STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Petition of Green Mountain Power Corporation for approval of its new Multi-Year Regulation Plan pursuant to 30 V.S.A. Sections 209, 218, and 218d	)))	Case No. 21-____-PET

PREFILED DIRECT TESTIMONY OF MICHAEL BURKE ON BEHALF OF GREEN MOUNTAIN POWER

September 1, 2021

Summary of Testimony

Mr. Burke's testimony outlines GMP's proposal for its next Multi-Year Regulation Plan to serve customers starting October 1, 2022. He introduces other GMP witnesses supporting the plan. He also explains the context for the new plan, the elements of the plan design GMP proposes, how the proposal improves upon the regulation plan now in effect, and how the new plan benefits GMP's customers. Finally, he covers specific elements of the plan including how GMP will handle capital plant additions under the plan; how GMP proposes to incorporate Climate Plan resiliency projects into capital budgets in the next plan; and how vegetation management operational and maintenance expenses will be handled under the plan.

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GMP-MB-1	Capital Department Planning Philosophies
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PREFILED DIRECT TESTIMONY OF MICHAEL BURKE ON BEHALF OF GREEN MOUNTAIN POWER

I. Introduction

Q1. Please state your name and occupation.

A1. My name is Michael Burke. I am the Vice President, Field Operations for Green Mountain Power ("GMP").

Q2. Please describe your background.

A2. I have worked for GMP since 1997, serving in many roles with the company, including customer service, meter service, and engineering design prior to my current role leading field operations. Since 2009, I have served as the field operations chief and now Vice President for GMP, overseeing the planning and execution of all of our Transmission and Distribution ("T&D") field activities, including all restoration efforts from severe weather events. I also oversee work on pole attachments and broadband deployment and am a member of the Rural Resiliency and Adaptation subcommittee of the Vermont Climate Council. I received a Business Management degree from Champlain College, completed the Vermont Department of Labor Lineman Apprenticeship three-year course, and have taken numerous engineering and operations courses while at GMP.

Q3. Have you previously testified before the Public Utility Commission ("Commission" or "PUC")?

A3. Yes. I was a witness in GMP's Climate Plan proceeding, Case No. 20-0276-PET. Although not formal testimony, I also participated in workshop proceedings before the

Commission, including the grid resilience and reliability workshop the Commission held on January 11, 2018 and the PUC Line Extensions Rule 5.600 workshops.

Q4. What is the purpose of your testimony?

A4. The purpose of my testimony is to support the connection between a strong regulation plan and GMP's commitment to our customers. I have been involved in GMP's core operations for nearly 25 years and have seen first-hand the evolution of GMP's delivery of service. Everything starts and ends with our customers—serving them well is the goal of all of our work, and I have been very proud to be part of helping shape and grow a culture of customer-focused service at GMP.

Throughout my career, I've also seen the tremendous challenges created by climate change. Today's more frequent severe storms and more mature tree and vegetation growth in and adjacent to rights of way require us to think differently about the investments we make to our system on behalf of our customers. As the Commission has heard us say before, the utility model has been changing, and needs to continue to do so rapidly. Innovation in all aspects of our work is required to help customers maintain reliable, affordable, safe electric service with a clean power supply and resilient local system. We are driving carbon out of our power supply portfolio, while working proactively and in real time to counter the effects of more severe weather on our system including new storm hardened construction and more cost-effective underground equipment. In addition, we offer programs to our customers that help them connect more closely to their energy use, providing opportunities to reduce their carbon footprint and build customer-level resiliency to go along with our grid resiliency programs, local

renewables, and load control to lower costs and carbon for all customers. In summary, we are creating a more dynamic and connected energy system that empowers our customers to participate in their energy use in new and innovative ways, while re-envisioning the investments needed to protect communities and customers from the effects of climate change in the long term by advancing more local energy solutions along with storm hardening and undergrounding our lines. GMP's proposed Multi-Year Regulation Plan ("New Plan") is designed to continue this work—with improvements to the successful framework of the regulation plan we currently have in place ("Current Plan").

Q5. How is your testimony organized?

