

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Tariff filing of Green Mountain Power Corporation)
requesting a change in rates, effective October 1,) Case No. 26-____-TF
2026)

Petition of Green Mountain Power for approval of its)
new multi-year regulation plan pursuant to 30 V.S.A.) Case No. 25-1955-PET
§§ 209, 218, and 218d.)

**PREFILED DIRECT & SUPPLEMENTAL TESTIMONY
OF JOSHUA CASTONGUAY
ON BEHALF OF GREEN MOUNTAIN POWER**

January 16, 2026

Summary of Testimony

Mr. Castonguay covers several topics in this testimony, beginning by summarizing Green Mountain Power’s (“GMP”) Customer Driven Energy Storage Programs, how this work continues to provide important benefits for customers, and plans to continue energy storage programs during FY27 and the Proposed Regulation Plan (“Proposed Plan”) period. He also discusses GMP’s other innovative New Initiative work and capital investments for these programs during the Rate Year. Mr. Castonguay then describes the forecasted power output from GMP’s owned generation resources in the Rate Year, the Rate Year O&M expense associated with these resources, the capital investments included in this filing for GMP-owned generation, and GMP’s compliance plan to meet Tier III of Vermont’s Renewable Energy Standard (“RES”). Finally, he reports on GMP’s customer service, which continues to exceed internal and external benchmarks.

EXHIBIT LIST

Exhibit GMP-JC-3 ¹	New Initiatives Capital Planning Framework
Exhibit GMP-JC-4	New Initiatives and Customer-Driven Storage Capital Additions (2026–27)
Exhibit GMP-JC-5	ESS Program Financial Model
Exhibit GMP-JC-6	Integrated Energy Storage Pilot Financial Model
Exhibit GMP-JC-7	GMP Generation from Owned and Joint Ownership Projects (2027)
Exhibit GMP-JC-8	Generation Capital Planning Framework
Exhibit GMP-JC-9	Generation Capital Additions (incl. Joint Ownership) (2026–27)
Exhibit GMP-JC-10	GMP Service Quality Monitoring and Reporting Plan (2026)

¹ Because this testimony is also filed as supplemental testimony in the Proposed Plan proceeding, Case No. 25-1955-PET, exhibit numbering in this testimony continues from the exhibits submitted in that case, ending with Exhibit GMP-JC-2.

Table of Contents

I.	Introduction	4
II.	Innovation and Customer-Driven Storage Programs.....	6
III.	Owned Generation – Rate Year Power Production	22
	Wind Projects.....	23
	Hydro Projects	24
	Solar Projects	24
	Other Wholly Owned Generation	24
	Jointly Owned Generation Projects	25
	Summary	25
IV.	Generation O&M Expense	26
V.	Generation Capital Expenditures.....	28
VI.	Renewable Energy Standard Tier III Compliance.....	31
VII.	Customer Service.....	31

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I. Introduction

1 Q1. Please state your name and occupation.

2 A1. My name is Joshua Castonguay. I am employed by GMP as Vice President, Chief
3 Innovation Executive.

4 Q2. Please describe your educational and business background.

5 A2. I have been employed by GMP since 2003, working in engineering until 2009, and then
6 moving into various leadership positions throughout the organization, including the
7 control center and the transmission and distribution (“T&D”) line department, among
8 other responsibilities. In 2017, I became Vice President, Chief Innovation Executive,
9 leading generation, engineering, and the team working on our innovative technology and
10 service. I graduated from the University of Maine in 2003 with a Bachelor of Science in
11 Electrical Engineering Technology.

12 **Q3. Have you previously testified before the Public Utility Commission (“PUC” or the**
13 **“Commission”)?**

14 A3. Yes. I have provided testimony on behalf of GMP in numerous proceedings, including
15 GMP’s 2019 Rate Case (Case No. 18-0974-TF), GMP’s 2018 Multi-Year Regulation
16 Plan proceeding (Case No. 18-1633-PET), GMP’s Bring your Own Device (“BYOD”) &
17 Energy Storage System (“ESS”) joint tariff proceeding (Case Nos. 19-3167-TF & 19-
18 3537-TF), GMP’s Climate Plan proceeding (Case No. 20-0276-PET), GMP’s petition to

1 modify its service territory in support of GLOBALFOUNDRIES U.S. 2 LLC’s request to
2 operate a self-managed utility (Case Nos. 21-1109-PET & 21-1107-PET), GMP’s
3 petition to modify the 2018 Plan Case No. 21-1965-PET), GMP’s current regulation plan
4 (“Current Plan”)(Case No. 21-3107-PET), GMP’s Zero Outages Initiative (“ZOI”)
5 proceeding (Case No. 23-3501-PET), and GMP’s Zone 4 Energy Storage Tariff
6 proceeding (Case No. 25-0719-TF). I submitted prefiled direct testimony in support of
7 this petition for a new Regulation Plan (the “Proposed Plan”) (Case No. 25-1955-PET),
8 which I am now supplementing.

9 **Q4. What is the purpose of your testimony?**

10 A4. I provide testimony on several topics in this rate filing:

11 In **Section II**, I provide an overview of GMP’s innovative work, including the
12 next iterations of our popular residential energy storage programs, that will include in the
13 Rate Year a pilot to further evaluate residential energy storage as a resiliency alternative.
14 I describe these storage initiatives in detail while also explaining how our innovation
15 team develops its capital projects and setting forth the innovation and storage capital
16 investments we have underway during the Interim Year (Fiscal Year 2026, or “FY26,”
17 October 1, 2026–September 30, 2027) and are planning in the Rate Year (Fiscal Year
18 2027, or “FY27,” October 1, 2027–September 30, 2028) to support these innovative
19 efforts to benefit customers.

