STATE OF MARYLAND

BEFORE THE PUBLIC SERVICE COMMISSION

)

Application of Baltimore Gas &)Electric For Adjustments to its Electric)and Gas Base Rates)

Case No. 9406

REBUTTAL TESTIMONY OF

PAUL CHERNICK

ON BEHALF OF

THE OFFICE OF PEOPLES COUNSEL

Resource Insight, Inc.

MARCH 4, 2016

| 1 | Q: | Are you the same Paul Chernick who filed direct testimony in this |
|----|----|--|
| 2 | | proceeding? |
| 3 | A: | Yes. |
| 4 | Q: | What is the subject of your rebuttal testimony? |
| 5 | A: | I review the direct testimony of Staff witness Daniel Hurley, and point out |
| 6 | | several places in which he has missed important errors in BGE's analysis and |
| 7 | | accepted flawed and illogical assumptions without independent analysis. |
| 8 | Q: | To which issues in Mr. Hurley's direct do you respond? |
| 9 | A: | Mr. Hurley touches on a number of issues in his direct testimony, but I will |
| 10 | | address only the following subset: |
| 11 | | • Peak Time Rebate costs. |
| 12 | | • Transmission and distribution capital cost savings. |
| 13 | | • Capacity price mitigation from cleared resources and demand |
| 14 | | reductions. ¹ |
| 15 | | • Energy revenue. |
| 16 | | • Energy price mitigation. |
| 17 | | • Energy avoided costs. |
| 18 | | • Avoided capacity cost. |
| 19 | Q: | Does Mr. Hurley claim to have reviewed BGE's estimates for these |
| 20 | | benefit categories? |
| 21 | A: | Mr. Hurley clearly claims to have reviewed BGE's assumptions for T&D, |
| 22 | | capacity price mitigation, energy revenue, energy price mitigation, and |

¹ Mr. Hurley discusses "Capacity Price Mitigation" (by which he apparently means price mitigation from cleared capacity) on p. 16 and "Capacity Price Mitigation – Demand" on p. 23.

energy avoided cost.² Typically, he says something like "Staff has reviewed
 the assumptions" and "does not have any major concerns" or "finds them to
 be reasonable" (e.g., at 14, 16, 18)

4 Q: Is that a reasonable description of Staff's work on these issues?

5 I think not. On discovery, Mr. Hurley acknowledged that he was the only A: Staff member involved in these reviews (Staff responses to OPC DR 3-3a, 6 7 DR3-5a, DR3-10a, and DR3-15d(i)). He also clarifies that his effort consisted of reviewing the "testimony of the company, data request of the parties and 8 9 the documents from Case No. 9208," including the Advanced Metering Infrastructure Performance Metrics Reporting Plans for the Phase I tracking 10 metrics (ML131260) and the Phase IIA tracking metrics (ML143602) (Staff 11 response to OPC DR 3-3b, DR3-5b, DR3-10b, DR3-14, DR3-15a and DR3-12 15d(ii)).³ Mr. Hurley's testimony did not include any quantitative analysis of 13 14 the validity of any of BGE's claims, and his responses make clear that his "review" involved no workpapers, calculations or data.⁴ 15

² He discusses the value of energy conservation, but does not mention energy avoided costs, and seems to have totally ignored the cost of Peak Time Rebates.

³ Mr. Hurley also relies on the Phase IIB tracking filing—the "Advanced Metering Infrastructure Performance Metrics Reporting Plan Methodologies to Capture Additional Advanced Metering Infrastructure/Smart Grid Benefits report—as support for his endorsement of BGE's estimates of the benefits of avoided capacity cost and capacity price mitigation from demand reductions (Hurley Direct at 23). This was not a consensus filing, even for tracking purposes.

⁴ He provides computations of the effects of what he calls "sensitivity analysis" of changing assumptions for the SEM energy reductions (at 20) and the annual number of PJM summer emergency events (at 17), but did not provide any information about the propriety of BGE's estimate or the alternatives.

1 Considering the content of Mr. Hurley's testimony and his discovery 2 responses, I believe a better description of his work on BGE's claimed 3 system costs would be that he compared BGE's methodologies in this proceeding to those used in the tracking metrics filings and the EmPOWER 4 and PeakRewards filings. If his conclusions were limited to consistency in 5 BGE's positions, many (but not all) of those conclusions would be correct. If 6 7 his conclusions are read as endorsements of the values that BGE used, they 8 are mostly incorrect.