A5. I start by describing the schedule GMP proposes for review of the New Plan, and introduce the other witnesses supporting this Petition. I provide context for our New Plan, including discussing what we've experienced during our Current Plan. I then summarize the improvements we are proposing in our New Plan. Following that summary, I provide more detail to several components of the Plan, including GMP's proposed capital planning and investment process under the Plan, and our approach for vegetation management in the face of a changing climate, explaining why these investments and our new approaches will benefit customers. The proposed New Plan is attached to the testimony of Eddie Ryan & Rob Bingel as **Exhibit GMP-ER-1**.

Q6. Can you describe the proposed schedule for review of the New Plan?

A6. GMP is filing this proposal for the New Plan now to provide adequate time for review prior to expiration of the Current Plan (under 30 V.S.A. 218d(f), which provides up to twelve months for review of regulation plans) and align review of this Petition with the upcoming traditional FY23 rate case, which GMP expects to file in January 2022.

Here is a summary of the review milestones:

Future Reg Plan filed	September 1, 2021
FY23 Traditional Rate Case and FY24-26 Forecasts Filed	January 18, 2022
Commission MYRP Order	September 1, 2022
Commission Order on FY23 Rates	Mid-September 2022
FY23 rates & MYRP go into effect	October 1, 2022

We ask that the Commission issue an order regarding the Petition no later than September 1, 2022, 30 days prior to the date the New Plan would go into effect, so that there is no gap in regulation plan coverage. The New Plan is proposed to cover FY23 through FY26 (with an option to request a one-year extension subject to Commission approval). The timing of the New Plan is also aligned with the transition period for GLOBALFOUNDRIES U.S. 2 LLC's ("GF") Self-Managed Utility proposal, presently before the Commission in Case Nos. 21-1107-PET & 21-1109-PET, which, if approved, would run from FY23 to the end of FY26.

Q7. Please summarize the witnesses on behalf of GMP in support of this proposal.

A7. In addition to my testimony, our filing is supported by the following witnesses:

- **Eddie Ryan and Rob Bingel** in joint testimony describe the proposed yearly mechanics for filings and approvals under the New Plan. They also describe the proposed accounting and regulatory treatment of the elements of the New Plan, including the changes GMP is proposing between the New Plan and the Current Plan. They also summarize the continuation of various plan adjustors and other features of the New Plan, and describe how the New Plan fits the statutory criteria for a regulation plan under Section 218d.
- **Doug Smith** provides context on GMP's present power supply portfolio, how GMP plans to meet and exceed existing state renewable energy goals, and the power costs and revenue mechanisms of the MYRP, including the proposed Power Supply and Retail Revenue Adjustor, which GMP proposes to maintain in the same form as presently approved.
- **Josh Castonguay** describes GMP's customer-facing innovation programs, including GMP's proposed New Initiatives programs and revisions to the related New Initiatives capital exception and the Innovative Pilot program GMP seeks to continue in the New Plan. He also describes how we are advancing new technologies in our substation and system protections, to benefit both system resilience and distributed energy capacity, our work to advance Resiliency Zones as described in our Climate Plan, and GMP's work on electrification of its own fleet to reduce fossil fuel impacts and benefit customers. Finally, Mr. Castonguay

describes our proposal for evolving our Innovation and Performance Metrics proposed in this New Plan.

- **Mark Dincecco** describes GMP's proposed approach to managing Information Technology ("IT") and Cybersecurity investments during the Plan period to benefit customers and how the New Plan provides flexibility to address these investments in the context of rapidly evolving technologies, regulations, and risks.
- **Matt McDonnell** and **Ron Nelson** from Strategen provide an outside expert perspective on GMP's proposed plan, identifying and discussing key components of modern performance-based regulation plans based on their national experience, discussing the strengths of GMP's regulatory framework in Vermont, and recommendations for potential additions to the New Plan the Commission may wish to consider now or in the future.

II. Context for this New Regulation Plan Petition

Q8. The Current Plan was developed as a "performance regulation plan" and went into effect in October 2019. Can you explain how the plan was designed and how GMP's operations for customers have evolved since then?

