

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. 23-3501-PET

Petition of Green Mountain Power for approval of its zero outages initiative as a strategic opportunity pursuant to 30 V.S.A. § 218d and GMP's multi-year rate plan

**PREFILED DIRECT TESTIMONY OF
JACOB M. THOMAS & SEAN FOLEY
ON BEHALF OF THE
VERMONT DEPARTMENT OF PUBLIC SERVICE**

March 15, 2024

Summary: Our testimony discusses the potential implications for retail rates of Green Mountain Power's ("GMP" or "Company") Zero Outage Initiative ("ZOI") proposal. Furthermore, our testimony includes our recommendation for the development of performance-based incentives tied to performance metrics being recommended by other Vermont Department of Public Service ("Department" or "DPS") witnesses as a means to share the potential risks of GMP's ZOI between ratepayers and shareholders.

Mr. Thomas Sponsors the Following Exhibits:

Exhibit DPS-JMT-1	Professional Resume of Jacob M. Thomas
Exhibit DPS-JMT-2	GMP Response to Discovery: A.DPS.GMP.1-54
Exhibit DPS-JMT-3	GMP Response to Discovery: A.DPS.GMP.2-66
Exhibit DPS-JMT-4	GMP Responses to Discovery: A.DPS.GMP.2-13 and A.DPS.GMP.2-47
Exhibit DPS-JMT-5	Side-by-Side Comparison of FY27 Financial Statements
Exhibit DPS-JMT-6	List of DPS Recommended Interim Performance Metrics for Option II
Exhibit DPS-JMT-7	Financial Incentive Formulas for Performance Metrics for Option II

1 **Q1. Please state your full name, address, and occupation.**

2 A1. **Mr. Thomas:** My name is Jacob M. Thomas. My business address is 1850 Parkway
3 Place, Suite 800, Marietta, GA 30067. I am a Principal of the firm GDS Associates, Inc.
4 (“GDS”).

5 **Mr. Foley:** My name is Sean Foley, and I am the Chief of Finance and Economics with
6 the Department.

7 **Q2. Please outline your formal education and accreditations.**

8 A2. **Mr. Thomas:** I earned a Bachelor of Science in Industrial and Systems Engineering
9 degree from the Georgia Institute of Technology (“Georgia Tech”) in 2000.
10 Additionally, I earned a Master’s degree in Business Administration with a concentration
11 in Finance from Auburn University in 2006. I am a registered professional engineer in
12 Georgia and a member of the American Statistical Association.

13 **Mr. Foley:** I have a Bachelor of Arts in Physics from Saint Michael’s College and a
14 Master’s degree in Applied Science and Energy Science from New York University.

15 **Q3. Please state your professional experience.**

16 A3. **Mr. Thomas:** I have 25 years of experience working in the industry, all with GDS. In
17 that time, I have provided expert consulting services for utilities and industry
18 stakeholders in the areas of wholesale and retail Cost of Service (“COS”) and rate design,
19 load forecasting and data analytics, and demand response program evaluation and design.
20 I have managed and developed COS studies on behalf of dozens of utilities and provided
21 expert reviews on behalf of intervenors in regulated rate cases in several jurisdictions. I

1 have experience in innovative rate design including residential three-part rates, time-of-
2 use rate design, net metering and net billing policy review, electric vehicle charging rates,
3 and economic development rates.

4 **Mr. Foley:** I have been with the Department for over 28 years, in both the Planning,
5 Finance and Legal Divisions. Prior to joining the Department, I was a Senior Associate at
6 Barakat & Chamberlin, Inc. and, prior to that, I was Director of Resource Planning at
7 Burlington Electric Department

8 **Q4. Have you testified in Vermont in the past?**

9 A4. **Mr. Thomas:** Yes, I have testified in Docket No. 7440 and Case Nos. 18-0974-TF,21-
10 0898-TF,21-3707-PET, and 22-0175-INV.

11 **Mr. Foley:** Yes, I have testified in numerous Commission proceedings, including Docket
12 Nos. 5270, 5965, 5970, 6018, 6120, 6430, 6495, 6596, 6750, 7032, 7373, 7508, 7742,
13 7780, 7781, 7782, 7843, 8190, and Case Nos. 18-0409-INV, 18-2850-TF, 19-0513-TF,
14 19-1270-TF, 19-3020-TF, 19-3167-TF, 19-3272-PET, 19-3529-PET. 19-3537-TF, 20-
15 0276-PET, 20-0654-CC, 21-2186-TF, 22-2291-TF among others.