20 **Sections III–V** provide an overview of GMP’s power generation (also called
21 production) portfolio and the capital projects associated with our generation assets. I
22 detail the projected generation from GMP’s wholly owned and jointly owned facilities,

1 and the operation and maintenance (“O&M”) expenses associated with generation
2 facilities during the Rate Year. I also identify and describe the Interim Year and Rate
3 Year capital costs associated with generation projects.

4 **Section VI** describes the steps GMP is taking to comply with Vermont’s
5 Renewable Energy Standard Tier III requirements and advance state energy policy during
6 the Rate Year.

7 And lastly in **Section VII** I discuss GMP’s strong culture of customer service and
8 report on the metrics we use to measure our customer satisfaction and customer service
9 performance, including our Service Quality & Reliability Performance, Monitoring &
10 Reporting Plan (“SQRP”) and independent surveys. As I explain, GMP continues to
11 exceed our SQRP metrics on customer satisfaction and maintain very high customer
12 satisfaction outcomes as reported in independent surveys.

II. Innovation and Customer-Driven Storage Programs

13 Q5. How is your testimony on GMP’s innovative work organized?

14 A5. In my opening testimony in support of GMP’s Proposed Plan, I described how important
15 innovation is to how GMP controls costs for customers, manages the evolving grid, and
16 improves resiliency as we address economic, climate, and cyber challenges. Our
17 Proposed Plan will continue to support this innovation as a critical component of our
18 affordability and resiliency work as it has in previous regulation plans, carrying forward
19 the successful Innovative Pilot framework and providing for additional investment in
20 popular and valuable energy storage programs. This testimony focuses on the
21 implementation of that framework, summarizing the innovative projects GMP plans to

1 undertake during the Rate Year, and introducing the supporting exhibits for these
2 projects.

3 **Q6. What priorities drive selection of innovation projects?**

4 A6. **Exhibit GMP-JC-3** sets out the planning framework we apply to innovation projects.
5 Four key objectives help determine if we pursue a project: 1) whether it makes sense,
6 economically or in support of other goals such as emissions reductions, for the
7 participating customer; 2) whether it produces value for all non-participating customers;
8 3) whether it provides us with new resources to better manage a distributed and
9 connected two-way grid; and 4) whether the program can be accessed by all interested
10 customers, regardless of income or other circumstances. Many innovative projects begin
11 as pilot offerings under our longstanding Innovative Pilot Program. These pilot projects
12 provide invaluable data from real-world performance and customer experiences so we
13 can iterate with modified pilot offerings, advance a technology to full implementation, or
14 determine that a program is not the right fit to move forward. In a rapidly changing
15 environment, this process allows us to continuously evaluate new technology and ideas
16 that may produce benefits for our customers and help develop and adapt to a modern
17 distributed, two-way grid.

18 Projects that have performed well through pilots may be advanced for broader
19 implementation by other GMP operational teams. Examples of past successful pilots in
20 this filing include EV charging and residential energy storage. We also respond to and
21 meet customer demand for successful and proven programs that are now tariffed, like our
22 residential energy storage offerings that continue forward in this filing.

1 **Q7. Can you explain further how innovation programs are used to create value for all**
2 **GMP customers?**

3 A7. Our innovation programs are designed for equitable access and to create value for
4 nonparticipants with a specific focus on providing new means to control and manage
5 costs, including those otherwise beyond GMP's direct control. Investments in innovative
6 projects and technology over the years have been crucial for generating real-time and
7 lasting savings for customers. This focus continues with the projects proposed in this
8 filing. We seek to generate savings through flexible resources that can stack benefits in
9 ways that maximize as many of the four program objectives as possible.

10 Our leading residential energy storage programs embody this proactive approach
11 and have resulted in significant savings for customers against regional power supply cost
12 pressures experienced by utilities across New England. Just this past summer, a June heat
13 wave exceeding 100 degrees pushed the ISO-NE annual peak to its highest level in over a
14 decade coupled with other system challenges resulting in ISO-NE declaring a scarcity
15 event. During this event we successfully dispatched our energy storage systems and other
16 flexible load resources, projecting to save customers over \$3M in power supply costs. A
17 scarcity event also initiates the first steps that ultimately can lead to rolling blackouts for
18 regional grid stability. Although a small percentage of the total need, every bit of demand
19 reduction helps avoid this type of situation, which our storage provided. In addition, our
20 flexible resources reduced transmission costs nearly \$750,000 for the month of June.
21 Altogether, storage and other flexible load resources have reduced power supply costs
22 more than \$11.6M in 2025, and more than \$26M since 2022. Benefit stacking is the key

1 to the success of our storage programs, which provide a growing range of power supply
2 and power quality benefits when not being used for customer backup or peak reduction.

3 In other existing innovative programs, benefit stacking has been achieved through
4 shared access to flexible loads. Once connected, everyday household devices including
5 heating/cooling, water heaters, and an increasing number of EV chargers become load
6 management resources. Having a range of flexible loads provides further options and
7 solutions as we manage across the grid with storage to reduce loads during peak events to
8 deliver benefits to customers now. For example, curtailing water heating or residential
9 EV chargers can be done for longer durations than other devices, offering flexibility to
10 increase the time we are managing total load and increasing the probability of covering
11 the longer-duration and flatter peaks we expect to see.

12 **Q8. What specific innovation projects are included in this rate filing?**

13 A8. This filing focuses on important, ongoing innovation work including continued
14 investment in residential energy storage programs reflecting current customer demand. In
15 the Rate Year this includes:

- 16 • The renewal of the popular ESS Tariff, subject to Commission approval,
17 which will result in \$17.4M in capital investment in the Rate Year based on
18 expected enrollment.
- 19 • A targeted Integrated Energy Storage Pilot proposal in Zone 4 to deploy
20 energy storage on one circuit as a companion to on-going T&D hardening in
21 Zones 1-3 on this circuit, to evaluate the comprehensive resilience benefits

1 and storm response cost reductions, which will result in a \$7.2M investment in
2 the Rate Year.