9 Q: How did Mr. Hurley describe his use of those earlier filings?

10 A: Mr. Hurley appears to have concluded that the values used in the filings were
11 correct:

Mr. Hurley's assessment of the benefits categories relied on Commission
Orders approving the Phase I and IIA consensus metric filings and Order
No. 87082 for benefits the Commission approved for calculating cost
effectiveness in the EmPOWER Maryland cases. Based on his review of
those Orders and the work group processes that preceded those Orders
Mr. Hurley believes the values are reasonable. (Staff response to OPC
DR5-4)

Q: Did the tracking-metric filings reflect consensus of the parties on the system benefits?

A: No. It is my understanding that the consensus on the filings was limited to
the use of the methodologies for reporting.

Q: How did Mr. Hurley reach his conclusion that "the values are reasonable"?

A: I do not know. He does not provide a single computation, derivation, analysis
or memo supporting that conclusion.

Q: Did BGE's filing in this proceeding consistently use the methodologies and values used in the tracking metrics or the EmPOWER cases?

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A: No. For example, for T&D, Mr. Hurley acknowledges that, in contrast to the
EmPOWER proceeding, BGE did not compute avoided costs in \$/kW-year,
and that "BGE did not apply the Functionality discount factor in this
proceeding" (Staff response to OPC DR 5-5b and 5-5c).

5 6

Q: What was the scope of Mr. Hurley's review of BGE's estimate of Peak Time Rebate costs.

A: Mr. Hurley says that "Staff has reviewed both the deployment and postdeployment costs calculated by the Company and finds the costs to be
reasonable" (Direct at 8). While Mr. Hurley states that the capacity revenue
received from PJM "will be used to offset the cost of the Peak Time Rebate
program" (Direct at 15), he fails to note that BGE failed to include this cost
in its analysis.

On discovery, Mr. Hurley says that he "believes that the Peak Time 13 14 Rebates paid to SER customers is a transfer payment, similar to other incentive payments used in the EmPOWER Maryland and PeakRewards 15 programs." (Staff response to OPC DR3-1) When asked if "shifting load out 16 of the incentive period of ESDs represents a burden to participants, who 17 would not undertake the load shifting without the rebate," he does not answer 18 19 the question about burden, but concedes that "the \$1.25 per kWh is an 20 incentive for customers to take actions to reduce energy usage they otherwise would not take absent the incentive" (Staff response to OPC DR3-2). 21

Q: Is Mr. Hurley consistent in his position that demand-response rebates are not costs?

A: No. Mr. Hurley agrees that "saving BGE from paying a customer a
PeakRewards bill credit that does not have functioning equipment...is a
benefit. If the Company is able to identify and remove customers with

| 1 | | inoperable switches from the PeakRewards program, this would reduce the |
|----|----|--|
| 2 | | costs of the program and the EmPOWER surcharge" (Staff response to |
| 3 | | OPC DR 4-2b) |
| 4 | | Mr. Hurley (like BGE) is inconsistent in assuming that a PeakRewards |
| 5 | | rebate (for automatic controls that will often be imperceptible to participants) |
| 6 | | is a cost to the participants, but an SER rebate (often for active responses by |
| 7 | | participants) is not a cost. |
| 8 | Q: | What was the scope of Mr. Hurley's review of BGE's estimate of |
| 9 | | transmission and distribution capital cost savings? |
| 10 | A: | He claims that "Staff has reviewed the assumptions and does not have any |
| 11 | | major concerns with how the Company determined the assumed savings." |
| 12 | | (Hurley Direct at 14) The assumptions he highlights are as follows: |
| 13 | | • "replacement cost for transmission import capability and distribution |
| 14 | | substations," |
| 15 | | • "load carrying capabilities," |
| 16 | | • "import capability and system peak load," and |
| 17 | | • the "asset live discount factor." (Ibid.) |
| 18 | | Mr. Hurley claims that "The Company has consistently applied the cost |
| 19 | | savings for transmission and distribution in the cost effectiveness analysis for |
| 20 | | the PeakRewards program implementation in 2008 through the cost |
| 21 | | effectiveness analysis for the EmPOWER Maryland programs." (Hurley |
| 22 | | Direct at 14). On discovery, he backed off the claim that BGE had |
| 23 | | consistently used the same cost savings in the PeakRewards computations, |
| 24 | | the EmPOWER cost-effectiveness inputs, and the current smart-meter |
| 25 | | computations, explaining that his sweeping conclusion "was referring to the |
| 26 | | other cases were the methodology and concept of avoided transmission and |

distribution cost have been approved by the Commission," and not the application of the same values. (Staff response to OPC DR 3-4) Mr. Hurley also says that his claim about consistency only meant that "BGE has applied an Avoided T&D benefit for PeakRewards and EmPOWER and the Commission has approved the T&D benefit in those programs." (Staff response to OPC DR5-5a)⁵

Q: Does the BGE analysis use all the T&D assumptions that Mr. Hurley listed?