A8. Our Current Plan represented an important evolution in GMP's regulation plan process. At the time, we had specific goals in seeking a new style of regulation plan that increased accountability and transparency, appropriately balanced risks, encouraged continued good performance, and created a smoother, more predictable base rate path for customers. We had a number of challenges at the time—stacked costs from very damaging storms; a new infestation of the Emerald Ash Borer pest that kills mature Ash

trees in and adjacent to our rights of way; and continuing the disruption of the central power plant model as we decarbonize the system and work to deliver resilient, reliable, cost-effective power for customers.

To meet these interconnected challenges, the Current Plan incorporated several new features not used in prior plans. These included: a limit on overall capital investments closed to plant over three years; a new approach that decoupled GMP's power costs and revenue in a way that increased the performance transparency of GMP's Power Supply forecast; and a new approach to track and report on GMP's performance on a number of important customer service quality and reliability measures, distributed energy resource deployment and management efforts, and other key innovation metrics.

Other mechanisms built into the Current Plan have also provided important flexibility to help evolve operations and better serve customers. This included an opportunity for GMP to file a proactive Climate Plan to advance more projects that increase grid resiliency in the face of significant climate change impacts. As detailed in testimony filed in the Climate Plan, climate change is altering Vermont's weather. These impacts drive a longer growing season and wetter, more damaging storms that adversely affect grid infrastructure and in turn our customers, and these impacts are only expected to increase in the future. The Commission approved the Climate Plan in September 2020, and now, just over a year later, we have started to refine how projects are selected and measured for customer benefit, so that we can focus on the greatest needs and also expand the use of certain tools, such as strategic undergrounding, that will provide the best long-term outcomes for our customers.

Recent weather-related events—including extreme fire and flooding in Vermont and other states and around the world—make it clear that climate change-driven impacts are here to stay and are only expected to worsen in the coming years. That is also why we must decarbonize and electrify the top two sources of carbon pollution in Vermont: transportation and heating. This further underscores the importance of continuing to build additional resiliency work into our capital and system planning. As described further below, we propose to continue this focus on resiliency by building our Climate Plan work into our standard base capital plans in the New Plan.

The Current Plan also benefited customers and GMP by providing greater cost certainty over its three years, with well-defined mechanisms that resulted in relatively limited rate adjustments over the period. Overall, we believe the Current Plan has performed well for customers, even with the significant disruptions created by the pandemic, and we seek to continue the beneficial design of the Current Plan, with some modest but important improvements in the New Plan.

Q9. How did the pandemic impact GMP's operations under the Current Plan?

A9. The global pandemic, which disrupted the economy, our customers, and our collective wellbeing started less than six months after our current performance regulation plan began. From an operational point of view, as discussed by Mr. Ryan and Mr. Bingel, we had to manage serious liquidity challenges because many customers were in economic distress and could not pay their bills. We recognized the unprecedented turmoil and moved quickly to voluntarily suspend disconnection and collection activities and worked in collaboration with the Department of Public Service ("Department") and the

Commission to implement the Commission's disconnection moratorium to ensure that customers were protected during this uncertain time.

At the same time, we continued our essential services, putting in place important safety measures to allow our team to continue to do the necessary day-to-day work to continue providing safe, reliable power during the state of emergency. This included, among other things, moving to remote work as much as practicable, requiring single occupants in vehicles, and other social distancing measures during storm response. While some of these measures added extra steps to our work and extra mileage and wear and tear on our fleet, they were necessary steps to take to ensure the safety of our team and the continued reliability of our systems for customers. I am proud that we quickly and effectively transitioned our complex operations to incorporate the measures required by the pandemic, and I am thankful for the support of the Commission and the strong State response that helped mitigate its impacts.

The Current Plan provided much of the flexibility needed to make the adjustments needed to help customers. Early in the pandemic, GMP requested that collection of certain adjustors be delayed or be offset against each other in order to avoid imposing additional economic burdens on our customers. This helped to minimize rate changes during the pandemic. GMP later proposed, and the Commission approved, revision to the Current Plan regarding the methodology and timing of the return and collection of adjustors to further smooth out impacts to customers. As noted below, we propose to continue into the New Plan this successful change in the collection and return method for the Major Storm, Power Supply, and Retail Revenue Adjustors.

The Current Plan also had the benefit of locking the forecasted changes in several cost categories and limiting adjustments. The plan created zero rate change in FY21, due to significant decreases in power costs and the 10-year Treasury, a positive outcome for customers during a period of economic disruption for many. Despite unprecedented and unforeseen circumstances encountered during the term of the Current Plan, we still performed under our three-year projected rate change average during the Current Plan period and limited adjustor changes for customers.

