

**BEFORE THE  
MARYLAND PUBLIC SERVICE COMMISSION**

IN THE MATTER OF THE APPLICATION  
OF THE BALTIMORE GAS &  
ELECTRIC COMPANY  
FOR A MULTI-YEAR PLAN

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Case No. 9692

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PUBLIC SURREBUTTAL TESTIMONY

OF

DR. ASA S. HOPKINS

ON BEHALF OF THE OFFICE OF PEOPLE'S COUNSEL

AUGUST 25, 2023

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Exhibit ASH-8: BGE Responses to Data Requests

Confidential Exhibit ASH-9: BGE Response to OPC DR 42-05, Attachment 1

Confidential CEII Exhibit 10: BGE Response to OPC DR 3-14, Attachment 1

Confidential CEII Exhibit 11: BGE Response to OPC DR 43-01, Attachment 5

1   **REBUTTAL TESTIMONY OF**  
2   **DR. ASA S. HOPKINS**

3  
4   **INTRODUCTION**

5   **Q. Please state your name and position.**

6   A. My name is Asa S. Hopkins. I am a Vice President at Synapse Energy Economics,  
7       Inc.

8   **Q. Are you the same Asa Hopkins that provided Direct Testimony in this case on**  
9       **June 20, 2023 and Rebuttal Testimony on July 31, 2023?**

10   A. Yes.

11   **Q. What is the purpose of this testimony?**

12   A. The purpose of this testimony is to respond to the testimony provided by BGE  
13       witnesses White, Vahos, Frain, and Dickens on the topics where these witnesses  
14       addressed my direct testimony. I also respond to BGE witness Aas regarding his  
15       characterization of my testimony.

16   **Q. How is this surrebuttal testimony organized?**

17   A. My rebuttal testimony begins with Section II, addressing the prudence of 2021 and  
18       2022 expenditures. I address the appropriate standard and timing for the prudence  
19       review of BGE's investments and then BGE witnesses' testimony regarding risk  
20       mitigation and cost-effectiveness. In Section III, I address cost recovery for capital  
21       investments made during the 2024 to 2026 period. I close with a brief clarification  
22       of the record regarding Witness Aas's characterization of my testimony.

23   **Q. Have you attached any exhibits to this testimony?**

24   A. Yes. I have attached Exhibits ASH-8 through ASH-11:

- 25       • Exhibit ASH-8 is a selection of data request responses from BGE.

- 1           • Confidential Exhibit ASH-9 is BGE's Attachment 1 to its response to OPC DR  
2           42-05.
- 3           • Confidential CEII Exhibit ASH-10 is BGE's Attachment 1 to its response to  
4           OPC DR 3-14.
- 5           • Confidential CEII Exhibit ASH-11 is BGE's Attachment 5 to its response to  
6           OPC DR 43-01.

7 **Q. As a threshold matter, BGE witnesses point out that you have not been**  
8 **involved in Maryland proceedings before, implying that you do not**  
9 **understand the full context of this case. How do you respond?**

10 A. While I have not been engaged in Maryland gas rate cases or engaged in the  
11 details of gas planning from the utility perspective, I have engaged with the issues  
12 I address in my testimony across multiple states and provinces, as detailed in my  
13 CV. In Quebec, the province's regulators qualified me as an expert in "energy  
14 transition in the gas industry and business risk" in a proceeding regarding the  
15 capital structure of the province's gas utilities, where business risk was evaluated  
16 in the context of setting an appropriate return on equity and capital structure.<sup>1</sup> In  
17 Ontario I was qualified as an expert in "the future of electric and gas utility  
18 regulatory and business models and associated business risk in the decarbonization  
19 context," in a multi-year rate plan proceeding in which I testified about the

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<sup>1</sup> Regie de l'energie proceeding R-4156-2021 (<https://www.regie-energie.qc.ca/fr/participants/dossiers/R-4156-2021/2>). My testimony is available at [https://www.regie-energie.qc.ca/fr/participants/dossiers/R-4156-2021/doc/R-4156-2021-C-ACIG-0028-Preuve-Autre-2022\\_04\\_08.pdf](https://www.regie-energie.qc.ca/fr/participants/dossiers/R-4156-2021/doc/R-4156-2021-C-ACIG-0028-Preuve-Autre-2022_04_08.pdf).

1 importance of accounting for energy transition in gas system and business  
2 planning.<sup>2</sup>

3 **I. Summary and Recommendations**

4 **Q. Please summarize your primary conclusions and recommendations.**

5 A. My overall conclusions and recommendations remain unchanged from my direct  
6 and rebuttal testimony. Regarding the specific issues I address in this surrebuttal  
7 testimony, my primary conclusions and recommendations are as follows:

- 8 • BGE admits that the use of the gas system will be very different within the  
9 next 20 years than it is today, yet imprudently continues to use a gas planning  
10 approach for leak-prone pipe that has not meaningfully changed since 2014.
- 11 • Prudent gas system planning requires both an assessment of the system's needs  
12 with regards to safety and reliability and a clear-eyed look at how the system  
13 will be used in the future.
- 14 • Failure to prudently plan for a changing gas system and thereby not being able  
15 to recover BGE's full cost of service creates risk for its customers and  
16 investors and ultimately reduces the capacity of the company to cost-  
17 effectively obtain the capital necessary to maintain a safe and reliable system.

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<sup>2</sup> Ontario Energy Board case number EB-2022-0200 (<https://www.oeb.ca/applications/applications-oeb/current-major-applications/eb-2022-0200>). My testimony is available at <https://www.rds.oeb.ca/CMWebDrawer/Record/788083/File/document>.

- 1           • BGE views each dollar spent and each asset replaced in proactive leak-prone  
2           pipe projects as having effectively equivalent safety benefits, thus giving the  
3           Company maximum flexibility in how it proceeds with its replacement  
4           program. Equating dollars and project flexibility with reducing safety risk may  
5           be in the utility's interest to deploy capital, but it is not in customers' interest  
6           from both a safety and affordability perspective. The role of cost-effectiveness  
7           analysis is to promote both affordability *and* safety by deploying ratepayer  
8           funds where they can have the greatest impact on safety outcomes. BGE  
9           appears to see no merit in deploying funding in the most cost-efficient manner  
10          possible, which is contrary to both reasonable ratemaking *and* safe and reliable  
11          gas service.
- 12          • BGE's discontinuance of the use of Optimain software for risk evaluation  
13          further supports reviewing leak-prone pipe replacement programs through the  
14          STRIDE framework rather than in an MRP.
- 15          • BGE Witness Aas has mischaracterized my testimony by attributing to me  
16          words which he has no reason to believe I wrote (and which I did not, in fact,  
17          write), and has not corrected the record when provided an opportunity to do so.

1     **II. Prudence of 2021 and 2022 Leak-Prone Pipe Spending**

2     **A. Prudence requires more than compliance with the law.**

3     **Q. Whose rebuttal testimony are you responding to in this section?**

4     A. I am responding to the rebuttal testimony of BGE Witnesses White and Dickens.

5     **Q. Which aspect of those witnesses' testimony are you responding to?**

6     A. Witness White argues that Maryland and federal goals, programs, and policies  
7     relevant to gas system planning do not go beyond goals and recommendations;  
8     there are no state-level laws that restrict gas use or connections; and state policy  
9     on replacing gas infrastructure applies.<sup>3</sup> Both witnesses further state that it is  
10    inappropriate for BGE and the Commission to make decisions about the gas  
11    system in advance of any state law or policy changes.<sup>4</sup>

12    **Q. Does prudence require more than compliance with the law and policy?**

13    A. Yes. In the context of market changes (driven by both technology change and  
14    policy), prudence requires looking ahead to the gas system of the future, which  
15    will play a very different role than today's system. Limiting the planning  
16    viewpoint strictly to compliance with existing laws and regulations, without  
17    consideration of future changes, is imprudent. BGE has undertaken high-level  
18    analysis of pathways for decarbonization. But BGE has not examined the  
19    implications of those pathways on its future infrastructure needs and how those

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<sup>3</sup> Rebuttal Testimony of Dawn White ("White Rebuttal"), 41:7-14.

<sup>4</sup> *Id.* at 41:14-16; Rebuttal Testimony of Derrick Dickens ("Dickens Rebuttal"), 11:2-5.

1 needs can be most cost-effectively met while remaining compliant with safety and  
2 reliability obligations. Until BGE takes this kind of comprehensive look at its  
3 system and adjusts and adapts its approach to project selection and design, the  
4 company will continue to risk making imprudent choices.