16 **Q5. Have you testified before any other regulatory commissions?**

17 A5. **Mr. Thomas:** Yes. I have submitted testimony before the regulatory commissions in
18 Georgia, Indiana, Maryland, Michigan, North Carolina, North Dakota, South Carolina,
19 and Utah. I have also recently filed pre-filed testimony before the Federal Energy
20 Regulatory Commission FERC.

21 **Mr. Foley:** No, I have not.

1 **Q6. For whom are you testifying?**

2 A6. We are testifying on behalf of the Department.

3 **Q7. Were your testimony and exhibits prepared by you or under your direct supervision**
4 **and control?**

5 A7. Yes, all exhibits were prepared by Mr. Thomas and reviewed by Mr. Foley.

6 **Q8. Please summarize the purpose of your testimony.**

7 A8. Our testimony will begin by reviewing the impacts that GMP's ZOI will have on
8 ratepayers with discussion about the potential impact on ratepayers of a full ZOI
9 program, since GMP's current petition is for only a portion of their estimated costs to
10 implement the plan in its entirety. We will then discuss how the risks associated with the
11 ZOI should be shared between GMP's ratepayers and shareholders. We will then
12 introduce performance-based regulation ("PBR") as a mechanism that is in use in the
13 industry to allow for such risk sharing. Finally, we will conclude with recommendations
14 related to financial incentive development under either of the two recommendations
15 being made by the Department in this case. In the primary recommendation, or **Option I**,
16 we conclude that the incentives should be developed by the Department and GMP as part
17 of the Phase I plan detailed in Ms. Anne Margolis' testimony. In the secondary
18 recommendation, or **Option II**, we conclude with recommendations for a proposed
19 incentive mechanism that is directly tied to the interim performance metrics
20 recommended by other Department witnesses.

21

RATE IMPACTS OF ZERO OUTAGE INITIATIVE

1
2 **Q9. Has GMP estimated the impact on customer rates from the ZOI?**

3 A9. Yes. GMP Estimated that the rate impacts would not exceed 2% annually.¹ Using
4 financial statements that reflect ZOI and non-ZOI performance as provided by GMP, we
5 have estimated full implementation of the requested capital projects would result in a
6 cumulative rate increase of 3.55% in the third year of the first phase of the ZOI plan as
7 requested by GMP.²

8 **Q10. In your opinion, was GMP's rate impact estimate provided with enough detail?**

9 A10. No. GMP did provide a side-by-side comparison of multi-year financial statements that
10 they used to compute the rate increases. However, due to limitations of their software,
11 they were unable to provide a working spreadsheet with formulas to allow the
12 Department to verify their computations.¹ Furthermore, it appears that, although GMP
13 describes how ZOI initiatives might help reduce operating costs in the future associated
14 with maintenance or storm recovery, there is no evidence such cost reductions have been
15 included in the rate analysis.²

16 **Q11. What conclusions can you draw from what GMP has provided with respect to rate
17 impacts?**

18 A11. A simple comparison of the side-by-side financial statements demonstrates that the
19 statements do indeed show a cumulative increase in rate revenue of 3.55% for the
20 operating statements in FY27, as shown in **Exhibit DPS-JMT-5**. On page 1 of the
21 Exhibit, it is demonstrated that GMP shows an increase in retail revenues, depreciation

¹ See Exhibit **DPS-JMT-2**; see also **Exhibit DPS-JMT-3**.

² See **Exhibit DPS-JMT-4** and **Exhibit DPS-JMT-5** which shows no cost reductions in GMP's projected operating costs associated with ZOI.

1 and amortization, taxes other than income, interest expense, and income taxes due to the
2 implementation of the ZOI. There are no shown reductions in any operating expenses.
3 The ZOI case results in an increase of nearly \$11.6 million in net income. Pages 2 and 3
4 of **Exhibit DPS-JMT-5** show the comparison of the balance sheet for FY27
5 (demonstrating increased plant in the amount of \$280 million), and page 4 shows a
6 comparison of a statement of cash flows for FY27. The comparison shows that many of
7 the items that would be expected to change under the ZOI scenario do change, except for
8 no shown reduction in any operating expenses. Given the lack of detailed cost-benefit
9 modeling or a rate impact model with working formulas, it is difficult to conclude
10 whether the 3.55% estimated rate impact provided by GMP is reasonably accurate.