Q10. Did the Current Plan support innovation and other programs to benefit customers?

A10. Yes. Under the framework, as of today, we've filed or continued pursuing six different pilots, ranging from small pilots designed to help ease the costs of the pandemic such as Vermont Green to cutting-edge pilots like our SPAN Smart Panel pilot currently underway. The Current Plan also supported a number of EV-related initiatives, including development of the EV charging network in Vermont, workplace charging, and efforts to test vehicle-to-grid charging.

We also advanced our popular battery storage program pilots to tariffs during the term of the Current Plan, after our pilots demonstrated the ability of these programs to save money for customers while increasing the overall resiliency of our systems. These tariffed programs continued to prove highly desired by customers and third-party installers and providers. In 2020 alone, these programs saved customers more than $3 million in power costs as a result of peak demand reductions, and provided more than 17,000 hours of backup service combined to customers during outages.

The Broadband Tariff Rider, approved as a strategic initiative under the Current Plan, will help our customers who lack basic broadband service, and will enable equitable access to our energy programs. The Current Plan played a critical part in enabling GMP to pursue each of these programs, providing the opportunity to respond quickly to take advantage of developing innovative solutions. Being nimble is a critical part of the Current Plan that has worked well, and is also required for the New Plan, as we continue to work our hardest at best serving customers in a fast-changing environment.

III. Summary of Changes Sought in New Plan

Q11. What changes is GMP is proposing to make in the New Plan.

A11. We propose to continue the basic framework of the Current Plan, with some improvements for customers.

Capital Investments: The New Plan continues the current framework for capital investments, which requires us to meet a fixed level of capital investment closed to plant over a multi-year period. This framework provides appropriate flexibility in project planning and execution, and requires us to manage costs and budgets better than the "mini rate case" framework of past regulation plans, which added additional costs. We believe these requirements and this flexibility should continue. In particular, I want to highlight to the Commission how helpful it is to have this annual flexibility. Many of the projects we do on behalf of customers are complex and require long planning, permitting, and implementation timeframes. It is not unusual to encounter permitting, easement, or other development issues that can delay projects to such a degree that it is best for our customers if we focus on other projects in the pipeline in a particular year to advance our

resiliency work and not lose further ground to climate change. Over the next several years, we believe this flexible capital approach will also be valuable for customers during a period of potential additional government funding that utilities may be eligible to receive to further enhance system reliability and resilience. Having the ability to adjust and reprioritize annual projects will allow us to respond in real time to such opportunities, which may lower overall capital needs, involve matching funds or have specific required timeframes to be eligible for funding.

O&M: The merger savings platform will be completed at the end of FY22, and as a result, the New Plan requires a new methodology for O&M costs. The approach we propose, described in more detail in Mr. Ryan and Mr. Bingel's testimony, is similar in format to the way other costs are handled in the Current Plan, with some O&M costs fixed for the term of the Plan based on a forecast at the beginning of the Plan, some components updated annually using a formula based on an established inflation factor, and some components re-forecasted and updated annually (like costs subject to annual bidding, forces outside of GMP's control, or less predictability).

Rate Smoothing: We are proposing to continue the rate smoothing mechanism of the Current Plan, with an updated option to further smooth rates between years if warranted and approved by the Commission, to better achieve our goal of reducing rate variability for customers during the Plan period. This proposal is driven by our experience during the pandemic under the Current Plan—while that level of disruption is unusual, it did highlight how much divergence from a forecast can occur and led us to propose an option to smooth further within the New Plan if needed. Mr. Ryan and Mr. Bingel describe

these changes and other minor modifications to the New Plan in more detail in their testimony, and outline how all of the components of the New Plan will operate. I discuss the details of GMP's capital planning approach under the New Plan and some aspects of our O&M costs below, and other supporting witnesses noted above discuss aspects of the proposed changes in their areas of expertise.

IV. Discussion of Individual Plan Components

A. Capital Plant Additions

Q12. Can you explain in more detail how GMP is proposing to handle Capital Plant Additions during the term of the Plan?