5 **Q. Does Witness White elaborate further on BGE's approach to Operation**  
6 **Pipeline planning in her rebuttal testimony?**

7 A. Yes. Witness White states that the process of selecting and filing Operation  
8 Pipeline work “has not meaningfully changed since 2014.”<sup>5</sup> Despite all the  
9 substantial shifts in markets and policies that I detailed in my direct testimony—  
10 and their clear implications for the future of BGE's gas system—as well as BGE's  
11 own analysis of how decarbonization will change utilization of their gas and  
12 electric systems, BGE's approach to selecting and designing Operation Pipeline  
13 work has not changed in almost a decade and does not appear to change any time  
14 soon.

15 **Q. What does BGE Witness Dickens say about the future of gas and BGE's**  
16 **planning the future?**

17 A. BGE Witness Dickens introduces the pathways modeling conducted by E3, and  
18 states that “[a]ll of those pathways studies found that the lowest cost and most  
19 practical/achievable approach for Maryland to realize its GHG reduction goals is  
20 to include a central role for gas as a backup heating source.”<sup>6</sup> He continues, “BGE  
21 must consider the current construct of laws and regulations and present a plan to

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<sup>5</sup> White Rebuttal, 71:19 to 72:1.

<sup>6</sup> Dickens Rebuttal at 7:21-8:2



1 ensure the gas system is safe and reliable for both its existing and future gas  
2 customers, while meeting the necessary regulatory requirements as it stands  
3 today....As Company Witness White points out, any conjecture about the future  
4 could put the system, our customers, and our employees at risk or result in poorly  
5 maintained gas system that is unable to react to future policy changes or  
6 innovations that may use the gas distribution system differently than today.”<sup>7</sup>

7 **Q. Do you have any comments you would like to share on Witness Dickens’s**  
8 **assessment?**

9 A. Yes. Witness Dickens admits that the use of the gas system will be very different  
10 in the future than it is today. In his view, it will be used primarily to provide a  
11 backup heating source. The timeframe of this transition is within the next 20  
12 years—well within the useful life of many of BGE’s already-installed gas system  
13 assets, and the lifetime of any asset installed over the proposed three-year MRP .  
14 Despite this fundamental change in how the gas system will be used, and the  
15 resulting economics (splitting the cost of the gas system over many fewer therms  
16 of gas delivered), Witness Dickens insists that it is prudent to continue with gas  
17 system planning as though nothing will change, because any assumptions about  
18 changes would be conjecture that could put the gas system at risk.

19 I disagree. BGE, knowing that how the gas system will be used in the future  
20 may fundamentally differ from how it is used today, has a responsibility to

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<sup>7</sup> Dickens Rebuttal at 8:19-9:2

1 proactively consider the changes to the use of its system. Such consideration  
2 involves assessing both safety and financial risks.

3 **Q. What does Witness Dickens say about the independence of utility planning**  
4 **from state policy?**

5 A. Witness Dickens states that it would be an error for “BGE and the Commission  
6 [to] ignore current safety requirements and State policy and make decisions on  
7 their own prerogative now in advance of any potential future State law or policy  
8 changes.”<sup>8</sup>

9 **Q. Do you have any comments you would like to share on this statement of**  
10 **Witness Dickens?**

11 A. Yes. Witness Dickens suggests an approach whereby BGE and the Commission  
12 would change nothing about BGE’s approach to gas system planning until ordered  
13 to do so by state law or policy. Critically, such an approach exposes BGE’s  
14 customers and investors, and Maryland taxpayers, to the risks of significant  
15 stranded costs in the coming decades. Stranded cost risk is not just about financial  
16 health: risks to BGE’s financial health can harm the ability of the utility to take  
17 necessary steps to maintain a safe and reliable gas system.

18 **Q. What does Witness Dickens say about long-term gas system planning?**

19 A. Witness Dickens states that he does not believe Commission action is necessary to  
20 establish and oversee a long-term gas planning framework.<sup>9</sup> He states that BGE is  
21 “fully engaged in its gas system planning” and the appropriate venue for

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<sup>8</sup> Dickens Rebuttal at 11:2-5.

<sup>9</sup> Dickens Rebuttal at 11:12.

1 discussion of long-term planning would be the proceeding in Case No. 9707  
2 associated with OPC's petition (Exhibit ASH-7).<sup>10</sup>

3 **Q. How do you respond to Witness Dickens on long-term planning?**

4 A. I agree that the framework for gas planning should be an outcome of a separate  
5 proceeding, such as one spurred by OPC's petition. But the discussion about the  
6 need to engage in long-term planning is appropriate when evaluating extensive  
7 infrastructure investments with a many-decade life span.

8 **Q. What does Witness Dickens say about achieving net zero emissions and the**  
9 **Climate Solutions Now Act (CSNA)?**

10 A. Witness Dickens states, "The CSNA targets net-zero greenhouse gas emissions by  
11 2045, with an interim goal of 60% by 2031. However, net-zero GHG emissions  
12 does not mean zero GHG emissions or complete elimination of natural gas usage.  
13 Net-zero means that the amount of GHG emissions released into the atmosphere is  
14 at least offset or balanced by the amount of GHG emissions removed from the  
15 atmosphere."<sup>11</sup>

16 **Q. How do you respond regarding achieving net zero emissions and the role of**  
17 **natural gas?**

18 A. Witness Dickens accurately states the definition of net zero emissions. However,  
19 he fails to put that definition in context regarding the gas system and the difficulty  
20 of meeting net zero emissions. To reach net zero emissions, it is essential to  
21 eliminate emissions wherever possible because actions that sequester carbon

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<sup>10</sup> Dickens Rebuttal at 11:12-16.

<sup>11</sup> Dickens Rebuttal at 12:1-6.

1 dioxide are expensive and not cost-effectively scalable to remove unnecessary  
2 emissions. This is why the country’s official GHG reduction plan, *The Long-Term*  
3 *Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions*  
4 *by 2050* states that “all viable routes to net-zero involve five key transformations,”  
5 one of which is to “electrify end uses and switch to other clean fuels.”<sup>12</sup> Detailing  
6 this transformation, the strategy states, “[w]e can affordably and efficiently  
7 electrify most of the economy, from cars to buildings and industrial processes. In  
8 areas where electrification presents technology challenges—for instance aviation,  
9 shipping, and some industrial processes—we can prioritize clean fuels like carbon-  
10 free hydrogen and sustainable biofuels.”<sup>13</sup>

11 Witness Dickens seems to be assuming that negative emissions will be  
12 available as necessary to offset whatever emissions may occur from the natural gas  
13 system, so it is prudent to plan for continued gas use across BGE’s full gas system,  
14 even where electrification poses no technology challenges. This assumption is not  
15 supported by the *Long Term Strategy* or other independent net zero analyses.  
16 Aligned with these analyses, BGE should be assuming that all direct emissions  
17 that can be reasonably eliminated—such as from natural gas use in buildings—  
18 will need to be eliminated to allow limited supplies of offsetting negative

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<sup>12</sup> United States Department of State and the United States Executive Office of the President, *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050* at 5 (Nov. 2021), <https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf>.

<sup>13</sup> *Id.*

1 emissions to balance more difficult to eliminate direct emissions from other  
2 sectors.

3 **Q. What does Witness Dickens state regarding the activities that BGE is engaged**  
4 **in to reduce emissions?**

5 A. Witness Dickens summarizes three activities that reduce GHG emissions:  
6 replacement of leak-prone pipe with cost recovery under the STRIDE program;  
7 interconnection of one renewable natural gas (“RNG”) producer; and the proposed  
8 use of the Zero Emissions Vacuum (“ZEVAC”) device.