3 • Investments made under Energy Storage Assistance Program (ESAP), an ESS
4 tariff rider providing storage to customers on our Energy Assistance Program
5 (EAP), totaling \$1.87M in the Rate Year. These storage investments are
6 described in greater detail below in my testimony. Other innovative pilots to
7 be pursued in the Rate Year include:

8 • EV charging infrastructure supporting continued build-out of Level 3 charging
9 infrastructure.

10 • Resilient Neighborhoods Pilot. This pilot was launched in 2023 with O'Brien
11 Brothers Construction to design and build a neighborhood of fully resilient
12 all-electric homes. Each home is equipped with a smart panel, solar and
13 storage backup, and a Level 2 EV charger along with its all-electric
14 appliances. One more iteration of the pilot is being proposed to gather
15 sufficient data to determine how to best offer the program to more customers.

16 Detailed program information and capital investment by year are set forth in **Exhibit**
17 **GMP-JC-4**, along with more detail on Interim Year projects completed under the
18 Current Plan but included in rate base in this filing. Many of the Interim Year projects are
19 preceding rounds of the projects listed above. Altogether, the filing includes \$3.98M in
20 Interim Year investments that will be closed under the Current Plan's base capital and
21 \$29.24M in Rate Year investment in both innovation and customer driven storage.

1 **Q9. Are there other important innovation pilot programs that you expect to begin in the**
2 **Proposed Plan not associated with a capital project?**

3 A9. Yes. We anticipate pilot programs to use electric vehicles as energy storage to power
4 homes for customers. Called “vehicle-to-anything” (V2X), this bi-directional charging
5 would happen through our existing managed EV charging programs and allow vehicles to
6 provide all the same benefits of stationary storage, including home backup. Subject to
7 equipment availability, we will partner with EV original equipment manufacturers
8 (OEM) or manufacturers of EV charging equipment to offer V2X options to customers.
9 Capital associated with potential pilots would be expected to close after the Rate Year.

10 Many innovative pilots do not require capital investment. One of our most
11 important programs is our Flexible Load Management Pilot (FLM) in partnership with
12 commercial and industrial (“C&I”) customers. We plan to transition this program to a
13 full tariffed offering in the coming Rate Year. This program utilizes the flexibility of C&I
14 customer load to manage peak periods while also giving the customer a better alternative
15 to traditional peak rates and curtailment programs. A great example of this is how FLM is
16 allowing our ski area customers to make snow more predictably and avoid the need for
17 significant operational interference due to curtailment.

1 **Q10. Turning to the residential energy storage investments, your opening direct**
2 **testimony in the Proposed Plan proceeding provided an overview of the work GMP**
3 **is currently doing to develop these offerings. How does GMP envision this work**
4 **evolving over the term of the Proposed Plan?**

5 A10. In the Proposed Plan term, we will continue our existing popular and successful
6 residential energy storage programs, providing a suite of grid services and value streams
7 that allow these systems to pay for themselves and produce benefits for all customers.
8 This includes renewal of both the ESS Tariff to continue to meet customer demand, as
9 well as the complementary Bring Your Own Device (“BYOD”) Tariff, and the ESAP
10 Tariff Rider to ensure the ESS program is available to customers in our Energy
11 Assistance Program (“EAP”). In addition to providing participating customers with this
12 option for home resiliency, we are always looking to develop additional value and use
13 cases for our residential storage fleet to manage power supply and other grid costs going
14 into the Proposed Plan period. We are closely following new developments in storage
15 technology including other ways to integrate storage so it can be an advanced meter or
16 smart panel.

17 This period will also involve the evolution and iteration of storage programs. We
18 will be filing a pilot to evaluate the use of residential energy storage as non-poles-and-
19 wires alternative to provide greater resilience to customers in remote, less dense Zone 4
20 sections of our system. This Integrated Energy Storage Pilot is a targeted iteration of the
21 Zone 4 Tariff filed in Case No. 25-0719-TF, focusing on the East Jamaica EJ-G7 circuit
22 as an important testing ground. The pilot filing is expected to closely follow this rate

1 filing and is supported by a full benefit-cost analysis including expected values of
2 resilience, and importantly will provide real-world experience on the implementation and
3 efficacy of coupling residential energy storage in Zone 4 with the on-going T&D
4 hardening in Zones 1-3 on this circuit. As described in Mr. Burke's testimony, GMP
5 engaged Current Energy Group ("CEG") to provide a benefit cost analysis for all our
6 resilience work, and this included an analysis of our Integrated Energy Storage Pilot to
7 incorporate both the typical power supply benefits along with resiliency and other
8 customer external benefits.

9 More broadly, to allow flexibility for residential storage programs to evolve over
10 the term of the Proposed Plan—including as we test and potentially integrate advances in
11 technology like V2X—we will be seeking a shorter term for the ESS Tariff and related
12 tariffs and riders. Rather than running for the full length of the Proposed Plan as we have
13 sought in previous plans, we will file for a two-year tariff beginning coincident with the
14 Proposed Plan in October 2026. This will allow the 18-month Integrated Energy Storage
15 Pilot to conclude by the time we file any successor tariff, and for evaluation of the pilot
16 results, customer demand at the time, advances in technology, and any changes to the
17 benefits and costs realized for residential storage systems, in developing any future
18 programs to fall under the Customer Driven Storage provisions of the Proposed Plan.

19 **Q11. You mentioned ongoing customer demand for the ESS program; can you describe
20 the current and expected demand at this time?**

21 A11. Over the past twelve months preceding this filing, an average of 75 customers each
22 month have signed up for the ESS program, with a trailing installation rate of 61 systems

1 per month over the same period. The long-term demand trend has remained steady, and
2 we expect that trend to continue into the Rate Year. In 2025, we added another battery
3 option to the program as well through Enphase.