A12. Yes, as noted above, GMP is proposing to continue to lock capital plant additions in the New Plan over a four-year period, with a targeted yearly investment that provides flexibility across years, with limited exceptions. This approach has worked well in the Current Plan, and if updated to include other approved capital investment programs, including those currently authorized by the Climate Plan and GMP's anticipated continuation of energy storage tariff investments, the approach will continue to support stable, consistent rates for customers while allowing critical infrastructure upgrades to provide customers safe, reliable, carbon-free power.

As in the Current Plan, we will continue our current established capital planning process during the New Plan. This starts with the development of annual capital budgets, which include consideration of the broader strategic alignment of potential projects, and a detailed evaluation of which projects in each year to move forward for our customers. In any given year, the specific projects pursued by our capital departments will be guided by

the department's general capital planning framework, which are attached as **Exhibit GMP-MB-1**. GMP's Capital Management Team ("CMT") will review and revise as necessary each department's proposed annual budget to prioritize projects to achieve the best overall outcomes for customers and will consolidate each department budget into a final approved capital budget. While the CMT is approving a set of anticipated projects, this process necessarily contemplates some year-to-year flexibility to adjust and substitute projects each year depending on factors that limit individual project completion. These include availability of necessary equipment and materials, and the timing of obtaining necessary easements and land rights, or permitting and other approvals outside of GMP's control.

Prior to commencing work on projects that are included in approved budgets, or those substituted during the year, GMP will document each project in a capital folder following the documentation standard established in Exhibit 2 to the Memorandum of Understanding ("MOU") between GMP and DPS in Case No. 17-3112-INV, which is attached here as **Exhibit GMP-MB-2** and which we propose to continue in the New Plan. This MOU established the parties' understanding of the documentation necessary to meet the known and measurable requirements for capital projects in a traditional cost-of-service rate case. The MOU provides that "the documentation standards outlined in Exhibit 2 shall also apply in any future alternative or non-traditional rate cases from GMP

unless or until a separate documentation standard is established by the Commission or by express agreement between the Department regarding documentation in such cases."[1]

Based on our experience prior to and during the Current Plan, we believe this standard capital planning and documentation approach, together with the flexibility in year-to-year spending allowed by this framework, is the most effective approach to address necessary capital investments for customers during the term of the Plan. This is informed by my years of experience working with our field operations and seeing the variability in permitting and easement acquisition.

The Climate Plan structure—which allowed us to add projects to capital closings in rates only once completed—helped address this while shifting risk to GMP to choose projects that we are confident meet the criteria approved by the Commission. Now that the Climate Plan projects will be included in our base level of investment, it is important that we raise the overall investment level to account for these projects and maintain the year-to-year flexibility for spending.

Like the Current Plan, we propose that the New Plan will be bookended by traditional cases at its start and end, providing a chance to deep dive into the level of capital investment and set the proper foundation for a capital plan for any next regulation period. We propose that this next rate case review take place after four years unless GMP seeks, the Department reviews, and Commission approves a one-year extension.

[1] DPS-GMP MOU (Nov. 9, 2017) in Case No. 17-3112-INV (Rate Case).

Q13. How have you approached thinking about the benefits of GMP's Climate Plan projects that will be incorporated into GMP's capital planning under the New Plan?

A13. As noted above, our approved Climate Plan was intended to accelerate our existing resiliency work during the term of the Current Plan, allowing us to pursue a range of different capital projects of up to $14M per year, under defined criteria, that otherwise we would not have been able to accomplish under the set capital amounts in the Current Plan. As indicated in that proceeding, we will continue this critical work into the next plan by building this increased resiliency work into our base capital planning efforts.

It is imperative that we do this. While we focused in the Climate Plan on the traditional definitions of reliability and resiliency, we now have a new and more holistic mindset and approach for what we must accomplish for our customers. Traditionally, reliability has been the measure of keeping the lights on for customers, and it is a core requirement for utility service. Resiliency is a measure of how well the system withstands the forces that cause outages and how quickly the system recovers when outages occur. Reliability and resiliency can be experienced at both the system level and at the individual customer level—for example, a customer's battery/solar system may aid that individual customer's reliability and resiliency.