9 **Q. What context do you think is important to share regarding these actions, in**  
10 **the context of the CSNA?**

11 A. These actions represent marginal emission reductions compared with the kind of  
12 comprehensive change required to meet the CSNA’s net zero emissions target. At  
13 most these actions reduce emissions by a few percent.<sup>14</sup> The Commission should  
14 not be distracted by these marginal emission reduction actions that cannot scale to  
15 reduce emissions toward net zero. The Commission should not lose sight of where  
16 the bulk of emission reductions will come from: reductions in gas use, primarily

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<sup>14</sup> Full elimination of all natural gas distribution emissions would eliminate 1.25 percent of Maryland’s 2020 net emissions, or 8.3 percent of natural gas combustion emissions. See Maryland Department of the Environment. “Greenhouse Gas Inventory”, <https://mde.maryland.gov/programs/air/climatechange/pages/greenhousegasinventory.aspx>, 2020 Inventory by Sector, [https://mde.maryland.gov/programs/air/ClimateChange/Documents/VIMAL/MD\\_2020\\_GHG\\_Inventory\\_2022-09-24.xlsx](https://mde.maryland.gov/programs/air/ClimateChange/Documents/VIMAL/MD_2020_GHG_Inventory_2022-09-24.xlsx)). Leak prone pipe replacement cannot eliminate all distribution emissions. The ZEVAC proposal would reduce a miniscule fraction of the gas distribution emissions (258 metric tons over three years from 21 jobs at 12.9 metric tons per job; Company Exhibit MDC-2 at 35). Witness Dickens states that the Jessup food digester would produce enough RNG to serve about 3,600 homes. Dickens Rebuttal at 13:3-15. BGE has more than 500,000 residential natural gas customers, which together represent about one third of its sales volume, so this RNG facility could offset as much as 0.24 percent of natural gas combustion emissions.

1 through electrification. Indeed, BGE's own decarbonization report recognizes this  
2 fact:

3 All the decarbonization scenarios evaluated by E3 in this study  
4 envision a transformation in the way buildings are heated in  
5 BGE's service territory, including an emphasis on  
6 electrification as the core engine of building heating  
7 decarbonization. As a result, BGE's gas sales fall in all  
8 scenarios, with reductions ranging between 54% and 70% in  
9 2045 relative to 2020, which also includes potential supply of  
10 hydrogen for medium- and heavy-duty vehicle fueling (Figure  
11 11). *Focusing just on all gas delivered via BGE's pipelines,*  
12 *gas throughput declines 60%-78% in 2045 relative to today.*  
13 The drastic reduction of natural gas – through a combination  
14 of electrification, efficiency, and displacement by cleaner fuels  
15 – is a critical factor in how emissions reductions are  
16 accomplished in the building and industrial sectors.<sup>15</sup>

17 Such a future has profound implications for BGE's gas system and financial  
18 health, and BGE should be planning for it.

19 **B. Timing of prudence review**

20 **Q. Whose rebuttal testimony are you responding to in this section?**

21 A. I am responding to the rebuttal testimony of BGE Witness White.

22 **Q. What aspect of Witness White's testimony are you responding to?**

23 A. Witness White summarizes OPC's engagement in the STRIDE process on page 72  
24 of her rebuttal testimony and states that neither OPC nor other intervenors have  
25 objected to BGE's STRIDE planning process in past proceedings.

26 **Q. When are BGE's STRIDE investments reviewed for prudence?**

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<sup>15</sup> BGE Integrated Decarbonization Strategy ([Company](#) Exhibit DRA-1) at 25 (emphasis added).

1 A. STRIDE investments are reviewed for prudence during the first subsequent base  
2 rate proceeding that occurs before the end of the five-year surcharge effective  
3 period.<sup>16</sup> While the Commission may only approve a STRIDE plan if the proposed  
4 investments and estimated costs are prudent and reasonable, review of the  
5 prudence of the proposed STRIDE plan is distinct from a review of the prudence  
6 of the actual investments made through STRIDE. Nor, as Witness White  
7 acknowledges, is the Commission's consideration of an annual project list a  
8 prudence review of projects on that list.<sup>17</sup>

9 **Q. Why did OPC not indicate in the prior STRIDE proceedings that the projects**  
10 **selected were poorly planned?**

11 A. I did not consult for OPC regarding the STRIDE proceedings in Case Nos. 9331  
12 and 9468, so I have no direct knowledge of the factors OPC and its then-  
13 consultant considered in developing its litigation position. That said, in reviewing  
14 Case No. 9468, OPC did oppose the Company's STRIDE 2 plan as filed out of  
15 concerns with the proposed acceleration of the company's replacement timelines  
16 and attendant costs.<sup>18</sup> In that proceeding, OPC challenged the company's position  
17 that the risk posed by cast iron was significant enough to justify an extreme  
18 acceleration of the Company's proposed replacement timeframes.<sup>19</sup>

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<sup>16</sup> PUA § 4-210(g)(1)(ii).

<sup>17</sup> White Rebuttal at 72: 14-19.

<sup>18</sup> OPC Initial Brief at 4, Case No. 9468, ML# 220003 (April 16, 2018).

<sup>19</sup> *Id.* at 10-12.

1           Moreover, I should note that BGE's STRIDE 1 and 2 plans were  
2           considered in 2012 and 2018 respectively, before OPC was required to consider  
3           "the environmental interests of the State and its residents, including the State's  
4           progress toward meeting its greenhouse gas emissions reduction goals" when  
5           performing its duties.<sup>20</sup> In my experience, it is not uncommon for a utility  
6           regulatory agency to develop a new policy approach to existing issues in response  
7           to changes in State law and State policy. It would be reasonable to expect a  
8           regulated utility to do the same.

9           **C. Planning and prudence**

10   **Q. Whose rebuttal testimony are you responding to in this section?**

11   A. I am responding to the rebuttal testimony of BGE Witnesses Vahos and White.

12   **Q. What does Witness Vahos state regarding your direct testimony on prudence**  
13   **review of expenditures from 2021 and 2022?**

14   A. Witness Vahos claims that I introduced a new standard for gas planning regarding  
15   climate change and that the Commission should reject this new standard.<sup>21</sup> He also  
16   states that I recommended \$3.4 million in O&M disallowances for 2021 and  
17   2022.<sup>22</sup>

18   **Q. Did you introduce a "new standard that climate change should be the**  
19   ***predominant or even sole focus of gas system planning*"<sup>23</sup>?**

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<sup>20</sup> PUA § 2-204(a)(1)(ii).

<sup>21</sup> Rebuttal Testimony of David Vahos ("Vahos Rebuttal") at 37:12-13, 17-19.

<sup>22</sup> *Id.* at 37:8-11.

<sup>23</sup> *Id.* at 37:12-13.



1 A. No, I did not. I pointed out how anticipated changes in utilization of the gas  
2 system resulting from market forces and policy actions to mitigate climate change  
3 should be incorporated into BGE's gas system planning. To date, these effects are  
4 not factored in at all (other than methane emission reduction as an ancillary benefit  
5 of pipeline replacement).

6 Prudent system planning requires *both* (1) an assessment of the system's  
7 needs with regards to safety and reliability, and (2) a clear-eyed look at how the  
8 system will be used in the future, considering advances in technology, markets,  
9 and policy. These considerations are essential for balancing reliability- and safety-  
10 driven investment against future stranded cost risk and the potential for future  
11 competition-driven business risk associated with high gas delivery rates. I have not  
12 proposed a new standard for review of gas investment and planning practices.  
13 Rather, I have pointed out the clear implications of applying the foundational  
14 principle that the utility should only recover prudently invested capital in the  
15 context of today's and tomorrow's gas system.

16 **Q. From an investment perspective, is it risky to plan extensive gas system**  
17 **investments without adequately considering how the gas system will be used**  
18 **in the future?**

19 A. Yes. A gas utility that invests heavily in its system needs to recover that  
20 investment over the useful life of the assets, while maintaining just and reasonable  
21 rates. Extensive gas system investments increase upward rate pressure. Meanwhile  
22 decreasing gas sales and customer numbers reduce the billing determinants used to

1 calculate rates, resulting in further upward rate pressure. If the utility does not plan  
2 well for both infrastructure and cost recovery, rates will be higher than customers  
3 are willing to pay. This, in turn, drives customers to choose other fuels and  
4 exacerbates rate pressure for remaining customers. In this situation, the utility's  
5 investors could face significant losses. These risks can be mitigated through  
6 planning that limits unnecessary investment in the gas system as well as a coherent  
7 plan for cost recovery over time. A utility that does not take prudent actions when  
8 faced with this challenge would be perceived by investors as riskier than prudently  
9 managed utilities that account for anticipated changes in energy consumption,  
10 thereby risking its cost-effective access to capital necessary to maintain a safe and  
11 reliable system.

12 **Q. Witnesses White and Vahos claim that BGE's spending decisions were**  
13 **"reasonable under the circumstances that were known."<sup>24</sup> Do you agree?**

14 **A.** I recognize that some of BGE's leak prone pipe investments may have been  
15 prudent, but the programs I have identified are not prudent when considered as a  
16 whole. As detailed in my direct testimony, the utility's 2021 and 2022 spending  
17 was imprudent due to the combination of three factors: (1) a project selection  
18 process that does not prioritize risk reduction and cost-effectiveness; (2) BGE's  
19 failure to consider long-term gas system needs informed by market and policy  
20 forces; and (3) failure to consider non-pipeline alternatives. As BGE's

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<sup>24</sup> Vahos Rebuttal at 7:14-15; White Rebuttal at 74:16-18.