11 **Q12. Is this expected to be the totality of rate increases for GMP ratepayers under the**
12 **ZOI?**

13 A12. If GMP gets approval for this Phase I and subsequent phases of the ZOI, then no. The
14 current petition to spend \$280 million above the capital expenditures already approved
15 under GMP's Multi-Year Rate Plan is just the first of perhaps several capital expenditures
16 for ZOI.

17 **Q13. What, then, might be the expected total impact on ratepayers for full**
18 **implementation of the ZOI?**

19 A13. The rate impact would be considerable given what we know today. GMP has estimated
20 the total investment to fully implement its ZOI plan could be \$1.5 billion.³ This is a very
21 rough estimate. Although the total cost of the ZOI is undetermined, and the future rate

³ See **Exhibit DPS-AM-3**.

1 impacts are also undetermined, a very rough ballpark estimate can be made by simply
2 taking the 3.55% rate increase for the first \$280 million and extrapolating linearly to a
3 total spend of \$1.5 billion. Such extrapolation gives an approximate rate increase of 19%
4 for full implementation of the ZOI. GMP has not provided sufficient evidence that
5 ratepayers are willing to see such increases in order to drive outages close to zero.

6 **RISK SHARING**

7 **Q14. How are risks born by ratepayers and shareholders in GMP's ZOI proposal?**

8 A14. GMP's recommendation is that it will pursue ZOI projects but not include them in rates
9 until such time as they are used and useful and approved by the Commission. The
10 Company recommends an annual project reporting mechanism to allow the Department
11 and the Commission to review the status of projects. This is a similar approach to GMP's
12 proposal under its Climate Action Plan. This approach represents risk for both
13 shareholders and ratepayers. Shareholders face regulatory risk in that if the Commission
14 does not approve a project that GMP has already constructed for rate recovery treatment,
15 then shareholder returns suffer from inability to recover the costs incurred. This risk
16 would be relatively low, however, if the Commission approves GMP's ZOI request here,
17 signaling likelihood of approving a project once it is used and useful. Furthermore, if the
18 risk was high enough, GMP would not be proposing the regulatory mechanism it has
19 proposed, since its financial obligation is to protect the shareholder's investment and
20 return. Undertaking projects with high regulatory risk without advanced approval would
21 not be in the interest of shareholders. Ratepayers, on the other hand, face performance
22 risk in GMP's proposed approach. Approval for capital expenditures will happen before

1 enough time has passed to determine if ZOI projects help achieve the GMP's stated goal
2 of driving outages to zero. Ratepayers, therefore, would most likely be paying higher
3 rates for projects that do not perform as intended or even help reduce outages at all.

4 **Q15. What mechanism might you recommend that could help manage the risks**
5 **associated with GMP's ZOI?**

6 A15. The Department seeks to establish a plan that would help provide all stakeholders in the
7 ZOI the opportunity to assess progress on achieving performance metrics should the
8 Commission approve GMP's ZOI. A recommended list of performance metrics has been
9 recommended and supported by various Department witnesses. Given that performance,
10 or lack of performance, is the primary risk faced by ratepayers, an incentive structure that
11 ties some portion of the requested rate increase to meeting performance standards would
12 be an appropriate mechanism for sharing some of that performance risk with
13 shareholders. This approach is inspired by Performance-Based Regulation ("PBR")
14 methods, which have been developed in other jurisdictions in the U.S.

15 **OVERVIEW OF PERFORMANCE-BASED REGULATION**

16 **Q16. Please provide a synopsis of PBR.**

17 A16. PBR is a process by which regulators can encourage utilities to achieve improvements in
18 various performance metrics or hold utilities financially accountable for
19 underperformance. The process involves establishing a framework of defined and
20 measurable performance metrics, defining targeted performance for those metrics, and
21 developing a financial incentive system for achievement or failure to achieve a target
22 within a reasonable bandwidth of performance. Such a framework allows regulators to

1 define explicit regulatory goals and gives all stakeholders clearly defined metrics and
2 known consequences for performance. Performance areas that have been subject to PBR
3 metrics have included reliability, employee safety, public safety, customer satisfaction
4 and empowerment, plant performance, cost control, system efficiency, network support
5 services, and achievement of environmental goals.