In the more decentralized, decarbonized future demanded by the need to combat climate change and lower costs, both are required. We now talk about these two terms together, not separately. The frequent and more extreme severe weather events mean resiliency goes hand-in-hand now with reliability. GMP has done well at outage and restoration response even with more frequent and extreme damaging storms, and we must

continue to make our system more resilient. Cumulative shorter duration outages from less widespread severe storms can be just as disruptive to customers as a single longer duration major severe weather event. Our construction techniques have changed to focus on the concept of resilient, storm hardened construction even when the initial reason for the project may be driven by another need, such as the Vermont Agency of Transportation's road relocation projects. This work needs to continue alongside our customer battery storage and community microgrid projects, which provide individual customers and communities with increased resilience. The electric grid needs to recover as soon as safely possible to enable these important programs and advancements. Meanwhile the system as a whole must balance power from multiple sources across the territory to ensure that electricity can be delivered to everyone at all times, whenever they need it. This is especially true since the imperative to decarbonize statewide will drive greater reliance on clean electricity.

As we described in the Climate Plan, we view the benefits of increased resiliency in terms of keeping the power on for vulnerable communities and customers who experience more outages by virtue of their geographic location and exposure to weather-inflicted damage. The focus of this work is on bolstering our ability to avoid outages through targeted improvements, responding better and faster when they do occur, and building in resiliency to help lessen the impact of significant storms. To enhance the benefits of this work, we ranked our 20 worst circuits as a starting point, and those thereafter, and grouped them by geography, number, and type of customers, and other factors, including the critical facilities located on the circuit, to determine the highest

priority for additional Climate Plan investments. Data from past storm hardening and resiliency work shows these investments are producing meaningful benefits for customers.

Lately, we have been looking at further refinements to our cost-benefit analysis. We know that our biggest outage problems come from tree damage—when large, mature trees that are out of our trimmed rights of way snap during weather events. Under this analysis, undergrounding through more cost-effective cable in conduit techniques will save measurably on future O&M costs. Similarly, adding self-healing capabilities on our distribution system to aid in areas served by radial feed transmission can provide a temporary feed to customers, restoring power within five seconds while allowing our crews to repair the damage without most customers in the area being out of power.

All relevant GMP departments have incorporated the Climate Plan criteria directly into the department capital planning philosophies and project selection criteria. For example, the T&D team now includes an express consideration of the types of storm hardening resiliency projects we implemented in the past year directly into our project evaluation and planning process. These include focusing on moving cross-country lines road-side where appropriate to improve maintenance and repair times, and evaluating and deploying strategic undergrounding options.

As a result of this updated capital planning approach, the total closed to plant amount set for the New Plan will include additional climate projects within the cap, with the same expected year-to-year flexibility on actual projects that may be closed to plant each year subject to the overall four-year total cap. The specific regulatory treatment

approved in the Climate Plan will no longer be needed as this capital will be built into the cap, and the increased focus on this necessary work will continue.

Q14. How does this capital planning philosophy apply to other areas of capital investment?

A14. There are other opportunities to invest to cut down risks to customers and reduce future maintenance costs to which we will apply the same basic philosophy discussed above. For example, as described in Mr. Castonguay's testimony, we are exploring electrifying our fleet of service vehicles, as EVs have a much lower lifecycle cost than traditional vehicles.

Another example is IT, where we will add focus to Operations Technology needs, such as Remote Terminal Unit replacements, and seek to utilize cloud services more widely. While the spending we do in this area will be a part of the FY23 rate case and multi-year forecasts presented then, we also know that cybersecurity needs are increasing and standards governing our industry are tightening—and this is wholly appropriate given the risks presented to energy security and the events that have already occurred at other organizations locally and nationally. In recognition that these standards and requirements are evolving in real-time, the New Plan seeks permission to file, within the New Plan period, a Cybersecurity Plan for additional needed capital or operational expense, as described further in Mr. Dincecco's testimony. This approach, like the request we made for a Climate Plan, will allow us to analyze what requirements come out of ongoing proceedings at FERC and in Congress, as well as potential funding sources that may moderate the scope of additional needed investments and expenses.

Vegetation Management, discussed below, is another area where a more holistic approach to how we view capital versus O&M spending will benefit customers. We are shifting more to using cost-effective strategic undergrounding to address hard-to-maintain rural lines that have longer growing seasons in a warming Vermont climate.