1 decarbonization study shows, BGE knows that the context for its gas system  
2 planning is changing.<sup>25</sup> It must seek the information and resources needed to  
3 revise its investment plans to maintain safe and reliable service while planning for  
4 that change.

5 Regulatory prudence review is intended to mirror the discipline that the  
6 competitive market would impose. A firm operating in a competitive market must  
7 manage its risks. It would not be prudent for a competitive firm to disregard  
8 looming technological, market, and policy changes that implicate its ability to  
9 recover from customers its capital expenditures plus a profit. A prudent firm in a  
10 competitive market will plan for foreseeable risks, estimate their likelihood and  
11 impacts, and plan appropriately. In a regulated utility market, the regulators' role  
12 in evaluating prudence is to examine the knowledge and circumstances in place at  
13 the time the utility made its investments and hold the utility accountable in the  
14 same way that the competitive market would hold a competitive entity  
15 accountable.

16 The competitive market does not treat lightly an entity that fails to engage  
17 in risk management but spends on capital based on current policy and technology  
18 that can reasonably be foreseen to change. BGE's extensive investment, without  
19 incorporating consideration of market and policy forces that will change how the  
20 system is used in the future, and without due consideration how to reduce risk at

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<sup>25</sup> BGE Integrated Decarbonization Strategy (Company Exhibit DRA-1) at 25–26.

1 the lowest reasonable cost or use potentially cost-effective non-pipeline  
2 alternatives, does not reflect the prudent long-term business decision-making that  
3 would be expected from a successful firm in a competitive market.

4 **Q. What does Witness White state regarding your direct testimony on gas**  
5 **system planning?**

6 A. Witness White states that the principles for gas system planning that I enumerated  
7 in my direct testimony are “narrowly focused and do not contemplate the  
8 necessary safety and reliability practices nor regulatory compliance in his  
9 conceptualization.”<sup>26</sup> Witness White criticizes the planning principles for “missing  
10 how regulations, codes, and by extension standards, dictate much of what a gas  
11 utility does to ensure public safety and reliability.”<sup>27</sup>

12 **Q. Could you provide further context for the “principles for long term gas**  
13 **system planning” you listed at page 28:1-16 of your direct testimony, and**  
14 **which Witness White critiques?**

15 A. As described in my direct testimony, and detailed in Exhibit ASH-5, the principles  
16 listed in my testimony are adapted from principles that my Synapse colleagues and  
17 I recommended to New York state regulators when considering long-term gas  
18 system planning in the context of adapting that state’s gas planning to a net zero  
19 climate goal. These principles should be used alongside the gas utility’s other, pre-  
20 existing planning principles and requirements, including those focused on meeting  
21 near-term requirements and operational needs. The purpose of this list is to

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<sup>26</sup> White Rebuttal at 45:10-12.

<sup>27</sup> White Rebuttal at 46:4-5.

1 broaden the context and principles underlying utility planning beyond short-term  
2 considerations, to align with the reality that long-term planning cannot simply be  
3 an extension of a near-term business-as-usual.

4 **Q. Could you provide examples of how prudently incorporating long-term**  
5 **system planning into leak-prone pipe projects might change the utility's**  
6 **planning approach?**

7 A. Of course. Regarding leak-prone pipe replacement, there is no explicit requirement  
8 to retire all this pipe by a date certain. BGE has developed a plan to replace this  
9 pipe by the early 2040s. However, these projects, once completed, are  
10 irreversible—the utility cannot choose to undo them and get its money back. In the  
11 face of uncertainty as to the useful life of replacement assets, or whether “electrify  
12 and retire” is a more cost-effective and future-proof approach, there is more value  
13 in maintaining greater flexibility in the future by minimizing irreversible  
14 investments now. In the current context, BGE could choose to reduce the rate of  
15 leak-prone pipe replacements and focus its efforts on the projects with the greatest  
16 risk-reduction potential per dollar spent. If state policy and market developments  
17 wind up supporting the need for the gas system in the long term, BGE could ramp  
18 back up and still complete the replacement process on a comparable timeframe to  
19 current plans. But, if customers electrify and depart the system and BGE's system  
20 becomes smaller, BGE will have avoided a sunk cost and potential financial harms  
21 to the company and its customers.

22 **Q. Could BGE use a similar non-pipeline alternative process to reduce its leak-**  
23 **prone pipe expenditures as well?**

1 A. Yes. As I discussed in my direct testimony, Con Edison has looked ahead to its  
2 leak-prone pipe replacement plans and identified the date by which it needs to  
3 either electrify specific buildings or replace the pipe serving them.<sup>28</sup> BGE's ability  
4 to undertake a similar program is, unfortunately, hampered by its unwillingness or  
5 inability to develop and publish a long-term prioritized list of leak-prone pipe  
6 projects, with indicative timeframes for planning. Non-pipeline alternatives  
7 require time to implement and BGE's practice of not selecting projects until the  
8 year before they are due to begin prevents it from undertaking prudent and cost-  
9 effective analysis of non-pipeline options. Further, the lack of timely information  
10 for customers limits the possibility of avoiding infrastructure investments that  
11 could become stranded as customers electrify. If customers have information  
12 sufficiently in advance that BGE is planning projects that affect their residences,  
13 and customers know electrification would avoid the need for alterations to their  
14 structures, customers may choose to electrify earlier, prior to the anticipated work,  
15 thus avoiding costs.

16 **Q. Witness White states that BGE has offered electrification to customers as an**  
17 **alternative to leak-prone pipe expenditures, and customers have nonetheless**  
18 **chosen to use gas.<sup>29</sup> Does this refute your position regarding the potential for**

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<sup>28</sup> Direct Testimony of Asa Hopkins at 42:19 to 43:16.

<sup>29</sup> White Rebuttal at 27:8:10; Exhibit ASH-8 (BGE Response to OPC DR 42-06).

1 **non-pipeline alternatives to lower leak-prone pipe costs and risks, and BGE's**  
2 **neglect of that potential?**

3 A. No, it does not. When asked to provide details of the offers that BGE provided to  
4 the customers that inform Witness White's anecdotal statement, BGE did not  
5 provide any supporting materials.<sup>30</sup> The fact that BGE did not retain any records  
6 of these customer interactions indicate the low priority BGE has placed on  
7 learning from these interactions to inform pursuit of a cost-effective, safe, and  
8 reliable system.

9 **D. Clarifying capital disallowances**

10 **Q. Is Witness Vahos correct that you recommended \$3.4 million in O&M**  
11 **disallowances for 2021 and 2022?**

12 A. No. I recommended that \$3.4 million of the plant in service associated with  
13 Project 60677 (Operation Pipeline) be removed from rate base.

14 **Q. Have other BGE witnesses addressed your recommendation regarding**  
15 **Project 60677 disallowances for 2021 and 2022?**

16 A. Yes. On pages 43-44 of his rebuttal testimony, Witness Frain addresses this  
17 disallowance and the question of whether it should be a capital or O&M  
18 disallowance.

19 **Q. Could you please further elaborate on your position regarding whether the**  
20 **disallowance should be in capital or O&M?**

21 A. The imprudent investments are capital investments. I could have recommended  
22 that the entire amount of Project 60677 in 2021 and 2022 be disallowed, but as I

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<sup>30</sup> Exhibit ASH-8 (BGE Response to OPC DR 42-06).

1 discussed on page 46 of my direct testimony, that would not be warranted at this  
2 time. Much of BGE's spending on these projects was likely prudent from a safety  
3 perspective because it addressed high-risk assets in a cost-effective way. However,  
4 BGE also failed to account for cost-effectiveness in project selection, while not  
5 incorporating any assessment of the long-term pace and scale of its leak-prone  
6 pipe investments given the changing market and policy context. Because the  
7 imprudent investments were driven by BGE's planning and project selection,  
8 considering the difficulty in thoroughly vetting each individual project completed  
9 through Operation Pipeline, it was appropriate to base the recommended capital  
10 disallowance on the dollar value of the planning function that resulted in the  
11 imprudent investment approach.