4 **Q12. How were the ESS investments in this filing developed?**

5 A12. Rate Year ESS investments are planned to meet customer demand, using an estimate of
6 approximately 60 systems installed per month. The required capital investment was
7 developed using the same methodology as previous ESS programs updated with current
8 equipment and installation costs. I provide a current ESS Financial Model as **Exhibit**
9 **GMP-JC-5**. This model is grounded in our extensive experience with the ESS program
10 and the actual benefits we have measured, which informs our forecasts of benefits over
11 the life of the program.

12 **Q13. What are the expected benefits of these investments for non-participating
13 customers?**

14 A13. Since the first energy storage pilot programs almost a decade ago, creation of financial
15 benefit for non-participating customers has been a core goal of our storage programs
16 including the ESS program. Through its many iterations, the ESS Tariff has forecasted to
17 provide positive net present value over a system's lifetime, and the installed systems
18 continue to project as overall net positive investments for all customers.² That remains

² On January 30, 2026, we will be making our annual storage report pursuant to the PUC's Final Orders in Case Nos. 24-1715-PET and 25-0948-PET, which will provide additional detail on the positive NPV we continue to expect from existing ESS installations based on current performance.

1 true for the anticipated renewal of the ESS Tariff included in this filing, which continues
2 to produce a positive NPV based on a reasonable range of model assumptions. Please
3 refer to the financial model for detailed results.

4 **Q14. What are some examples of new value streams these energy storage systems may be
5 able to provide?**

6 A14. Energy storage is an important resource in our overall power supply cost management
7 strategy, especially as we continue to experience significant cost pressures from the
8 region that are not directly in our control. One of the significant new drivers of regional
9 power costs is the ISO-NE Day Ahead Ancillary Services market (“DASI”), described in
10 detail in Maria Fischer’s testimony. The future of this new and costly market is uncertain,
11 but depending on the form it takes, there may be opportunities for energy storage to
12 provide some incremental benefit by offsetting costs now for customers. While this
13 benefit is modest at this time, it is new and additional to the expected power supply
14 benefits, including substantial value streams for reducing transmission and capacity costs
15 through peak shaving. Please refer to the ESS Financial Model (**Exh. GMP-JC-5**) for a
16 breakdown of these benefits.

17 **Q15. Why is it appropriate and in customers’ best interest for FY27 ESS installations to
18 be included in base rates?**

19 A15. Including this level of investment based on the expected installations in the Rate Year is
20 consistent with the methodology for ESS investments in GMP’s FY23 traditional rate
21 filing, and with the treatment of expected ESS work throughout the Current Plan.

1 Moreover, this work continues to provide net positive benefits for customers and is
2 therefore beneficial to customers to continue to include this investment in base rates.

3 **Q16. What level of investment is expected in the second year of the ESS Tariff?**

4 A16. If the upcoming ESS Tariff extension is approved by the Commission, the second year
5 will be handled under the Customer Driven Storage provision of the Proposed Plan.
6 Consistent with the intent of that provision, we would evaluate what we are seeing for
7 continued customer interest, evaluate overall installation pace, and propose additional
8 capital to be set based on the demand closer in time to the investment. This process,
9 together with annual metrics tracking performance, will allow us to match the ESS
10 program to customer demand, subject to regular Commission review.

11 **Q17. Can you please describe the upcoming Integrated Energy Storage Pilot in more
12 detail.**

13 A17. The Integrated Energy Storage Pilot is a limited trial deployment of residential storage
14 systems to comprise the third and final component of the fully resilient circuit described
15 in our ZOI proceeding (Case No. 23-3501-PET), along with hardened overhead lines and
16 undergrounding. The EJ-G7 circuit in East Jamaica and surrounding towns has been
17 selected for this pilot deployment. That circuit was a focus of the ZOI proceeding as the
18 worst-performing circuit during storms at the time; it also overlaps communities where
19 customers are more vulnerable based on income and other metrics in the State's
20 Municipal Vulnerability Index. The Commission's ZOI Order authorized and expected

1 comprehensive resilience work across this circuit.³ Since the authorization of that work,
2 GMP has completed or has in progress significant T&D hardening work across the EJ-G7
3 going into the Rate Year other than in the remote Zone 4 areas, described further in Mr.
4 Burke's testimony. This pilot proposal will provide additional resilience for those Zone 4
5 areas that are still susceptible to damage during storms, providing the whole-circuit
6 solution originally proposed in the ZOI filing with a goal of proving out the performance
7 and benefits that can be achieved when an entire circuit is electrically resilient.

8 In my opening MYRP testimony, I described GMP's filing for Zone 4 Energy
9 Storage Tariff pending at the time of that testimony. That initial tariff would have
10 provided a residential energy system to Zone 4 customers on the EJ-G7 and the 56G1
11 circuit, the other circuit planned for comprehensive upgrades, as well as investments on
12 two additional circuits indicated by reliability metrics. Following that testimony, we
13 withdrew that tariff filing to continue to evaluate the benefits and costs of a Zone 4
14 energy storage solution, including through our engagement with CEG. In light of updates
15 to our resiliency program described by Mr. Burke, we concluded that the proposed Zone
16 4 storage solution would benefit—much like our other Innovative Pilot proposals—from
17 additional real-world testing before seeking a broader tariff.

18 The upcoming pilot filing will involve the deployment of around 300 residential
19 energy storage systems to the customers in identified Zone 4 areas on the EJ-G7 circuit.
20 With this deployment, the EJ-G7 will be hardened as proposed in the initial ZOI filing,

³ See Case No. 23-3501-PET, Final Order of 10/18/2024 at 23–24.