9 A: No. I do not see anything in BGE's computations (Staff DR6-2 Attachment
10 15) would be described as "load carrying capabilities" or an "asset live
11 discount factor."

On discovery, Mr. Hurley defined "load carrying capabilities" to mean "Import Capability" for transmission and "All-Time System Peak Load" for distribution (Staff response to OPC DR5-3), which are the same as the "import capability and system peak load" he lists in the next dot point.

Similarly, Mr. Hurley acknowledged that he "included the term 'asset 16 live discount factor' in error" (Staff response to OPC DR 5-1). In fact, BGE 17 applied the "asset life discount factor" in the "Advanced Metering 18 19 Infrastructure Phase IIA Performance Metrics Reporting Plan" (ML143602), 20 reducing the avoided cost by 45% to reflect the fact that the new meters would have a shorter life than the T&D, and would only defer investments, 21 not eliminate them. But in this proceeding, BGE ignored that difference, 22 nearly doubling its estimates of avoided T&D costs.⁶ BGE's current 23 24 methodology (detailed in Staff DR6-2, Attachment 15) is not the same as in

⁵ He does not specify where the Commission considered the T&D valuation.

⁶ I discussed BGE's timing error at page 40 of my Direct.

| 1 | | the Phase IIA Performance Metrics Reporting Plan or the EmPOWER |
|----------|----|--|
| 2 | | analysis. |
| 3 | Q: | Does Mr. Hurley's list cover the critical assumptions for the T&D |
| 4 | | benefits? |
| 5 | A: | No. Mr. Hurley misses BGE's critical assumptions that: |
| 6 | | • The load reductions from the SER and PR would affect the peak loads |
| 7 | | on the T&D equipment. |
| 8 | | • BGE engineers would trust the SER and PR programs to reliably reduce |
| 9 | | each of the peak loads on equipment that is close to being fully loaded. |
| 10 | | • Many millions of dollars of T&D projects were actually avoided in |
| 11 | | 2013–2015. |
| 12 | | As I showed in my direct testimony, the first assumption is not correct, |
| 13 | | and BGE has not been able to provide any evidence for the second and third |
| 14 | | assumptions. |
| 15 | Q: | Does Mr. Hurley offer any reason for his acceptance of BGE's |
| 16 | | assumptions regarding T&D capital costs? |
| 17 | A: | That is difficult to tell, since Mr. Hurley makes a number of statements |
| 18 | | without explaining what significance he sees in them. In this case, he says: |
| 19 | | The Company has consistently applied the cost savings for transmission |
| 20 | | and distribution in the cost effectiveness analysis for the PeakRewards |
| 21 | | program implementation in 2008 through the cost effectiveness analysis |
| 22 | | for the EmPOWER Maryland programs. Avoided T&D was included in |
| 23 | | the EmPOWER Planning Group avoided cost calculation which were |
| 24 25 | | approved by the Commission in Order No. 87082 issued on July 16, 2015. (Hurley Direct at 14) |
| 26 | | If Mr. Hurley is suggesting that the values that BGE used in this |
| 27 | | proceeding were the same as those used in the EmPOWER analysis, and that |

- the Commission specifically approved those values in Order No. 87082 he is
 incorrect. As I explained in my direct:
- The values that BGE used in this proceeding were not the values in
 the Exeter Associates report on "Avoided Energy Costs in
 Maryland."
- BGE annualized the avoided T&D costs in the EmPOWER
 proceeding, but assumed for the smart-meter analysis that load
 reductions would avoid capital additions immediately and
 permanently.
- In its smart-meter analysis, BGE did not use the 'functionality discount factor' that its used in the EmPOWER proceeding.

Q: How did Mr. Hurley determine that the SER load reductions on a few summer days would avoid transmission lines and distribution substations?

In response to that question, Mr. Hurley simply asserted "Phase IIA 15 A: consensus metrics included a calculation for the benefit for avoided 16 transmission and distribution attributable to dynamic pricing events." (Staff 17 response to OPC DR3-3c).⁷ He does not offer any evidence that the SER load 18 reductions, which do not coincide with the T&D peaks, would avoid any 19 T&D investment. In addition, Mr. Hurley did not review "the prudence of 20 depending on the SER and PR load reductions to reduce peak load on 21 transmission lines and distribution substation." (Staff response to OPC DR3-22

⁷ Mr. Hurley provides this same non-response when asked which "transmission lines and distribution substations that Staff believes were avoided in 2013–2015 by the SER and PR enhancements." (Staff response to OPC DR3-3e) As I noted above, the Phase IIA tracking metric was computed differently from the savings that BGE claims in this proceeding.