12 **E. Cost-effective risk mitigation**

13 **Q. Whose rebuttal testimony are you responding to in this section?**

14 A. I address the testimony of BGE Witness White.

15 **Q. Could you summarize Witness White's rebuttal testimony regarding risk and**  
16 **cost-effectiveness?**

17 A. Witness White describes BGE's process for job selection in Operation Pipeline,  
18 including engineering limitations, the need to assess projects within the context of  
19 the larger objective of replacing all leak-prone pipe over time, and community  
20 disruption impacts.<sup>31</sup> She claims it is not possible to create a prioritization score to

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<sup>31</sup> White Rebuttal at 52:1-16.



1 assess the next best neighborhood to replace.<sup>32</sup> Witness White explains capabilities  
2 and limitations of the Optimain software, which is focused on leak-associated  
3 risks.<sup>33</sup> She explains how BGE's process accounts for different types of risk and  
4 non-risk-related factors that impact project selection and describes a 2017 review  
5 of BGE's process. Witness White argues that Operation Pipeline must be  
6 successful because of the measured reduction in leaks, hazardous leaks, and leak  
7 backlog over the last decade.<sup>34</sup> Witness White later returns to the question of cost-  
8 effectiveness and states that "[t]he cost-effectiveness of any program designed to  
9 remove outmoded gas infrastructure is in many ways difficult, if not impossible, to  
10 determine... The expenditures to complete the asset replacement are going to have  
11 to be made at some point, because leaving these assets on the system is simply not  
12 an option. . . . [T]he real measure of BGE's MYP is the ability to get the outmoded  
13 assets off BGE's gas distribution system as quickly as practicable."<sup>35</sup>

14 **Q. What is a fundamental problem with Witness White's dismissiveness towards**  
15 **cost-effectiveness analysis, including the statement that "asset replacement[s]**  
16 **are going to have to be made at some point" and "the real measure of BGE's**  
17 **MYP is the ability to get the outmoded assets off BGE's gas distribution**  
18 **system"?**

19 **A.** Witness White appears to view each dollar spent and each asset replaced as having  
20 the same or similar amount of safety risk reduction. She thus views each dollar  
21 spent and each asset replaced as having effectively equivalent safety benefits, thus

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<sup>32</sup> *Id.* at 52:17-22.

<sup>33</sup> *Id.* at 53:1 – 54:16.

<sup>34</sup> *Id.*, 60: 16-21.

<sup>35</sup> White Rebuttal at 68:14 – 69:3, 69:18-20.

1 giving the Company maximum flexibility in how it proceeds with its replacement  
2 program. As I note below, however, Witness White has not disputed that BGE's  
3 own risk scores show this is far from the case. Equating dollars and project  
4 flexibility with reducing safety risk may be in the utility's interest to deploy  
5 capital, but is not in customers' interest from both a safety and affordability  
6 perspective. BGE appears to see no merit in deployment of funding in the most  
7 cost-efficient manner possible, which is contrary to both reasonable ratemaking  
8 *and* safe and reliable gas service.

9 **Q. What is your response to the Witnesses' reference to a staff Engineer's**  
10 **statement about the San Bruno gas explosion in California, in support of the**  
11 **Company's position not to incorporate cost-effectiveness into its planning?**

12 A. Witness White quotes a member of the Engineering Staff from a previous case,  
13 who stated, "To me, dollars, I know they are important, but I look at the safety. I  
14 don't want to be the PUC from California. No one wants that."<sup>36</sup> While I agree  
15 that safety is of paramount importance, BGE's incorporation of this statement  
16 implies that cost-effectiveness analysis ignores safety outcomes. That contention is  
17 false. The role of the cost-effectiveness analysis is to promote both affordability  
18 *and* safety by deploying ratepayer funds where they can have the greatest impact  
19 on safety outcomes.

20 The event referenced from California by the Engineering Staffer in the  
21 statement above is apropos. In the wake of the devastating San Bruno explosion,

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<sup>36</sup> White Rebuttal at 69:12-14.

1 the California Public Utilities Commission (CPUC) initiated a risk analysis  
2 proceeding to better quantify risk and cost-effectiveness—along the lines of the  
3 cost-effectiveness analysis I have proposed in this proceeding—precisely *because*  
4 the utility-caused catastrophe exposed serious gaps in the information presented by  
5 utilities in general rate cases (GRCs, the California equivalent to the present BGE  
6 case):

7 There is a great deal of crucial information that is not typically  
8 included in the utilities' filings in a [General Rate Case]. The  
9 Commission often does not have a way of knowing how  
10 utilities value information on safety and risk and new  
11 technology as part of their overall investment strategy, how  
12 utilities define the likelihood of a substantial impact event  
13 occurring and the consequence of it happening; how they may  
14 use advanced technologies, either already in the field or  
15 proposed to further reduce the risk of a substantial event on  
16 their grid or system; what kind of methodologies they use to  
17 assess and to prioritize risks and technology, and based on that  
18 methodology, explain how far along they are in implementing  
19 the prioritization.

20  
21 [...]

22  
23 The Commission needs to be better-informed about risk and  
24 utilities' decision-making frameworks in order to regulate  
25 more effectively.<sup>37</sup>  
26

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<sup>37</sup> *Order Instituting Rulemaking to Develop a Risk-based Decision-Making Framework to Evaluate Safety and Reliability Improvements and Revise the General Rate Case Plan for Energy Utilities* at 9–10 (Nov. 22, 2013), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M081/K856/81856126.PDF>.

1 **Q. Has this effort led to changes in California regarding how utilities present**  
2 **information in rate cases?**

3 A. The CPUC and utilities have undergone an expansive risk quantification  
4 framework addressing all safety risks over the years since San Bruno. While I will  
5 not discuss the entire background here, this framework has resulted in significantly  
6 more information and quantification of risk—and cost-effectiveness—than ever  
7 before in California.<sup>38</sup> It should not take a disaster for utility processes to be  
8 overhauled in customers’ interest.

9 **Q. Witness White states that your “claims of informal selection and**  
10 **prioritization processes are not backed up substantively when evaluating**  
11 **against how BGE performs replacement work collectively as a Company.”<sup>39</sup>**  
12 **Do you agree?**

13 A. Absolutely not. Though Witness White has provided further detail about BGE’s  
14 processes in order to respond to my critique, she has not refuted the following  
15 facts:

- 16 • The Optimain scores per unit length for BGE’s pipes show a wide dispersion,  
17 indicating that prioritizing high-risk pipes would have an outsized impact on  
18 leaks and thereby customer safety.
- 19 • BGE has not provided evidence that other aspects of safety risk not captured  
20 by Optimain counteract the skewed distribution of Optimain scores, or  
21 evidence that the system actually has a more “flat” distribution of risk.

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<sup>38</sup> See CPUC, Risk Assessment Mitigation Phase, <https://www.cpuc.ca.gov/about-cpuc/divisions/safety-policy-division/risk-assessment-and-safety-analytics/risk-assessment-mitigation-phase>.

<sup>39</sup> White Rebuttal at 74:13-16.

1       • BGE has not provided evidence, beyond general descriptions of an approach  
2       based on staff judgement, that consideration of non-safety-risk factors when  
3       selecting and designing Operation Pipeline jobs results in selection of projects  
4       with higher or more cost-effective risk-mitigation potential than other  
5       comparable projects.

6       • BGE does not consider the relationship between project cost and risk reduction  
7       (or other selection metrics) when selecting an Operation Pipeline portfolio for  
8       a given year. [[BEGIN CONFIDENTIAL CEII]] [REDACTED]

9       [REDACTED]

10      [REDACTED]

11      [REDACTED]

12      [REDACTED]

13      [REDACTED]

14      [REDACTED]

15      [REDACTED]

16      [REDACTED]

17      [REDACTED]

18      [REDACTED] [[END CONFIDENTIAL CEII]]

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40 [REDACTED]  
41 [REDACTED]  
42 [REDACTED]  
43 [REDACTED]  
44 [REDACTED]

1           • BGE's project selection processes depend on a substantial degree of judgement  
2           from BGE staff. While this judgement is captured in a formalized set of  
3           processes, project selection is based to a substantial degree on qualitative  
4           factors and assessments.

5           • BGE has not changed or adapted its leak-prone pipe project selection process  
6           in any way to account for how different gas system assets will be used  
7           differently—or not at all—in the future.