Q15. What level of overall capital investment do you expect yearly during the New Plan?

A15. As noted above, base spending in the New Plan, which will incorporate Climate Plan projects, will be higher than in the Current Plan. Our Current Plan level of approximately $85M per year was itself constrained and was the result of a negotiated compromise in the 2019 traditional cost-of-service case, which preceded the Current Plan. We noted at the time that this level of capital investment would present challenges, as we both sought to maintain the same high-quality, safe, and reliable service our customers expect and deserve, and also pursue important long-term investments and strategic initiatives for our customers to keep costs down in the future. We embraced the challenge, and in many respects a constrained capital approach has forced us to continue to test assumptions and strategically prioritize investments for customers, but the current $85M annual level is unsustainable, particularly as we plan to address increasing risks presented by climate change. The addition of up to $14M in Climate Plan projects during the second year of the Current Plan helped ensure we had sufficient resources to implement important projects to make critical progress for our customers.

With those two categories combined and updated to account for equipment, materials, labor costs, and other items, along with enhanced investment needed in some areas, we expect overall annual capital plant additions to be in the range of $115M to

$125M a year. GMP will present known and measurable information for projects proposed in the FY23 traditional case, which will provide an opportunity to thoroughly review and evaluate the necessary base level of annual spending. This will serve as the foundation for the following years of the Plan. As described further in Mr. Ryan and Mr. Bingel's testimony, we will also file forecasted budgets for FY24–FY26 in conjunction with the FY23 case, which can be used to establish a set level for capital additions over the term of the New Plan, as was done in the Current Plan.

B. Vegetation Management O&M Expenses

Q16. Can you speak in more detail to how GMP is planning to address vegetation management costs under the New Plan, and what if anything is driving the changes in your approach?

A16. Vegetation management is an extremely important part of the work we do for our customers. Managing our transmission and distribution corridors helps ensure our system is as reliable and resilient as possible. As we discussed during the Climate Plan proceeding, this work is becoming more important and more challenging. This is due to several factors. On the one hand, the tree canopy around our transmission and distribution lines is more mature, with trees often reaching more than 100 feet outside of our rights of way. The vast majority of our distribution rights of way have 25' clearances—12.5' on either side of the pole—with little opportunity to expand them. In addition, climate change has also accelerated tree growth. The National Oceanic and Atmospheric Administration ("NOAA") summary of Climate Change Impacts in Vermont notes that average temperatures in Vermont have increased by more than 2º F

since the beginning of the 20th century, and this warming trend has resulted in longer growing seasons, in some areas adding almost a full additional month to the growing season. **Exhibit GMP-MB-3** (NOAA VT State Summary). And these more mature, faster-growing trees are now exposed to more frequent and more extreme weather events, also driven by climate change, which leads to more damage and outages.

In addition, climate change has made Vermont more susceptible to new invasive species that, due to warmer weather, are now moving north and devastating some Vermont tree species. When we filed our prior plan, we advised the Commission that Vermont was starting to see the impact of the Emerald Ash Borer ("EAB"), an invasive insect that quickly kills 99% of the ash trees it infects. As these trees are infested and killed by the EAB, they weaken and fall over and can have a significant impact on the safety and reliability of infrastructure, including electrical infrastructure. Typical tree failure occurs between 3–5 years after the tree is infested. When we filed the Current Plan in 2018, EABs had only been identified in a few small areas of Vermont. To address these localized impacts, we proposed an annual adjustor (the EAB adjustor) to allow for EAB tree removal based upon our tree survey of these areas. This limited approach made sense at that time because the scope of work to address this new threat was limited and still evolving. Unfortunately, since that time, the EAB impact in Vermont has only expanded, and is now documented widely in Vermont, making it clear

that this infestation will become an increasing regular maintenance cost across our entire service territory.[2]