1 allowing us to test the performance during storms—and particularly the impact on storm
2 response operations and costs—of a “full ZOI” circuit compared to a range of
3 alternatives, including circuits with varying levels of hardening treatment under the ZOI
4 and Resiliency Project approaches. Including this pilot within our ongoing resiliency
5 work in the rate year provides a wider range of alternative approaches across the treated
6 circuits for measurement and after-action analysis as we continue to refine this work.

7 The pilot approach is appropriate and useful here. We recognize based on the
8 Department’s comments in the initial Zone 4 tariff proceeding that varying perspectives
9 remain on the benefits and the best method to implement this type of resiliency program.
10 As described below, many benefits of this solution are well-understood—these are
11 expected to be net-positive investments just like our other residential storage programs,
12 as a result of the forecasted power supply benefit—but how they perform as part of a
13 holistic integrated storm response, and details like how best to calculate restoration cost
14 savings, warrants additional real world learning and analysis. This resource also provides
15 an important method to equitably address areas of our system that have seen lower
16 service levels and which are more costly to address with a T&D solution, such as
17 undergrounding. Historically, many customers have endured lower levels of reliability in
18 challenging areas of our system despite paying the same as those with higher levels of
19 reliability. We now have the tools to provide these customers with a similar, if not
20 identical, level of resiliency and do it in a way that benefits all other customers. The pilot
21 will allow us to refine and advance these offerings further, integrating comprehensive

1 solutions, while answering questions about the approach, and ensuring it is done in the
2 most cost-beneficial manner for all customers.

3 **Q18. Please describe the benefit-cost work GMP has performed to evaluate whether to**
4 **proceed with this pilot program.**

5 A18. Benefit-cost has been calculated in several ways for these systems. First, power supply
6 benefits and other grid services are quantified using the same iterative residential storage
7 model validated through several ESS, BYOD, and ESAP filings. I provide a copy of this
8 model as **Exhibit GMP-JC-6**. This model reflects our latest experience utilizing our
9 storage fleet in various power supply markets and for grid management. Our storage
10 model also calculates the revenue requirement for this pilot project.

11 Second, values of resilience have been developed together with an outside expert,
12 Andy Eiden of CEG, as described in detail by Mr. Eiden and Mr. Burke, and these values
13 have been applied for the anticipated resilience benefits associated with this work.
14 Because of the pilot nature of this proposal, the reported societal benefit was developed
15 specific to this implementation on the East Jamaica EJ-G7 circuit and takes into account
16 the existing and planned T&D hardening work that will be completed on this circuit. It is
17 not a generalized evaluation of Zone 4 Storage standing alone without the improvements
18 planned for the EJ-G7, resulting in an integrated approach. The resulting analysis is
19 therefore conservative in resilience value relative to a circuit with less comprehensive
20 corresponding hardening.

1 **Q19. What are the results of that benefit-cost analysis?**

2 A19. Based on our proven residential storage programs, this pilot investment is also forecasted
3 to result in a positive NPV over its lifetime under reasonable mid-range model
4 assumptions, while delivering resiliency now to participating customers and other storm
5 response savings. CEG's analysis arrived at a total benefit-cost ratio ("BCR") of 1.11,
6 including \$161k of direct resilience benefit for customers, and the modeled benefits
7 remain positive even without these resilience benefits, at a BCR of 1.09. Therefore, from
8 a rate perspective, this proposal is net-positive for non-participating customers over its
9 lifetime, with power supply benefits accruing as soon as the systems are energized. As
10 described by Mr. Eiden, the valuation of resilience under current industry methods,
11 including the ICE 2.0 calculator, assigns a moderate value to the residential customers
12 expected in Zone 4. This high-level analysis does not take into account all the specific
13 circumstances of Zone 4—which represent the most remote and impacted areas of our
14 service area in Southeast Vermont where we are focused. Customers in Zone 4 are more
15 likely to also face dangerous tree covered roads during storms and are far from
16 emergency or repair services, making a loss of heat, well pumps, or durable medical
17 equipment function, among other storm impacts, much more significant for these
18 customers.

19 Because these systems are expected to be net-positive investments even without
20 accounting for the resilience value and because this limited pilot is focused on learning
21 and data gathering, this approach is appropriate for this phase of work.

1 **Q20. What does GMP hope to learn from this pilot filing?**

2 A20. As I noted above, GMP will soon have built out a resilient distribution system across
3 Zones 1-3 of the East Jamaica EJ-G7 and the Wilmington 56G1 circuits and is moving
4 towards more targeted investments on the next ten circuits that are most impacted during
5 storms. With this pilot filing, the EJ-G7 circuit will have resilience work completed
6 across all four zones, as proposed in the ZOI filing. Its performance during storms and
7 other challenges will be comparable to the 56G1, with a similar level of T&D investment,
8 and also to the targeted work planned in this Proposed Plan. A fully hardened EJ-G7 will
9 provide an opportunity for further understanding and comparison during storm response
10 to evaluate how T&D and storage deployment together allow for restoration
11 improvements and savings in comparison to similar circuits with different treatments.
12 This will advance our evaluation of how this resource can contribute to a more integrated,
13 two-way grid that supports customers in more remote portions of our system. We also
14 intend to focus on direct customer outreach and service, with customer uptake being
15 critical for success. This will include meetings, door-to-door conversations, phone calls,
16 emails, and other targeted outreach and education. Customers will be provided with direct
17 cell phone numbers of GMP team members who will always be available to help answer
18 any questions. Here, we expect to improve upon the Grafton Resiliency Zone Pilot and
19 use this pilot to advance our ability to deploy storage for resiliency going forward as may
20 be proposed in the future.

1 Q21. When can we expect these storage filings to be made?

2 A21. We anticipate filing the renewal of the ESS Tariff by the end of January and a notice of
3 the Integrated Energy Storage Pilot by middle of February.