8   **Q. Do you agree with Witness White that BGE's failure to assess the cost-**  
9   **effectiveness of different options within its leak-prone pipe program is**  
10 **acceptable, given the difficulty of the task and the fact that the pipes will all**  
11 **have to be replaced at some point?**

12   A. I do not. First, let me address the difficulty of assessing cost-effectiveness of an  
13   infrastructure replacement program. Just because a task may be hard is no reason  
14   not to try. Any accounting for cost would be an improvement on BGE's current  
15   practice in this area. It is sometimes easy in to lose track of the practical  
16   implications and sheer amount of money utilities invest in their infrastructure.  
17   BGE expects to spend more than \$150 million per year for the next three years on  
18   Project 60677 alone. This annual expenditure—on just one class of new  
19   infrastructure—is more than the combined median income of 1,600 Maryland  
20   families,<sup>45</sup> or the annual energy costs of more than 64,000 average Maryland

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<sup>45</sup> Assuming a median household income of \$91,431 (\$2021). See US Census Bureau, "Quick Facts, Maryland," <https://www.census.gov/quickfacts/fact/table/MD/BZA110221>.

1 households.<sup>46</sup> Further, the anticipated ultimate costs to customers of the three  
2 years of investment proposed in this case is close to \$460 million, plus the utility's  
3 return on this investment and the cost of property and income taxes. The sum total  
4 of ratepayer expenditure on three years of Project 60677, over the lifetime of the  
5 assets, would be expected to exceed \$1.5 billion. Given these costs, it would be  
6 worth taking the time to attempt to solve hard problems about how to make this  
7 spending more cost-effective at improving safety.

8 Second, let me address the idea that the order of pipe replacement does not  
9 matter because all pipes will be replaced at some point. My disagreement with  
10 Witness White here gets to the core of our different approaches to safety risk  
11 mitigation: My approach is grounded in the fact that BGE has limited budget and  
12 capacity in any given year to invest in replacing leak-prone pipe. This situation  
13 leads to three potential options: (1) make the largest investment available, while  
14 selecting projects so that the largest reasonable amount of safety risk is reduced  
15 for that money; (2) quantify a target amount of risk reduction each year and spend  
16 the minimal amount of money required to achieve that safety improvement; and  
17 (3) make the largest investment available, while prioritizing complete leak-prone  
18 asset replacement informed by a generalized concern for safety. BGE takes the

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<sup>46</sup> 2021 annual residential energy expenditures totaled \$5.337 billion. Divided across 2.294 million households, this is about \$2,326 per household per year. See U.S. Energy Information Administration State Energy Data System, [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_sum/html/sum\\_ex\\_res.html&sid=MD](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_ex_res.html&sid=MD); U.S. Census Bureau, "Quick Facts, Marland," <https://www.census.gov/quickfacts/fact/table/MD/BZA110221>.

1 third approach. I would favor either of the first two.<sup>47</sup> By prioritizing cost-  
2 effective risk reduction, Maryland ratepayers would be getting the greatest  
3 improvement in the quality of the gas system that serves them in exchange for  
4 their delivery rates. If BGE were also accounting for changes in demand on the  
5 gas system resulting from market and policy drivers, it could further prioritize to  
6 reduce the greatest risk for the longest time.

7 **Q. Will the Optimain software that BGE depends upon for risk assessment be**  
8 **available for the indefinite future?**

9 A. No. The developer of Optimain has ceased development activities and is no longer  
10 providing support.<sup>48</sup>

11 **Q. Will BGE continue to use Optimain?**

12 A. BGE states that it will discontinue the use of Optimain during the 2024-26 period,  
13 with support from a third-party vendor.<sup>49</sup> [BEGIN CONFIDENTIAL] [REDACTED]

14 [REDACTED]

15 **Q.** [REDACTED]  
16 [REDACTED]  
17 [REDACTED]

18 A. [REDACTED]

19 [REDACTED]

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<sup>47</sup> I appreciate that the second option would require both a much more sophisticated risk quantification regime and may require changes in Maryland law. At the same time, this type of more sophisticated approach may be required as part of planning to cost-effectively meet markedly different demands on the gas system in the future.

<sup>48</sup> Exhibit ASH-8 (BGE Response to OPC DR 42-05).

<sup>49</sup> *Id.*

<sup>50</sup> [REDACTED]



1 [REDACTED] [END CONFIDENTIAL] In fact, BGE seemingly had no intention

2 of disclosing or discussing the discontinuance of Optimain in this proceeding.

3 BGE states that it plans to simply provide an update to PSC staff and move on.<sup>52</sup>

4 **Q. Is it appropriate for a change of this magnitude to be made without**  
5 **regulatory process?**

6 A. No. Optimain is an integral component of the company's Distribution Integrity  
7 Management Plan, which BGE relies upon to justify extensive capital investments  
8 in this case. In its STRIDE 3 application, Washington Gas Light Company  
9 submitted extensive testimony regarding the software product that it intends to use  
10 in place of Optimain.<sup>53</sup> This kind of transparency is preferable to BGE's approach.  
11 Notably, the fact that a STRIDE application is providing the venue for detailed  
12 discussion of this issue is yet another argument supporting the continued use of the  
13 STRIDE for reviewing leak-prone pipe replacement, rather than as one  
14 consideration among the myriad issues raised within a MRP case.

15 **Q. Does your conclusion regarding the imprudence of 2021 and 2022**  
16 **expenditures, and recommended disallowances for 2024–26, change based on**  
17 **consideration of Witness White's testimony regarding BGE's approach to**  
18 **risk and project selection?**

19 A. No. While I appreciate BGE providing more information about its processes for  
20 project selection through Witness White's testimony and discovery responses, it

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<sup>51</sup> *Id.*

<sup>52</sup> BGE Response to OPC DR 42-05 (Exhibit ASH-8), part (e).

<sup>53</sup> See Direct Testimony of Aaron C. Stuber at 19–23. *In the Matter of the Application of Washington Gas Light Company for Approval of a New Gas System Strategic Infrastructure Development and Enhancement Plan and Accompanying Cost Recovery Mechanism (STRIDE 3)*, Case No. 9708, ML# 303553 (June 6, 2023).

1 remains the case that BGE's processes fail to account for how it can achieve the  
2 greatest risk reduction within the limitations of a given annual budget or expected  
3 mileage of pipe replaced. This process failure—alongside BGE's failure to  
4 account for a future for the gas system and utility business model that will be  
5 markedly different from the present—show how BGE has failed to prudently  
6 approach leak-prone pipe replacement.

7 **III. Cost Recovery of Capital Investments Planned for 2024 through 2026**

8 **Q. Whose rebuttal testimony are you responding to in this section?**

9 A. I address the testimony of BGE Witnesses Vahos and White.

10 **Q. What does Witness Vahos state regarding your direct testimony on inclusion**  
11 **of leak prone pipe investments in the multi-year rate plan for 2024 to 2026?**

12 A. Witness Vahos states that I recommend the reduction of hundreds of millions of  
13 dollars of investments, and states that these investments are consistent with legal,  
14 regulatory, and legislative requirements for Maryland and should be approved.<sup>54</sup>

15 **Q. What does Witness White state regarding your direct testimony on inclusion**  
16 **of leak prone pipe investments in the multi-year rate plan for 2024 to 2026?**

17 A. Witness White states that I recommend disallowing the entire capital funds of  
18 Projects 60677 (Operation Pipeline) and 58034 (Centrally Managed Gas Main  
19 Replacements), and that I recommend the work be performed through STRIDE.<sup>55</sup>

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<sup>54</sup> Vahos Rebuttal at 38: 1-9.

<sup>55</sup> White Rebuttal at 71:6-10.

1 **Q. Is it correct that, as Witness Vahos claims, you oppose investment in leak-**  
2 **prone pipe replacement and risk mitigation?**

3 A. Absolutely not. I support *prudent* investment of capital for the purpose of  
4 maintaining safe and reliable service. BGE has not sufficiently demonstrated that  
5 its plans for Projects 60677, 58034, 56695 (Proactive Service Renewals), 55633  
6 (Granite Pipeline – Stokes to Russell), 58079 (Manor Loop Pipeline), and 58080  
7 (Manor System South) warrant accelerated capital recovery before the next rate  
8 case. BGE should: (1) make the investments that it believes are prudent and justify  
9 that prudence at the next rate case, based on the capital included in rate base for  
10 that test year; and (2) to the extent it chooses to, pursue accelerated recovery of  
11 leak-prone pie investments through the STRIDE mechanism, subject, of course, to  
12 the surcharge cap and the other applicable provisions of the STRIDE law. Using  
13 the STRIDE mechanism does not imply an additional presumption of prudence  
14 behind that which applies for any other utility investment, including those  
15 proposed in an MRP.