6 **Q17. In what ways can financial incentives be tied to performance in PBR?**

7 A17. There are several ways that financial incentives can be characterized. The simplest
8 approach is to define a certain specific dollar amount that can be recovered through rates.
9 Other approaches to define the incentive include defining a percentage of transmission
10 and distribution costs, equivalent cents per share, percent of pre-tax earnings, or making
11 an adjustment to the return on equity component of the utility capital structure.

12 **Q18. What other considerations should be given to designing financial incentives in PBR?**

13 A18. Other considerations include the maximum number of financial incentives available
14 overall, the amount tied to each performance target, and the form of the incentive.
15 Incentives can be symmetrical, meaning there are both incentives for superior
16 performance and disincentives for poor performance, or asymmetrical. Finally, the
17 formula used to compute incentives is a consideration. Typical formulas include linear,
18 quadratic, and step functional forms.

1 **RECOMMENDED RISK SHARING INCENTIVES FOR ZOI PHASE I**

2 **Q19. The Department has proposed two Options with respect to the ZOI. Briefly**
3 **summarize your recommendations with respect to each.**

4 A19. The Department’s primary recommendation, or **Option I**, as explained by Department
5 witness Mr. Walter (TJ) Poor, is to delay the implementation of Phase I of the ZOI to
6 allow for the development of a more fully developed plan. Under this primary
7 recommendation, our recommendation includes developing financial incentives that seek
8 to share the risks associated with the ZOI alongside the metrics defined in the planning of
9 Phase I of the ZOI. Under the secondary recommendation, or **Option II**, we propose
10 specific financial incentives further described in the following testimony.

11 **Q20. Please provide a high-level summary of your proposal with respect to risk sharing**
12 **under the Department’s ‘Option II’ recommendation.**

13 A20. We recommend that a risk-sharing plan be adopted as a means to tie financial incentives
14 to GMP for achieving the various performance metrics that have been recommended by
15 other Department witnesses. Specifically, we recommend that a dollar amount
16 “disallowance” be tied to GMP’s performance in each of the five metrics the Department
17 has described in Mr. Mara’s testimony. The disallowance is designed to share
18 performance risk between ratepayers and shareholders should ZOI projects get approved.
19 Such a plan would not replace the regulatory framework GMP has recommended; rather,
20 it would be an additional element to the framework. If GMP underperforms relative to
21 any given metric, a dollar amount of disallowed rate revenues must flow back to

1 ratepayers. Department witness Mr. Steven Hunt describes the accounting treatment for
2 this process in his testimony.

3 **Q21. How many performance metrics is the Department recommending for this**
4 **framework, and what are they?**

5 A21. **Exhibit DPS-JMT-6** provides a listing of the five metrics being proposed by the
6 Department. They can generally be categorized as resiliency metrics, reliability metrics,
7 and battery operational metrics.

8 **Q22. How much risk are GMP shareholders sharing with ratepayers in your**
9 **recommended framework?**

10 A22. It is important to recognize that GMP's shareholders bear regulatory risk, as we described
11 earlier in our testimony. However, that risk is greatly, if not entirely, reduced once the
12 Commission approves the ZOI.⁴ Ratepayers, under GMP's proposal, bear 100% of
13 performance risk and a 3.55% increase in rates for potential improvement in reliability
14 and resiliency. In our performance framework, we recommend a maximum 50/50 sharing
15 of the performance risk of the Department's **Option II**, which limits GMP's investment
16 to \$50 million. The total amount of risk under this recommendation that would be tied to
17 the performance metrics is \$1,035,000. This figure is derived by taking the \$11.6 million
18 in net-income estimated by GMP to spend \$280 million on ZOI projects, reducing it by a

⁴ There is some risk associated with the Commission not approving a given ZOI project for rate base treatment after it has been constructed, but assuming GMP pursues the types of projects it has described in its petition, that scenario is not likely.