4 **Q22. Have you made any changes to the Proposed Plan related to these storage**
5 **investments?**

6 A22. Yes, we made a small modification to the Customer Driven Storage provision of the
7 Proposed Plan (Section IV.A.1.v) to include innovative pilot programs under that
8 provision. The section is otherwise unchanged. This change provides upfront flexibility
9 on the form our next storage program may take when we re-evaluate the ESS tariff and
10 any resiliency investments in two years. As before, this provision does not impact the
11 storage investments included in this filing, which are part of our base capital investment,
12 and whether a tariff or pilot approach is used, if at all, for future storage programs.
13 Commission approval is required before any additional cost-of-service impacts are
14 included in rates through the process described in the Proposed Plan.

III. Owned Generation – Rate Year Power Production

15 **Q23. Please describe projected energy output for GMP-owned generation for the Rate**
16 **Year.**

17 A23. GMP's owned and jointly-owned generation for the Rate Year is projected to produce
18 approximately 836,000 MWh of energy, as shown on **Exhibit GMP-JC-7**. This includes
19 projected output from the following categories of projects:
20 • Wind (including Kingdom Community Wind and Searsburg Wind)

1 • Hydro
2 • Solar
3 • Other wholly owned generation projects
4 • Jointly Owned Generation Projects

5 Wind Projects

6 The Kingdom Community Wind project (“KCW”), located in Vermont’s
7 Northeast Kingdom, is a 64.5-MW power plant consisting of 21 VESTAS V112 turbines
8 rated at 3.075 MW each. GMP resells approximately 12.7% of the total site output to
9 Vermont Electric Cooperative (“VEC”), resulting in a net GMP forecasted output for the
10 Rate Year of approximately 160,000 MWh.

11 The first utility-scale wind facility installed in the Northeast, our Searsburg wind
12 facility has operated for almost 30 years and consists of 11 550-kW turbines, with a total
13 nameplate capacity of 6.05 MW, and an operational maximum capacity set by ISO-NE of
14 4.99 MW. While Searsburg has operated reliably, it is beyond its anticipated 25-year
15 service life. As I described in my opening Proposed Plan testimony, we are analyzing
16 repowering the site with three larger more efficient turbines that qualify as a RES Tier IV
17 resource, which would include a Section 248 petition. While this analysis is underway,
18 the existing site is expected to still be operational in the Rate Year with a projected output
19 based on historical production of approximately 10,300 MWh.

20 The projected output of GMP’s wind projects for the Rate Year, net of resale to
21 VEC, is 170,300 MWh.

1 Hydro Projects

2 GMP owns and operates 41 hydroelectric stations with a total capacity of 119
3 MWs. The plant sizes range from the 200-kW Pierce Mills station to the 10.60-MW
4 Proctor station. As described by GMP witness Maria Fischer, we have reviewed the
5 long-term 20-year historical production data, unit availability, planned system outages,
6 upcoming enhancement projects, and operational changes required by Federal Energy
7 Regulatory Commission (“FERC”) relicensing or Vermont Agency of Natural Resources
8 (“ANR”) Water Quality Certifications to forecast the monthly and annual production for
9 our hydro facilities. Based on this data, our forecast for hydro production is 388,324
10 MWh in the Rate Year.

11 Solar Projects

12 GMP owns and operates several distributed solar projects in Vermont. These
13 range from small projects located on GMP facilities to 5-MW solar projects in various
14 locations, some of which were originally part of a joint-venture structure and became
15 GMP’s wholly owned resources. Our wholly owned solar resources are forecasted to
16 produce 61,000 MWh in the Rate Year.

17 Other Wholly Owned Generation

18 In addition to the wind, hydro, solar, and storage facilities discussed above, GMP
19 owns a fleet of four thermal peaker plants. These are the Gorge Gas Turbine, Essex
20 Diesels, Berlin Gas Turbine, and the Ascutney Gas Turbine. GMP has retired two thermal
21 peaker plants, Vergennes Diesels and Rutland Gas Turbine, during the previous plan
22 period. Currently, these peaking plants are not often used and typically operate at an

1 annual capacity factor of less than 1%, with their primary value derived in the capacity
2 and ancillary markets including the new DASI market. Based on a six-year average of
3 production from these facilities, updated to account for retirements and recent plant
4 upgrades, we forecast approximately 1,900MWh will be produced by our thermal peaker
5 facilities in the Rate Year.

6 Jointly Owned Generation Projects

7 Lastly, GMP is a joint owner in four other power generation facilities that we do
8 not manage:

- 9 1. The 50-MW McNeil Biomass Plant, located in Burlington and managed by
10 Burlington Electric Department, in which GMP has a 31% ownership stake;
- 11 2. The Stony Brook Combined Cycle plant, located in Stonybrook, Massachusetts,
12 in which GMP has an 8.80% ownership share;
- 13 3. The Wyman 4 oil-fired facility in Yarmouth, Maine, in which GMP has a 2.92%
14 ownership share; and
- 15 4. The Millstone 3 Nuclear facility, located in Waterford, Connecticut, in which
16 GMP has a 1.73% ownership stake.

17 Based on historical production from these facilities, we forecast our shares to
18 include 213,892 MWh in the Rate Year.

19 Summary

20 Based on the above, GMP forecasts overall production from our wholly owned
21 units to be 621,721 MWh in the Rate Year, and 213,892 MWh from jointly owned
22 facilities, for a total production of 835,613 MWh. See **Exh. GMP-JC-7**. This

1 information is used by Ms. Fischer in developing GMP's Rate Year power costs as
2 discussed in her testimony.