16 **Q. Do you make a distinction between approval of an investment for inclusion in**  
17 **multi-year rate plan rates, and disallowance entirely?**

18 A. Yes. I have included the 2024–2026 costs of Projects 60677, 58034, 56695,  
19 55633, 58079, and 58080 as disallowances from the MRP proposed projected rates  
20 in my testimony because the costs of these projects should not be recovered until  
21 after they have been reviewed for prudence during the next rate case. If BGE  
22 wishes to pursue some form of accelerated recovery, BGE could apply for a new

1 STRIDE plan. I am not suggesting that all planned investments within each project  
2 are unwarranted or imprudent, or that investments made under these headings  
3 would necessarily be disallowed when reviewed at the next rate case. Rather, BGE  
4 has not sufficiently demonstrated that these investments will be prudent to justify  
5 deviating from cost-of-service ratemaking for these projects without any  
6 additional guardrails, such as those afforded by the STRIDE law.

7 **Q. What does Witness White state regarding your assessment that BGE did not**  
8 **sufficiently justify the transmission projects proposed in Projects 55633,**  
9 **58079, and 58080?**

10 A. Witness White claims that my recommendations would impact BGE's ability to  
11 meet PHMSA deadlines regarding the Final Transmission Rule and that I ignore  
12 the maximum allowed operating pressure (MAOP) confirmation projects that  
13 exclude replacement.<sup>56</sup>

14 **Q. Why is it appropriate to focus on replacement projects?**

15 A. Replacement-based projects are the most expensive option for compliance. Since  
16 these projects constitute the large majority of BGE's proposed solutions to  
17 meeting PHMSA MAOP requirements, it appears that replacement is BGE's  
18 default compliance solution. Based on my review of the materials in this case, I  
19 am concerned that BGE did not appear to seriously consider alternatives to  
20 replacement for these lines, especially within the context of likely future changes  
21 in gas demand. There is less need to focus on segments where BGE has used other

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<sup>56</sup> White Rebuttal at 79:1-12.

1 compliance approaches because these approaches reflect relative cost savings and  
2 smaller irreversible investments.

3 **Q. Does Witness White's testimony show that BGE sufficiently looked to MAOP**  
4 **reconfirmation alternatives outside of complete replacement?**

5 A. No. Witness White points to what she claims is the utility's "extensive  
6 assessment" in its Gas Transmission MAOP Reconfirmation and Material  
7 Verification Plan<sup>57</sup> as proof of the planning that went into complying with  
8 PHMSA regulations and consideration of alternatives.<sup>58</sup> However, for each of the  
9 transmission replacement options, that document simply states BGE's knowledge  
10 with respect to the materials and condition of the pipeline and identifies the  
11 selected method of reconfirmation. The Gas Transmission MAOP Reconfirmation  
12 and Material Verification Plan does not document any analysis showing  
13 alternatives considered for each portion of the transmission system, or why  
14 replacement was selected.

15 Witness White states that "Given the age and configuration of BGE's  
16 system, as well as the lack of complete records, BGE determined that the prudent  
17 and safe mechanism for reconfirmation for a majority of the Company's portfolio  
18 of transmission pipe is to replace the assets."<sup>59</sup> The Gas Transmission MAOP  
19 Reconfirmation and Material Verification Plan contains a list of example reasons  
20 why replacement might be selected as the appropriate method; it also contains

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<sup>57</sup> See CONFIDENTIAL CEII Company Exhibit DCW-4.

<sup>58</sup> White Rebuttal at 79:3-10.

<sup>59</sup> White Rebuttal at 30:5-8.

1 reasons why other methods may be appropriate. BGE has provided no analysis for  
2 why replacement was selected for each segment. I surmise, however, that the  
3 reason relates to this statement in its plan: [BEGIN CONFIDENTIAL CEII]

4 [REDACTED]

5 [REDACTED] [END CONFIDENTIAL CEII] BGE's blanket decision to  
6 preferentially replace all assets over a given age, regardless of the merits of  
7 alternatives, is driving the replacements that I have highlighted. BGE is also  
8 planning to replace some related assets that are younger than its threshold, without  
9 additional justification. [BEGIN CONFIDENTIAL CEII] [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED] [END CONFIDENTIAL CEII] As such, it is  
13 difficult to be sure what justification and decisions have actually been made.

14 **Q. Is there a better approach to MAOP compliance that BGE could take?**

15 A. Yes. Given the relatively limited nature of BGE's transmission assets (compared  
16 with its much more extensive distribution system), it would be possible for BGE to  
17 assess the state of each transmission pipe rather than assuming a given physical  
18 useful life. It could be valuable to BGE ratepayers for BGE to extend the life of  
19 some assets that could retire or be used at lower pressure, as part of a bridge to a  
20 different and lower volume system configuration. While the details of how

1 Maryland's buildings sector will decarbonize are uncertain, all evidence is that this  
2 transition will involve increasing electrification (driven by both policy and market  
3 factors) and using substantially less pipeline gas over the next two decades,  
4 regardless of the path taken. BGE therefore does not know that these assets will  
5 have a long useful life. While replacement, as the most expensive option, is clearly  
6 the best option for BGE's short term interest (due to the resulting increase in rate  
7 base), making large irreversible investment decisions in the face of uncertainty  
8 should require a higher bar for analysis and decision-making.

9 **Q. Would you like to revise your discussion regarding Project 58080 (Manor**  
10 **System South)?**

11 A. Yes. While BGE's filings on this project have been inconsistent regarding the use  
12 of replacement versus reduced pressure, I appreciate that Witness White has  
13 confirmed that one part of this project will involve pressure reduction, rather than  
14 replacement, for some portion of the Eastpoint Line.<sup>61</sup> This is a positive step. My  
15 recommendation regarding recovering the cost of this work remains the same,  
16 however. BGE should do the work it believes to be prudent and seek recovery of  
17 the resulting plant in service as part of its next rate case. BGE should not recover  
18 funds for this project while it is being constructed (2024 to 2026), under the multi-  
19 year rate plan approach.

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<sup>61</sup> White Rebuttal at 33:8-12.

1 **Q. Could you provide an example of an alternative to transmission pipe**  
2 **replacement, in the context of the need to validate the maximum operating**  
3 **pressure?**

4 A. Yes. To show compliance with PHMSA regulations, BGE could set the MAOP  
5 based on recent actual operating pressures. This is the “pressure reduction”  
6 approach to compliance. To use this method, BGE would need to reduce the  
7 maximum pressure and flow that it can plan to achieve through a given pipe. It  
8 could achieve this by reducing the peak demand for gas from customers served by  
9 the pipe, such as through weatherization and electrification. Such a non-pipeline  
10 approach could cost substantially less than replacing the transmission pipe. BGE  
11 has known about its need to address PHMSA reconfirmation regulations since at  
12 least 2019, so it would have had plenty of time to design and implement non-  
13 pipeline alternatives that would have reduced peak demand and potentially  
14 allowed pressure reduction. BGE still has time—both before the initial PHMSA  
15 deadline of 2028 (if it acts quickly) and the final PHMSA deadline of 2035—to  
16 take demand side approaches and pressure reduction into account.

17 **Q. Is pressure testing also an option?**

18 A. Yes, utilities can use pressure testing to set the maximum pressure. As Witness  
19 White points out in her rebuttal testimony, this testing would require taking the  
20 line out of service for some period. Witness White argues that this disruption in  
21 service rules out the use of this approach for these projects. I am concerned that  
22 BGE is, again, not considering the cost of alternatives when making the decision



1 not to pursue this approach. BGE proposes to spend more than \$100 million to  
2 replace these pipeline assets (and further hundreds of millions of ratepayer funds  
3 are implicated once the utility's return on capital and taxes are accounted for). If  
4 those costs could be substantially reduced at the cost of temporary disruption to a  
5 subset of customers, that tradeoff should be considered. Yet, BGE has not  
6 seriously evaluated this option.

7 **Q. Have you considered Witness White's testimony regarding the inclusion of**  
8 **line-in-place as an option within Project 58034?**

9 A. Yes. I appreciate Witness White for pointing out this oversight in my direct  
10 testimony.<sup>62</sup> I support BGE's consideration of line-in-place as an option for  
11 improving the cost-effectiveness of its efforts to reduce leaks from the gas system,  
12 and I would encourage the company to consider this approach in other contexts as  
13 well.