3d) In short, Mr. Hurley does not appear to have been concerned with
 whether T&D costs have been or will be avoided, but only with whether
 BGE's claims resembled something it had claimed earlier.

4 **Q:** 5

6

What was the scope of Mr. Hurley's review of BGE's estimates of capacity price mitigation from cleared resources and demand reductions?

A: With respect to the cleared capacity, Mr. Hurley says that "Staff has reviewed
the [Capacity Price Mitigation] assumption[s] made by the Company and has
no major concerns with the calculation of the mitigation benefit," (Hurley
Direct at 16) Separately, Mr. Hurley asserts that BGE's estimate of price
mitigation from peak reductions is "appropriately valued" and among "the
most reliable as presented by BGE" (Ibid. at 22).⁸

The only evidence for that Mr. Hurley could cite in support of his determination "that the SER load reductions on a few summer days would avoid transmission lines and distribution substations" was that the "Phase I consensus [tracking] metrics included a calculation for the benefit for capacity price mitigation." (Staff response to OPC DR 3-5c)

18 Mr. Hurley does not explain any of the following:

How Staff determined how much the SER load reductions on a few
 summer days would affect the PJM load forecasts, capacity
 requirements, and capacity prices.⁹

⁸ Mr. Hurley's response on the difference between the two "Capacity Price Mitigation – Demand" he discusses at 23 and the "Capacity Price Mitigation" he discusses at 16 is somewhat garbled, but he seems to be distinguishing between cleared capacity at 16 and other reductions at 22.

⁹ Mr. Hurley declined to provide any explanation of its position (Staff response to OPC DR 3-15d(iii)).

- How Staff came to agree with BGE that the change in price from
 additional resources or reduced load would be half of the VRR curve
 slope.¹⁰
- How Staff concluded that the addition of BGE Limited demand
 resources in the BRAs would reduce the price of Annual capacity, and
 that the addition of BGE base demand resources in the BRA for 2018/19
 and 2019/20 would reduce the price of performance capacity.¹¹
- Why Staff did not rely on the PJM BRA sensitivity scenario analyses.¹²

9 Q: What basis does Mr. Hurley offer for supporting BGE's estimates of 10 capacity price mitigation?

A: He claims that "the Company followed the methodology approved by the
Commission in Order No. 87082" (Hurley Direct at 16) On discovery, Mr.
Hurley points out that the Commission ordered that "the Energy and Capacity

¹⁰ Mr. Hurley declined to provide any explanation of its position (Staff response to OPC DR 3-15d (ii) and (iv)), even though this assumption is key to BGE's estimate of benefits from both cleared capacity and demand reductions.

¹¹ Mr. Hurley claims that he assumed that Limited demand-response resources affected the price of Annual resources (which comprise most of resources for which customers will pay through 2017/18) because of the Commission's Order No. 87082, which addressed Annual or Extended Summer energy-efficiency resources, not Limited demand response. (Staff response to OPC DR 3-5e) He also says that "Staff did not perform any additional analysis" to determine whether BGE's Base demand-response resources would have any effect on the performance capacity that dominate the capacity mix in 2018/19 and 2019/20. (Staff response to OPC DR 3-5f)

¹² When asked to "explain how Staff reviewed the PJM BRA sensitivity scenario analyses, and why Staff did not rely on those analyses," Mr. Hurley says that "Staff did review the PJM BRA sensitivity scenarios; however Staff did not produce any additional analysis of these scenarios." (Staff response to OPC DR 3-5g) He provides no reason for ignoring the PJM analyses.

1 DRIPE methodologies proposed as part of the Exeter Avoided Cost Study shall be reflected in the cost-effectiveness screening tools, subject to the 2 modified assumption of a four-year Capacity DRIPE." (Order 87082 at 30-3 31, cited with some errors in Staff response to OPC DR3-6a)¹³ He 4 acknowledges that the order does not address the effect of the SER load 5 reductions, which occur on only a few days of the year and cleared as 6 7 Limited demand resources in 2014/15 and 2015/16. (Staff responses to OPC 8 DR 3-6b and 3-6c)

9 Q: Does Mr. Hurley offer any reason for his acceptance of BGE's
 10 assumptions regarding T&D capital costs?

A: Again, Mr. Hurley's intent is difficult to discern, but he does note that "the
Company followed the methodology approved by the Commission in Order
No. 87082" (Hurley Direct at 16).

Q: Does Order No. 87082 approve the methodology that BGE uses in this proceeding?

