



**Q.DPS.GMP.2-106.** As a follow-up to GMP's response to Q.DPS.GMP.1-67:

- a. Please provide documentation to support the cost of \$300,000 to rebuild overhead single-phase lines.
- b. Provide documentation to support the cost of \$700,000 per mile to rebuild a 3-phase overhead line.

**Q.DPS.GMP.2-107.** As a follow-up to GMP's response to Q.DPS.GMP.1-69, please confirm the response meant DPS.GMP.1-50 and not 1-59.

**Q.DPS.GMP.2-108.** As a follow-up to GMP's response to Q.DPS.GMP.1-82: In the Grafton Project (see response GMP.DPS.1.44b attachments), dwelling units with existing BESS, their payments for these systems will be covered, creating a lower overall cost than installing new systems were converted from the EES or BYOD to the ZOI. In GMP response to Q.DPS.GMP.1.82c, GMP now states that customers that obtained a battery via EES or BYOD will not be converted to the ZOI program and will not be reimbursed. Please also see the response to A.DPS.GMP.195. Please clarify which direction GMP proposes to follow for existing customers with EES or BYOD with regard to the ZOI program.

**Q.DPS.GMP.2-109.** As a follow-up to GMP's response to Q.DPS.GMP.1-83:

- a. What is the maximum current rating and voltage rating that can be provided by a battery rated 13.5 kWh used by GMP.
- b. Provide nameplate data for typical battery system deployed by GMP in residential homes.

**Q.DPS.GMP.2-110.** As a follow-up to GMP's response to Q.DPS.GMP-1.84:

- a. Are the battery systems deployed by GMP as part of the ZOI equipped with an automatic transfer switch?
- b. If not, how does the homeowner transfer from a loss of utility power to the battery backup system?
- c. How does the homeowner transfer from backup battery power to restored utility power? Specifically, is this process automated or manual?

**Q.DPS.GMP.2-111.** As a follow-up to GMP's response to DPS.GMP.1-99, please provide a one-line diagram showing how the microgrid fits within the distribution and transmission system.

**Q.DPS.GMP.2-112.** As a follow-up to GMP’s response to Q.DPS.GMP.1-122, for the proposed ZOI program, if a customer in Zone 4 has a larger home and desires to have two 13.8 kWh batteries, do they have to contribute any money for an extra battery. If not, why not?

**Q.DPS.GMP.2-113.** As a follow-up to GMP’s response to Q.DPS.GMP.1-130:

In reference to Attachment DPS.GMP.1-130, please:

- a. Provide property tax models in an Excel spreadsheet with historical inputs for asset classes and prospective inputs for those classes after the completion of proposed ZOI projects.
- b. Provide the State of Vermont documentation supporting the values the columns titled “State Value.”
- c. Provide the documentation supporting Excel row 21 – Less Depreciation 30%.
- d. Confirm whether the column titled “Quantify before ZOI work” represents the number of in-service assets prior to the ZOI project. If it cannot be confirmed, please provide the intent of the column.
- e. Confirm whether the column titled “Quantify after ZOI work” represents the number of in-service assets after the additions and retirements associated with the ZOI project. If it cannot be confirmed, please provide the intent of the column.

**Q.DPS.GMP.2-114.** As a follow-up to GMP’s response to Q.DPS.GMP.1-132:

In reference to Q.DPS.GMP.1-132:

- a. Please confirm and justify the time period GMP will begin accruing property taxes on proposed ZOI projects.
- b. Please provide an example to illustrate GMP’s response to Q.DPS.GMP.2-114(a) (e.g., an asset placed in service October 1, 2024, will be included in property assessments beginning April 1, 2025, at which time property tax accruals will begin).

**Q.DPS.GMP.2-115.** On page four of Mr. Burke’s prefiled direct testimony, Mr. Burke states that the ZOI is a plan “that consists of three major components that work together to create an energy system by 2030....” Please provide the total estimated cost of the ZOI through 2030.

**Q.DPS.GMP.2-116.** When did GMP last complete a depreciation study? Please provide the study.

**Q.DPS.GMP.2-117.** In response to Q.DPS.GMP.1-38, GMP states “[w]hen coupled with solar, the energy storage can run indefinitely assuming solar panels are clear and the sun is shining.” In the past five years, how often have GMP customers needed to rely on battery power when their solar panels were clear and the sun was shining? Please provide supporting documentation.

Dated at Montpelier, Vermont this 19<sup>th</sup> day of January 2024.

/s/ Erin C. Brennan  
Erin C. Brennan, Special Counsel  
Department of Public Service  
112 State Street  
Montpelier, VT 05620-2601  
(802) 522-6301  
[Erin.Brennan@vermont.gov](mailto:Erin.Brennan@vermont.gov)

/s/ Alex Wing  
Alexander Wing, Special Counsel  
Department of Public Service  
112 State Street  
Montpelier, VT 05620-2601  
(802) 461-5009  
[Alexander.Wing@vermont.gov](mailto:Alexander.Wing@vermont.gov)

cc: ePUC Service List