To confront these ongoing conditions head on, we have adjusted our vegetation management methods in several ways. First, in the New Plan we will be incorporating the cost of EAB management into our baseline vegetation management costs. In addition, we are now conducting competitive fixed-price bidding for all of our tree trimming projects a year ahead to lock down contractors with specific commitments for upcoming projects. We need this for both price control and labor assurance. Unfortunately, climate-driven impacts are everywhere, and that has made securing tree maintenance contractors more difficult. In addition, fewer workers are joining this industry in this area, adding to labor costs. The significant need elsewhere in the country, such as the western United States due to increased fire events, has also negatively impacted our ability to secure tree maintenance contractors. We've found this new competitive fixed-price bid approach helps secure the necessary work at the best price and also gives us certainty on the next year's costs and trimming progress. Tree maintenance companies provide bids based on annual growth and estimates of total biomass, which must be done close in time to the proposed work. Therefore, we are proposing that vegetation management related O&M costs be updated annually based on

[2] *See, e.g.*, VT Digger, *As the emerald ash borer munches on, Vermont tries to protect ash trees that are left* (Apr. 25, 2021), available at https://vtdigger.org/2021/04/25/as-the-emerald-ash-borer-munches-on-vermont-tries-to-protect-the-ash-trees-that-are-left/.

competitively selected fixed bids, which will essentially provide known and measurable data for the coming rate year.

Q17. Are there other measures GMP is pursuing to reduce line maintenance costs and improve reliability for customers?

A17. Yes. As noted above, we continue to explore strategic undergrounding opportunities to help reduce future costs associated with vegetation management, pole inspections, and car-pole accidents while at the same time improving reliability for our customers. As discussed during the Climate Plan proceedings, GMP has started using new installation methods and technologies, including cable in-conduit systems, which have expanded the opportunity for cost-effective undergrounding in rural areas in our service territory. In the past two years we have replaced twenty miles of rural overhead lines within underground lines across our service territory. We see a great opportunity to expand this cost-effective solution, which increases reliability. We are also learning how to address some of the complexities that can arise, such as significant ledge in the ground. Another initiative we are working on with undergrounding is how best to integrate our communication partners as we work to help expand broadband in VT, specifically in rural areas. We believe these issues have practical solutions, both on the engineering side, and on the public education side, as we help our partner towns and stakeholders understand the mutual benefits of undergrounding in terms of safety, reliability, and future cost reductions.

Our experience indicates that this type of work, in the right locations, can save customers money. We are analyzing the overall potential savings from these

installations, and we believe there are approximately $1,700 per line mile per year in savings for rural single-phase underground installations on reduced tree trimming and overhead line inspection. Our work so far indicates that other O&M savings likely would also accrue. This level of savings could materially tip the balance towards more undergrounding, particularly in rural areas in our service territory. Ultimately, our vision is to rebuild significant portions of our rural territory with these new underground methods, which should result in reduced future costs in those areas, along with measurably increased reliability for our customers. During the New Plan, we anticipate further evaluating how and where to best implement these solutions so that we can deliver these long-term benefits for customers.

V. Benefits of New Plan for Customers

Q18. Please explain why you believe the elements of your proposed New Plan are necessary and appropriate for this next four-year period.

A18. As described above, we believe the Current Plan has performed well for customers, especially during a period of significant uncertainty. The New Plan builds on this solid foundation, with some meaningful adjustments that will help further limit rate volatility during the Plan period even in a time of rapid change, while encouraging efficient and innovative service that ultimately will reduce costs for customers.

Critically, the New Plan continues to incent the transformation to a more decentralized system, with more resilient lines and more distributed resources, so that we can continue to provide safe, reliable, low-carbon and low-cost service to our customers in the face of a changing climate. This approach will achieve continued strong alignment

between customers and GMP, far better than traditional ratemaking would alone, and at a lower cost.

The predictability we can achieve through a sound regulation plan will benefit our customers in material financial ways. In particular, the design will be highly supportive of GMP's ongoing credit rating and financial strength, as described further in Mr. Ryan's and Mr. Bingel's testimony. In addition, continuing the existing power supply and retail revenue adjustment mechanism implemented in the Current Plan will help avoid stacking cost pressure due to volatility in power markets and unpredictable events, through the use of forecasting and adjustors. As described in Mr. Ryan and Mr. Bingel's testimony, keeping these components in the New Plan will benefit customers and achieve the overall statutory goals for regulation plans under 30 V.S.A. § 218d.

Q19. Does that conclude your testimony at this time?

A19. Yes, it does.