1 ratio of 50/280 and then multiplying by 50% to represent equal risk sharing, and then
2 rounding to the nearest one thousand dollars.⁵

3 **Q23. Please describe the design you recommend for computing the amount of**
4 **disallowance for each metric.**

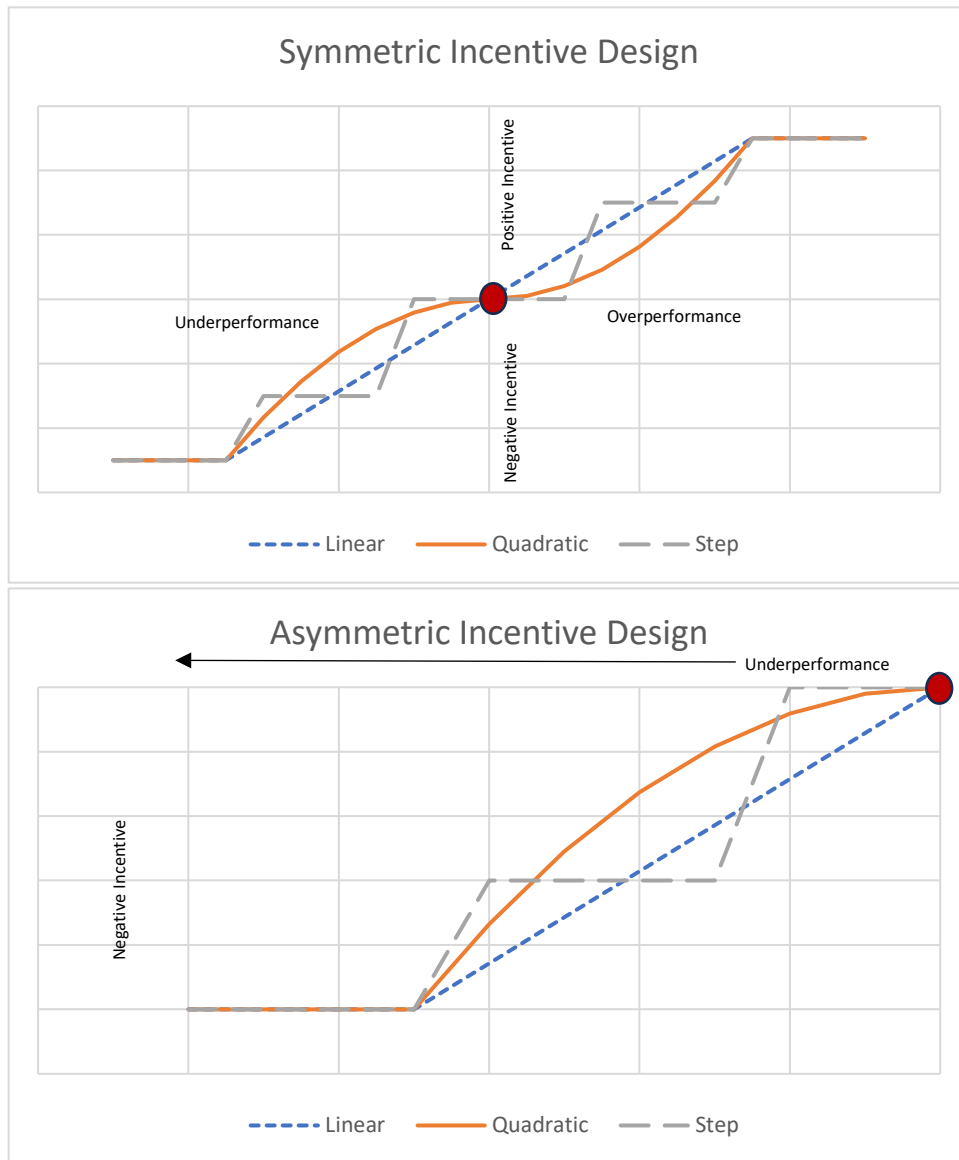
5 A23. Given a maximum disallowance of \$1,035,000 in aggregate and given there are five
6 metrics that the Department is proposing, the maximum disallowance for any one metric
7 is set at \$207,000. Mr. Kevin Mara developed the target and minimum performance
8 standard for each.⁶ We chose to use an asymmetric design, focusing only on a
9 disallowance and to not include incentives for outperforming the target metric, since the
10 focus is primarily on reliability standards and only 50% of the performance risk is being
11 shared with shareholders. According to a report prepared by Synapse Energy, the Alberta
12 Utilities Commission in 2012 rejected a symmetric incentive design for service quality
13 improvements, noting that in a monopolistic utility setting, customers have no choice but
14 to pay higher rates for increased service quality whether or not they want or can afford
15 such improvements.⁷ As we mentioned earlier, there can be linear, quadratic, or stepwise
16 functions to define the amount of the disallowance given different performance levels.
17 **FIGURE A**, provided below, depicts examples of each in symmetric and asymmetric
18 frameworks. We recommend the use of a quadratic design for the formula defining each
19 disallowance level for each metric. The quadratic approach is favorable to GMP relative
20 to a linear approach in that the rate of change for the disallowance is slower at

⁵ \$11,596,817 increase in net income can be found at Exhibit DPS-JMT-5, page 1, last line. $\$11,596,817 \times 50/280 \times 50\% = \$1,035,430$, which rounds to \$1,035,000.