A: No. As I noted in my direct, Order No. 87082 does not mention or approve
any T&D methodology. Nor was there any discussion of T&D cost
estimation on the record.

Q: What was the scope of Mr. Hurley's review of BGE's estimate of energy
 revenue?

A: Mr. Hurley said that "Staff has reviewed the assumption[s] and finds them to be reasonable and notes that the calculation of the energy revenue is consistent with how BGE calculates energy revenue attributable to

¹³ The Exeter capacity price mitigation analysis was very different from that used by BGE in this proceeding.

PeakRewards. Additionally the EmPOWER Planning Group included energy
 revenue as an avoided energy cost in their recommendations for cost
 effectiveness calculations. The Commission approved the plan via Order No.
 87082." (Hurley Direct at 17).¹⁴

5 Mr. Hurley seems to have found suspect BGE's assumption that ESDs 6 would be called on two days with emergency events, since he said that "Staff 7 modeled the effect of lowering the number from two to one [emergency] 8 event per summer" (Ibid.). Mr. Hurley reports that this change in BGE's 9 assumption would reduce NPV by \$8 million.

10

Q: Was this analysis adequate?

A: No. Mr. Hurley does not describe how Staff reviewed BGE's assumptions or
 found those assumptions to be reasonable. While energy revenues are
 certainly a benefit, the documents filed by the Maryland Energy
 Administration in the EmPOWER proceeding for 2015–2017 do not discuss
 energy revenues, only avoided energy costs.¹⁵ Certainly, neither the filings
 nor the decision in that proceeding proposed the assumptions that BGE
 presented in this proceeding.

As for Mr. Hurley's observation that "the calculation of the energy revenue is consistent with how BGE calculates energy revenue attributable to PeakRewards," (Hurley Direct at 17), he clarifies on discovery that he "was referring to the computation of energy revenue after a summer season," not a

¹⁴ I assume that, in the last sentence, Mr. Hurley means that the Commission approved the EmPOWER plan.

¹⁵ These documents include the "EmPOWER 2015-2017 Cost Effectiveness Framework" (August 18, 2014), "Avoided Energy Costs in Maryland: Assessment of the Costs Avoided through Energy Efficiency and Conservation Measures in Maryland, Final Report" (April 2014), and the "Avoided Cost Summary Tables for 2015-2017.

forecast of the frequency of emergencies or the price. I have no problem with
the calculation of historical energy revenue attributable to PeakRewards (or
SER, for that matter), since those consist of adding up the actual payments
from PJM to BGE. The really interesting part of BGE's benefit claim is its
inflated estimate of the frequency of future emergency events on the ESDs;
that factor does not arise in the computation of historical revenues for
PeakRewards.

8 While Mr. Hurley correctly (if vaguely) identified the frequency of 9 emergency events as a critical and suspect input, he did not provide any 10 historical data or reach any conclusion regarding a reasonable frequency of 11 these events:

 Staff did not determine an estimate of historical summer emergency events

- b. Staff did not determine the frequency of future emergency events
- c. Staff does not know what the probability of BGE will know the day
 before an emergency event will occur. (Staff response to OPC DR 38)
- As I demonstrated in my direct, the frequency seems to be closer to half
 an event annually than to BGE's claimed two events.

20 Mr. Hurley did not address BGE's escalation of LMP energy prices 21 during a period in which the forward markets project declining prices.

Q: What was the scope of Mr. Hurley's review of BGE's estimate of energy
 price mitigation benefits?

14

A: His discussion on that point is limited to saying that "Staff has reviewed the assumptions used to determine the energy price mitigation and finds them to be reasonable. Staff notes that the Commission approved an energy price mitigation construct in Order No. 87082 as part of the cost effectiveness
 construct of the EmPOWER Maryland cases" (Hurley Direct at 18).¹⁶

As is true for most other claimed benefits, Mr. Hurley did not describe how Staff reviewed BGE's price mitigation estimates, including BGE's assumption that only BGE load affects prices in any of the Maryland zones and BGE's decision to rely on the worst-fitting of its regressions. Mr. Hurley identifies no "documents describing or memorializing Staff's review" and acknowledges that he "did not conduct a thorough [review of BGE's regression] analysis." (Staff response to OPC DR 3-10b and 10c)

10 Q: Does Mr. Hurley agree with your critique of BGE's energy price mitigation analysis?

Yes. In large part. Mr. Hurley "does not believe that BGE load is the only 12 A: load that affects prices in the BGE, Pepco, DPL and AP Zones" and agrees 13 that PEPCo, DPL and AP loads would affect prices in the corresponding 14 zones more than changes in BGE load (Staff response to OPC DR 3-11). He 15 does not appear to understand that loads in other part of MAAC or western 16 17 PJM would affect prices in the Maryland zones, since he responds to questions about those effects by saying that "Energy Price Mitigation is 18 estimating benefits within Maryland" (Staff response to OPC DR 3-11b(iv) 19 20 and (vi)), which misses the point.