IV. Generation O&M Expense

3 **Q24. Please describe the Rate Year O&M expense for GMP-owned generation.**

4 A24. The generation O&M budget covers all ongoing necessary upkeep and repairs for GMP's
5 55 wholly owned generation plants including wind, hydro, solar, and thermal. This
6 includes the payroll costs for the generation team employees, all outside consultants,
7 FERC licensing costs, permitting and compliance, safety requirements, and smaller items
8 that are not part of a capital project used at the various generation stations. The GMP
9 generation team is always focused on keeping our fleet of power generation infrastructure
10 operating optimally and as safely and reliably as possible at the lowest cost for our
11 customers. This includes work to maintain all levels of compliance at our sites along
12 with enhancements to maintain safe and reliable operations. In addition to these
13 generation facilities, the GMP team inspects and maintains the Jay Synchronous
14 Condenser, which supports KCW and nearly a dozen other small-scale wind and solar
15 facilities.

16 GMP's power generation team employees directly conduct necessary safety,
17 maintenance, and reliability work, unless specialized skills or equipment are needed to
18 assist (for example, engineering, concrete and civil work, and/or heavy equipment
19 handling). Examples of these O&M activities include raking racks that gather debris at
20 hydro facilities, planned and unplanned repairs on various generation components, and
21 preventative maintenance such as changing oil, filters, and lubricants. The GMP power

1 generation team performs as much of the work as we can, and we use outside resources
2 only when necessary. GMP also relies on outside resources for their expertise in FERC
3 and state environmental compliance and permitting obligations.

4 The generation O&M budget is based on spending in the Test Year and
5 adjustments for known upcoming major expenditure requirements, such as large annual
6 FERC- or PUC-required dam inspections and any potential O&M cost reductions due to
7 improvements made in the prior year. These adjustments and the Rate Year generation
8 O&M budget are reflected in the cost of service at **Exh. GMP-LD-RB-3, Schedule C2-c.**

9 **Q25. What are the relevant Rate Year O&M costs for the jointly owned facilities in
10 GMP's power portfolio and how are these costs developed?**

11 A25. The Rate Year power costs for GMP's ownership interest in our jointly owned facilities
12 reflect an inflation-adjusted five-year average of actual, historical non-fuel O&M annual
13 costs. Each of our jointly owned facilities is managed by a lead participant (e.g.,
14 Burlington Electric Department, for the McNeil plant) that is responsible for leading the
15 operation of the facility on behalf of all its owners. The lead owner tracks the expenses
16 and revenues, along with capital expenditures, which are recovered pro-rata from the
17 remaining joint owners. In this way, each joint owner shares in the costs and accounts for
18 their share of O&M and capital associated with the plant on its own books. For FY27,
19 GMP's pro-rata share based on the five-year average noted above is as follows for each
20 facility: Millstone \$4.5M, McNeil \$2.5M, Stony Brook \$1.3M, and Wyman \$0.4M for a
21 total of \$8.7M. For comparison, the Test Year costs for these facilities totaled about
22 \$8.4M. These costs are reflected in the cost of service at **Exh. GMP-LD-RB-3,**

1 **Schedule C2-b**, and incorporated in Ms. Fischer's calculation of Rate Year power supply
2 costs.

V. Generation Capital Expenditures

3 **Q26. What criteria does GMP use to select capital projects relating to owned generation?**

4 A26. Overall, GMP's power generation capital planning is focused on safe and efficient
5 operation of our generation assets, and prioritizes projects that improve the performance
6 of our hydro, wind, solar, thermal generation, and energy storage assets in the following
7 categories: safety, environmental and regulatory compliance, resiliency, plant reliability
8 and operating efficiency, and production output. The generation team's capital planning
9 philosophy is set forth in detail in **Exh. GMP-JC-8**. As with any capital improvement
10 that GMP makes on behalf of our customers, the generation team first evaluates what
11 value the project provides to customers, the environment, and to the safety of our team
12 and then balances it against other department priorities to manage and balance costs.

13 **Q27. How are projects identified and selected to be included in the generation capital
14 plan?**

15 A27. The GMP generation team's 10-year forecast is updated annually to prioritize potential
16 projects based on the philosophy and process described above. Projects involving safety
17 and regulatory compliance are the highest priority, with plant resiliency, reliability, and
18 production output following as the next priority. The Generation Team uses this 10-year
19 plan to recommend individual projects in each year, working with the Capital
20 Management Team ("CMT") to ensure alignment of priorities and available resources

1 between generation capital and that of other teams, as described in Mr. Hassan's
2 testimony.

3 **Q28. Please summarize the generation projects included in this rate filing.**

4 A28. The project categories and projected closed-to-plant totals are summarized in **Exhibit**
5 **GMP-JC-9**. This filing includes \$31.85M of Rate Year capital, and \$9.89M of projects
6 that will close in the Interim Year under the Current Plan. These amounts include GMP's
7 pro rata share of capital expense in the joint owned facilities, which is determined by the
8 principle owner. More detailed information about projects in each of these categories,
9 including project description, plant addition amounts, in-service dates, and project criteria
10 are contained in **Exh. GMP-JC-9** and further summarized below.

11 **Q29. Can you please identify and describe some of the major projects included in the**
12 **Owned Generation category for the rate filing?**

13 A29. Yes. Planned generation capital investments on Owned Generation for this filing include
14 numerous projects. The larger projects included in this filing include:
15 Turbine Runner Replacements

16 Two significant turbine replacement projects, the Middlebury Lower Runner and
17 the Weybridge Runner, will be completed in the Rate Year. A similar turbine
18 replacement, the Bolton Runner Unit 2, will be completed in the Interim Year and is also
19 included in this filing; its capital expense falls under the Current Year base capital. The
20 turbines at each of these facilities have reached the end of their useful lives and have
21 degraded in performance, requiring replacement. In addition to allowing for continued

1 operation, the replacement turbines are more modern and increase generation efficiency
2 and are more effective across a range of flows. Each of these generating units are among
3 the largest in our fleet, and the replacement of these runners will provide for increased
4 production.