⁶ Refer to Exhibit DPS-JMT-6 for a list of the metrics.

⁷ Synapse Energy Economics, Inc. *Utility Performance Incentive Mechanisms*. March 9, 2015. The referenced Alberta Utilities Commission order is Decision 2012-237.

1 performance levels marginally below the target relative to a linear approach but still
2 provides incentives for performing above a minimum level as defined by the various
3 Department witnesses. We note that the various design considerations mentioned earlier,
4 such as symmetric/asymmetric and the formulation of the incentive function can and
5 should be further discussed and evaluated in a more fully formed ZOI plan as
6 recommended by the Department in **Option I. FIGURE A: Examples of Symmetric and**
7 **Asymmetric Incentive Formula Forms**



1 **Q24. What formulas do you recommend for each metric to determine the level of**
2 **disallowance?**

3 A24. We have developed quadratic formulas and an associated schedule for each performance
4 metric, which are shown in **Exhibit DPS-JMT-7**. The exhibit includes one page per
5 metric and defines the minimum performance level and the targeted performance level. It
6 also shows a formula that can be used to determine the amount of disallowance, if any,

1 for a specified performance measurement. Finally, a sample schedule is provided to help
2 demonstrate the potential level of disallowance at various performance levels. For
3 example, Interim Metric 1 is a 33% improvement in rural feeder SAIDI/SAIFI. For the
4 given formula, if the rural metrics do not improve at all or get worse, then \$207,000 of
5 rate recovery would be disallowed and returned to ratepayers. If GMP improved by 33%
6 or more, then there would be no disallowance. For performance within that bandwidth,
7 the formula would apply. As shown in the sample table on page 1 in the Exhibit, if GMP
8 achieved 22% improvement in the metric, the disallowance would be \$23,000, which
9 would be returned to ratepayers. One metric, Scanning the maximum disallowance on
10 each page of **Exhibit DPS-JMT-7**, one can see that the maximum aggregate
11 disallowance would be \$1.035 million.

12 CONCLUSION

13 **Q25. Please summarize your testimony.**

14 A25. In our testimony, we have reviewed GMP's estimated rate impacts associated with its
15 ZOI for Phase I and provided a very rough estimate of the potential total impact on rates
16 if GMP spends the entire \$1.5 billion in additional investment it estimates for completing
17 the ZOI. We then discussed risks borne by ratepayers and shareholders under GMP's
18 ZOI, highlighting the regulatory risk born by shareholders and the performance risk born
19 by ratepayers. We provided a high-level overview of performance-based regulation and
20 how it relates to this case. Finally, we developed and proposed a recommended regulatory
21 framework for the Department's primary and secondary recommendations, **Option I** and
22 **Option II**, for GMP's Phase 1 ZOI investments. Under the Department's primary

1 recommendation, we recommend the Phase I plan developed should include financial
2 incentives to recognize a fair sharing of risks between ratepayers and shareholders. Under
3 the Department's secondary recommendation, which limits GMP to investing \$50 million
4 in ZOI Phase I, we recommend tying half of the next income generated by the ZOI to
5 performance among five different interim metrics proposed by Mr. Mara in his prefiled
6 direct testimony. We developed a specific formula for each metric that provides a simple
7 calculable amount of disallowance for underperformance by GMP in each metric. This
8 framework would share performance cost risk between ratepayers, who would be forced
9 to pay for service quality upgrades under GMP's ZOI whether they want the upgrades or
10 can afford them, and shareholders who earn a return on GMP's construction of ZOI assets
11 regardless and without guardrails. Each metric and formula are specified in **Exhibit DPS-**
12 **JMT-7.**

13 **Q26. Does this conclude your testimony at this time?**

14 A26. Yes.