¹⁶ Since Mr. Hurley listed the "key factors" as "the longevity of the mitigation effect," the price effect of a "one-percent drop in demand in the BGE zone," and the unhedged supply by year, I infer that these are the assumptions to which he refers. By "one-percent drop in demand in the BGE zone," he probably means the effect on zonal prices of that demand change (Staff response to OPC DR 3-9).

Q: What is the relevance of the Commission's approval of an energy price mitigation construct in Order No. 87082?

A: The Commission decided "to retain the Exeter methodology for calculating Energy" (Order No. 87082 at 13). The Exeter methodology was substantially different than the method BGE applied, so the Commission's decision is important only in that it accepted energy price mitigation as a benefit and accepted default values for hedging and decay of the price effects, and not as support for BGE's estimates of the magnitude of its load reductions on prices in its zone or elsewhere in Maryland.

Q: Does Mr. Hurley have any basis for agreeing to BGE's estimate of the energy or capacity savings from the SEM attributable to the smart meters?

A: No. To the contrary, Mr. Hurley acknowledges that "Staff has not calculated
the estimate of the portion of SEM program reduction that would occur
absent smart meters" (Staff response to OPC DR 3-13), so his support for any
Smart Grid benefits from the SEM is not particularly meaningful.

Q: What was the scope of Mr. Hurley's review of BGE's estimate of energy avoided costs?

A: Oddly enough, while Mr. Hurley has a section on "energy conservation" and discusses the uncertainly in the future MWh savings from the SEM (Hurly Direct at 19–20), he does not mention the pricing of the conserved energy in \$/MWh.¹⁷ His testimony cannot be used to support BGE's energy avoided costs.

¹⁷ Mr. Hurley starts this section with confusion regarding the savings from the SEM versus the SER program. He attributes BGE's SEM projected savings of 1.5% of eligible load to both the SEM and the SER, and claims that these combined savings were evaluated by OPower and

Q: What was the scope of Mr. Hurley's review of BGE's estimate of avoided capacity costs?

3 There was no substantive review. Mr. Hurley discusses avoided capacity A: costs as part of his category of "additional" benefits and strongly endorses 4 BGE's estimate, claiming that "a majority of the Supply Side benefits are 5 appropriately valued" and that avoided capacity costs are among "the most 6 7 reliable as presented by BGE." (Hurley Direct at 22–23) Yet Mr. Hurley does 8 not explain how he reached this sweeping endorsement and does not even 9 claim (as he does for many other system benefits) that Staff reviewed BGE's 10 analyses. (Staff response to OPC DR 3-15)

Mr. Hurley cites the joint report from BGE and PHI, "Methodologies to Capture Additional Advanced Metering Infrastructure/Smart Grid Benefits," as a basis for accepting BGE's estimates. (Hurley Direct at 23). That report does not analyze whether the smart-meter programs will reduce capacity obligations, but simply assumes they will do so:

16Additional peak load demand reductions that are not monetized as17supply resources in the Base Residual Auctions result in lower capacity18obligations for the BGE and PHI zones. Lower capacity obligations19equate to a lower costs for capacity. ("Methodologies to Capture20Additional Advanced Metering Infrastructure/Smart Grid Benefits" at2126)

When asked for documentation of Staff's review of this document, Mr. Hurley replied "Staff did not file a separate analysis with the Commission in regards to the Methodologies to Capture Additional Advanced Metering Infrastructure/Smart Grid Benefits report" (Staff response to OPC DR 3-15c),

verified by Navigant, even though neither of those firms were involved in the SER program, which was reviewed by the Brattle Group. (Staff response to OPC DR 3-12)

by which Mr. Hurley appears to mean that there was no review of BGE's
 assumptions in the Methodologies document or the current case.

3 Q: Please summarize your response to Mr. Hurley's direct testimony.

4 A: A careful reading of Mr. Hurley's testimony and discovery responses 5 indicates that neither he nor anyone else on Staff conducted any review of the substance of BGE's claims of system benefits. He accepted BGE's assertions 6 7 without any independent evaluation. Mr. Hurley provides some information about the consistency of BGE's computations in this proceeding with the 8 9 methods BGE and other parties used in previous proceedings, but even there, 10 he mischaracterizes history, alleging that BGE's approaches are the same as in the Exeter report presented in the EmPOWER proceedings, or the tracking 11 metrics, when they differ substantially. 12

- 13 Q: Does this conclude your rebuttal testimony?
- 14 A: Yes.
- 15

Office of People's Counsel Data Request No. 3 to Staff Request Date: February 19, 2016

Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

3-1 Hurley, pp. 7–8: Please explain why Mr. Hurley does not include the Peak Time Rebates paid to SER participants as a cost.