5 Somersworth Switchgear Replacement

6 This project will replace the end-of-life electrical switchgear equipment at the
7 Somersworth Hydroelectric Facility, a 1.3 MW FERC-licensed dam and generation
8 facility. This project will install a new 5kV switchgear and is required to meet modern
9 electrical protection standards and ensure long-term safe operation and arc-flash
10 protection for our power production workers. In addition to these important safety
11 benefits, planned replacement of the obsolete switchgear avoids significant production
12 losses if we deferred the work until failure. Planned replacement requires four weeks of
13 downtime to complete while an unplanned outage would result in an estimated 40 weeks
14 of lost production.

15 **Q30. Can you please explain what the generation blanket is used for?**

16 A30. The generation blanket category is established to cover miscellaneous smaller projects
17 that arise throughout the year due to equipment failure, replacement of damaged
18 equipment from high-water or other weather-related events, updated regulatory
19 requirements, and safety priorities, among other factors. Typically, projects that fall
20 within this category are relatively low cost and are completed quickly. These projects are
21 generally needed immediately and are unplanned or unexpected. The total budget

1 amount is developed based on a five-year historical spending average in these categories
2 and includes hydro, wind, solar, and thermal projects, and stands at \$928,566.

VI. Renewable Energy Standard Tier III Compliance

3 **Q31. Please identify the Rate Year expenses included in this filing for complying with**
4 **Vermont's RES for Tier III.**

5 A31. Tier III of the RES establishes annual targets of fossil-fuel reductions based on a
6 percentage of GMP's total load expressed in MWhes. GMP's Tier III target for calendar
7 year 2025 was 7.33% of total load. Each year, the Tier III target escalates by 0.67%. In
8 the 2027 rate year GMP's requirement will be about 344,695 MWhe of additional fossil-
9 fuel-equivalent reductions. Note that the Tier III requirement is on a calendar year basis,
10 which means the GMP rate year spans two compliance periods.

11 Included in this rate filing is \$11.125M of forecasted power supply costs related
12 to Tier III credits retired during the Rate Year. GMP has previously stacked Tier III
13 credits. Therefore, our Tier III compliance cost is based on the average cost of these
14 banked credits, which is currently \$32 per MWh. Credits are added to power supply costs
15 within the year they are retired to meet the obligation. The FY27 forecast is incorporated
16 in Ms. Fischer's testimony and calculation of overall power supply costs.

VII. Customer Service

17 **Q32. Can you provide an overview of GMP's customer service philosophy?**

18 A32. At GMP, customer service starts with our culture across every operational department to
19 put customers first. In recent years we have faced the pandemic, followed by

1 unprecedented storm impacts, plus global, national, and local economic pressures. During
2 each challenge, we center our focus on customers, whether it means helping connect
3 customers with financial aid, finding operational efficiencies to save customers money,
4 having all team members help during storm response, or smoothing impacts from
5 regional cost pressures. We continue to apply this approach by making resiliency
6 investments that help manage costs and deliver savings for customers now.

7 Our direct customer service builds on this philosophy. We have implemented new
8 technology to expand the ways our customers interact with us, including text, emails, web
9 self-service, a mobile app, live web chat, social media, live customer service
10 representatives (“CSRs”), and an automated phone system. Our goal is to continuously
11 exceed customer expectations, quickly and kindly providing information or assistance in
12 a way that works best for them.

13 **Q33. What measures or metrics do you use to track customers’ satisfaction and how has
14 GMP performed under those measures?**

15 A33. We use a variety of measurements, including our performance under our service quality
16 reporting plan, and customer satisfaction surveys that we hire an independent service
17 provider to conduct.

18 We regularly report on our performance under our Service Quality & Reliability
19 Performance, Monitoring & Reporting Plan (SQRP) as recently updated and approved on
20 October 10, 2025, in Case No. 25-0751-PET. The SQRP, which I include as **Exh. GMP-**

1 **JC-10**,⁴ was developed in conjunction with the DPS to establish and track performance
2 standards for GMP including service quality baselines for key service measures linked to
3 customer satisfaction. As explained by Mr. Burke in his testimony introducing the
4 Proposed Plan, the SQRP is now incorporated directly into the Proposed Plan to serve as
5 a measure of GMP's performance for customers under the plan. Our 2025 Annual SQRP
6 report will be filed on January 30, 2025, and will show 92.7% customer satisfaction for
7 CY 2025. These results are in line with historical performance and exceed the state
8 standard of 82.5% satisfaction. GMP was also recently recognized as the top-rated
9 midsize utility in the East region for customer service in the J.D. Power Satisfaction
10 Survey for 2025.

11 In addition, as part of the MYRP, we report on a wide range of performance
12 metrics that capture parts of the customer experience, and our pilot filings also require
13 customer surveys that help decide how to update the pilot, tariff it, or not move forward.
14 We plan to continue refining these metrics with the Department and Commission in this
15 case after we file several sets of annual metrics under the Current Plan on January 30,
16 2026, which will help further guide that conversation.

17 In addition to all the conversations we have with customers on the phone, in the
18 field, and in communities, all of these various feedback tools help us to stay close with

⁴ On January 8th, 2026, the Commission issued an order in Case No. 25-0751-PET directing GMP to file a revised version of its current approved SQRP in that case. The version I provide here is that approved version of the SQRP, which GMP will also be filing in 25-0751-PET to complete the record.

1 customers and are shared and reviewed regularly by the GMP team to continue to drive
2 progress.

3 **Q34. Does this conclude your testimony?**

4 A34. Yes.

I, Joshua Castonguay, declare that the testimony and exhibits that I have sponsored are true and accurate to the best of my knowledge and belief and were prepared by me or under my direct supervision. I understand that if the above statement is false, I may be subject to sanctions by the Commission pursuant to 30 V.S.A. § 30.

Dated at Colchester, Vermont on the 16th day of January, 2026.



Joshua Castonguay