14 **Q. Do you have any other corrections that you wish to make at this time?**

15 A. Yes. Witness White correctly points out that my estimate of excavation-related  
16 damages was incorrect.<sup>63</sup> It remains true that changing pipe material does not  
17 impact excavation-related risk.

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<sup>62</sup> White Rebuttal at 64:1-5.

<sup>63</sup> White Rebuttal at 67:13 – 68:4.

1 **IV. BGE Witness Aas's Characterization of My Testimony**

2 **Q. Does BGE Witness Aas refer to your direct testimony in his rebuttal**  
3 **testimony?**

4 Yes. BGE Witness Aas's rebuttal testimony contains six direct references to my  
5 direct testimony.<sup>64</sup> Each of these references cite to pages in the exhibit I identified  
6 as Exhibit ASH-3.<sup>65</sup>

7 **Q. What is Exhibit ASH-3?**

8 A. I need to correct the record regarding the labeling of exhibits for my direct  
9 testimony. At page *i*, and again on page 4, in my direct testimony, I list exhibits  
10 ASH-1 through ASH-6. As identified in my direct testimony, Exhibit ASH-3  
11 referred to a "Survey of Combined Utility GHG Emissions Reductions Strategies."  
12 However, in my filed direct testimony, the *Petition of the Office of People's*  
13 *Counsel for Near-Term, Priority Actions and Comprehensive, Long-Term*  
14 *Planning for Maryland's Gas Companies*, Case No. 9707, ML# 301247 (Feb. 9,  
15 2023) was attached and labeled Exhibit ASH-3. OPC corrected this error through  
16 an errata filed on Friday, August 18, 2023 under ML # 304640. The OPC petition  
17 that Mr. Aas refers to as Exhibit ASH-3 is now labeled Exhibit ASH-7. Based on  
18 context, I assume that BGE Witness Aas is referring to the OPC petition in his  
19 testimony.

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<sup>64</sup> Rebuttal Testimony of Danial R. Aas at 4:20-21, 6:2-4, 8:8-10, 9:3-4, 10:1, and 12:18-13:2.

<sup>65</sup> Exhibit ASH-8 (OPC DR 42-01).

1 **Q. Did you contribute to the writing of the OPC petition?**

2 A. No.

3 **Q. Is there any reason for BGE Witness Aas to believe that you are an author of**  
4 **the OPC petition?**

5 A. No. The OPC petition is clear that a Synapse authored report is attached to the  
6 petition as an appendix; I am an author of that report. But there is no reason for  
7 BGE Witness Aas to believe that I am an author of the OPC petition itself.

8 **Q. Do you have any response to Mr. Aas's statements regarding your testimony?**

9 A. No. Because Mr. Aas's testimony responds to statements I did not make or  
10 contribute to, directly or indirectly, I have no response to his testimony.

11 **Q. Does this conclude your surrebuttal testimony?**

12 A. Yes, it does.

**Exhibit ASH-8**  
**BGE Responses to Data Requests**

Office of People's Counsel Data Requests

OPC DR 42-01

OPC DR 42-05

OPC DR 42-06

**Case No. 9692**  
**Baltimore Gas and Electric Co.**  
**Response to OPC Data Request 42**  
**Request Received: August 02, 2023**  
**Response Date: August 09, 2023**  
**Sponsor(s): Daniel R. Aas**

**Item No.: OPCDR42-01**

Regarding the Rebuttal Testimony of Daniel Aas:

- a. Please clarify which of Mr. Aas's references to "Hopkins Direct" testimony are references to Dr. Hopkins's testimony and which are references to Exhibit ASH-3.
- b. Acknowledge that Dr. Hopkins is not the author of Exhibit ASH-3.
- c. Please clarify which statements in Mr. Aas's testimony that refer to Dr. Hopkins's positions in fact refer to the positions of OPC as expressed in Exhibit ASH-3.

**RESPONSE:**

- a. The following responses were with respect to Exhibit ASH-3, which includes materials that were filed by OPC separately at the Maryland Public Service Commission and that were also sponsored by OPC Witness Hopkins as an exhibit to his Direct Testimony:
  - The response to the question in my Rebuttal Testimony that reads "WHAT WAS THE IMPETUS FOR THE 2022 E3 PATHWAYS STUDY?".<sup>1</sup>
  - The response to the question in my Rebuttal Testimony that reads "WAS THE 2022 E3 PATHWAYS STUDY DEVELOPED TO SUPPORT BGE'S PRIVATE SELF INTERESTS?".<sup>2</sup>
- b. Company Witness Aas does not know whether OPC Witness Hopkins authored or contributed to the preparation of the documents in Exhibit ASH-3.
- c. The responses to the questions described in subpart (a) above include those statements.

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<sup>1</sup> Aas Rebuttal page 4 line 19 through page 5 line 5

<sup>2</sup> Aas Rebuttal page 5 line 19 through page 6 line 11

**Case No. 9692**  
**Baltimore Gas and Electric Co.**  
**Response to OPC Data Request 42**  
**Request Received: August 02, 2023**  
**Response Date: August 09, 2023**  
**Sponsor(s): Dawn C. White**

**Item No.: OPCDR42-05**

Please refer to the Rebuttal Testimony of Dawn White, 52:23 to 53:17. In its ongoing PROJECTpipes 3 application before the District of Columbia Public Service Commission (Formal Case 1175), Washington Gas Light proposes to adopt a new software for risk evaluation because Urbint, the software provider of Optimain, informed WGL that it would no longer provide maintenance and support services for the Optimain platform beyond March 31, 2023, and is discontinuing development of the Optimain application. ([1]-See Direct Testimony of Aaron C. Stuber, Exhibit WG (B))

- a. Does BGE intend to continue to use Optimain throughout the three-year rate period?
- b. Will BGE have continued maintenance and support from the software developer of Optimain throughout the three-year period?
- c. Has BGE considered alternative software options for risk evaluation and prioritization? Please provide the results of that consideration.
- d. If BGE does not intend to use Optimain throughout the three-year rate period, what software does it intend to use, and why?
- e. Does BGE plan to make any regulatory filings or propose any regulatory process regarding changes in risk evaluation software? If so, when will those filings be made and in what proceeding? If not, why not?

**RESPONSE:**

- a. BGE expects to discontinue use of Optimain during the MYP period of 2024 to 2026.
- b. BGE will have support from a qualified third-party vendor to support Optimain until a new product is implemented.
- c. Refer to OPCDR42-05-*CONFIDENTIAL Attachment 1*.
- d. Refer to OPCDR42-05-*CONFIDENTIAL Attachment 1*.
- e. BGE does not typically make a regulatory filing for changes such as these. The Company will provide an update to PSC Engineering Staff as part of regular communications because of the impact to Engineering Standards and regularly inspected processes.

**Case No. 9692**  
**Baltimore Gas and Electric Co.**  
**Response to OPC Data Request 42**  
**Request Received: August 02, 2023**  
**Response Date: August 09, 2023**  
**Sponsor(s): Dawn C. White**

**Item No.: OPCDR42-06**

Please refer to the Rebuttal Testimony of Dawn White, 27:8-10.

- a. Please provide all data used to support the statements that “in BGE’s experience, many gas customers wish to remain connected to the gas system.”
- b. Please describe all instances in which “gas customers have been offered electrification as an option.”
- c. How many such instances is Witness White referring to? Of these, how many have had a “sentiment” to retain gas service? How many have retained gas service? How many have partially electrified? How many have chosen not to maintain or acquire gas service?
- d. Provide documentation regarding the “offer” made to each customer.

**RESPONSE:**

BGE does not maintain records with respect to customer conversations around options for electrification in lieu of gas service. However, as part of various gas program activities, such as gas infrastructure replacement work, BGE has presented electrification as an option to opposition to ongoing gas work at their premises. In nearly all instances, customers have opted to maintain gas service rather than electrify. The Company can only recall one instance in which a resident indicated that they might pursue electrification.

BGE did explore electrification as an alternative to performing an Operation Pipeline replacement job and approached a customer regarding multiple meters at their facility. Due to the historic nature of the site and specific electrification concerns, the customer wished to maintain gas service to the facility.

As a result of continued net positive gas customer growth, and the rarity of customers to opt to discontinue gas use in the instances outlined above, BGE maintains that many gas customers wish to remain connected to the gas system.

**CONFIDENTIAL** Exhibit ASH-9



**CONFIDENTIAL CEII Exhibit ASH-10**

**CONFIDENTIAL CEII Exhibit ASH-11**