STAFF RESPONSE:

Mr. Hurley believes that the Peak Time Rebates paid to SER customers is a transfer payment, similar to other incentive payments used in the EmPOWER Maryland and PeakRewards programs.

Office of People's Counsel Data Request No. 3 to Staff Request Date: February 19, 2016

Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

- 3-2 Does Mr. Hurley believe that shifting load out of the incentive period of ESDs represents a burden to participants, who would not undertake the load shifting without the rebate period?
 - a. If not, please explain why Mr. Hurley believes that a rebate of \$1.25/kWh would be needed to achieve these load shifts.

STAFF RESPONSE:

Mr. Hurley believes that the \$1.25 per kWh is an incentive for customers to take actions to reduce energy usage they otherwise would not take absent the incentive.

a. The Dynamic Pricing Rebate Implementation Working Group report dated March 16, 2012 (Maillog No. 137738) stated, "The dynamic pricing rate is based upon PJM Net Cost of New Entry (Net CONE) for the 2013/2013 delivery year and is guided by prevailing regional capacity and energy market prices. Any recommended rate change will be submitted to the Commission for review.

Office of People's Counsel Data Request No. 3 to Staff Request Date: February 19, 2016

Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

- 3-3 Hurley, p. 14: Regarding the statement that "Staff has reviewed the assumptions and does not have any major concerns with how the Company determined the assumed savings," please:
 - a. List the Staff personnel who reviewed each of the assumptions.
 - b. Provide any memos, emails, or other documents describing or memorializing Staff's review.
 - c. Explain how Staff determined that the SER load reductions on a few summer days would avoid transmission lines and distribution substations.
 - d. Describe any review performed for Staff by a transmission or distribution engineer regarding the prudence of depending on the SER and PR load reductions to reduce peak load on transmission lines and distribution substations.
 - e. Identify the transmission lines and distribution substations that Staff believes were avoided in 2013–2015 by the SER and PR enhancements.

STAFF RESPONSE:

a. Mr. Hurley

b. Mr. Hurley reviewed the testimony of the company, data request of the parties and the documents from Case No. 9208 as discussed and footnoted in my direct testimony.

c. Phase II A consensus metrics included a calculation for the benefit for avoided transmission and distribution attributable to dynamic pricing events. Attachment II of the Phase II A metrics filing included an example of how the benefit were calculated.

d. There was no review.

f. Phase II A consensus metrics included a calculation for the benefit for avoided transmission and distribution attributable to dynamic pricing events. Attachment II of the Phase II A metrics filing included an example of how the benefit were calculated.

Office of People's Counsel Data Request No. 3 to Staff Request Date: February 19, 2016

Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

- 3-4 Hurley, p. 14: Regarding the statement that "The Company has consistently applied the cost savings for transmission and distribution in the cost effectiveness analysis for the PeakRewards program implementation in 2008 through the cost effectiveness analysis for the EmPOWER Maryland programs. Avoided T&D was included in the EmPOWER Planning Group avoided cost calculation which were approved by the Commission in Order No. 87082 issued on July 16, 2015."
 - a. Please provide the documents in which BGE and EmPOWER Planning Group applied the avoided T&D cost values that BGE used in this proceeding.

STAFF RESPONSE:

Mr. Hurley was referring to the other cases were the methodology and concept of avoided transmission and distribution cost have been approved by the Commission.

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- 3-5 Hurley, p. 16: Regarding the statement that "Staff has reviewed the [Capacity Price Mitigation] assumption[s] made by the Company and has no major concerns with the calculation of the mitigation benefit," please:
 - a. List the Staff personnel who reviewed each of the assumptions.
 - b. Provide any memos, emails, or other documents describing or memorializing Staff's review.
 - c. Explain how Staff determined how much the SER load reductions on a few summer days would affect the PJM load forecasts, capacity requirements, and capacity prices.
 - d. Provide the Staff analysis that led it to concur that the change in price from additional resources or reduced load would be half of the VRR curve slope.
 - e. Provide the Staff analysis that led it to concur that the addition of BGE Limited demand resources in the BRAs would reduce the price of Annual capacity.
 - f. Provide the Staff analysis that led it to concur that the addition of BGE base demand resources in the BRA for 2018/19 and 2019/20 would reduce the price of performance capacity.
 - g. Explain how Staff reviewed the PJM BRA sensitivity scenario analyses, and why Staff did not rely on those analyses.

STAFF RESPONSE:

a. Mr. Hurley

b. Mr. Hurley reviewed the testimony of the company, data request of the parties and the documents from Case No. 9208 as discussed and footnoted in my direct testimony

c. Phase I consensus metrics included a calculation for the benefit for capacity p[rice mitigation.

d. This method is consistent with the EmPOWER Planning Groups recommendation for calculating capacity price mitigation approved by the Commission in Order No. 87082.

e. This method is consistent with the EmPOWER Planning Groups recommendation for calculating capacity price mitigation approved by the Commission in Order No. 87082.3-6 a. The EmPOWER planning group.

f. Staff did not perform any additional analysis.

g. Staff did review the PJM BRA sensitivity scenarios; however Staff did not produce any additional analysis of these scenarios for the calculation of the Core Benefits as described in my direct testimony.

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- 3-6 Hurley, p. 16: Regarding the statement that "the Company followed the methodology approved by the Commission in Order No. 87082":
 - a. Please provide a citation to the language in Order No. 87082 that describes and approves the methodology that BGE used in this proceeding.
 - b. Please provide a citation to the language in Order No. 87082 that addresses the application of the approved methodology to a program that reduces load in only a few days of the year, and not necessarily the peak days.
 - c. Please provide a citation to the language in Order No. 87082 that addresses the application of the approved methodology to a program that provides Limited demand resources, rather than Annual resources.

STAFF RESPONSE:

a. Order No 87082, the Commission approved in Ordering Paragraph 3 the Energy and Capacity DRIPE methodologies proposed a part of the Exeter Avoided Cost Study shall be reflected in the cost-effectiveness screening, subject to the modified assumption of a four-year Capacity DRIPE. Additionally, the Commission reaffirmed this decision in Order No. 87213, issued on October 26, 2015.

- b. There is no specific reference to a few days of the year.
- c. There is no specific reference to Limited demand resources.

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- 3-8 Hurley, p. 17: Regarding the statement that "Staff modeled the effect of lowering the number from two to one [emergency] event per summer," please provide Staff's best estimates of the following:
 - a. The historical frequency of summer emergency events.
 - b. The future frequency of summer emergency events.
 - c. The probability that BGE will know the day before that an emergency event will occur and call an ESD.

STAFF RESPONSE:

a. Staff did not determine an estimate of historical summer emergency events

b. Staff did not determine the frequency of future emergency events

c. Staff does not know what the probability of BGE will know the day before an emergency event will occur.

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- 3-10 Hurley, p. 18: Regarding the statement that "Staff has reviewed the assumptions used to determine the energy price mitigation and finds them to be reasonable," please explain how Staff reviewed BGE's estimate of the effect of a 1% reduction of BGE load on prices in the BGE, PEPCo, DPL and AP zones, and specifically:
 - a. Please list the Staff personnel who reviewed each of the assumptions.
 - b. Please provide any memos, emails, or other documents describing or memorializing Staff's review.
 - c. Please explain whether Staff reviewed the regressions provided in BGE's response to OPC DR 4-65, and if so, explain how Staff determined that BGE had chosen the best of the regressions it ran.

STAFF RESPONSE:

a. Mr. Hurley

b. Mr. Hurley reviewed the testimony of the company, data request of the parties and the documents from Case No. 9208 as discussed and footnoted in my direct testimony

c. Staff did not conduct a thorough analysis provided in BGE's response to OPC DR 4-65

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- 3-11 Please explain whether Mr. Hurley believes that BGE load is the only load that affects prices in the BGE, PEPCo, DPL and AP zones.
 - a. If so, please explain why.
 - b. If not, please explain:
 - i) How Mr. Hurley can find BGE's assumption to be "reasonable."
 - ii) Which zonal load Mr. Hurley would expect to have the greatest effect on prices in the PEPCo zone.
 - iii) Which zonal load Mr. Hurley would expect to have the greatest effect on prices in the DPL zone.
 - iv) Whether Mr. Hurley would expect loads in the WMAAC and EMAAC zones to affect prices in the DPL zone.
 - v) Which zonal load Mr. Hurley would expect to have the greatest effect on prices in the AP zone.
 - vi) Whether Mr. Hurley would expect loads in the WMAAC and western PJM zones to affect prices in the AP zone.

STAFF RESPONSE:

Mr. Hurley does not believe that BGE load is the only load that affects prices in the BGE, Pepco, DPL and AP Zones.

a. n/a.

b. (i) The benefits and costs for the AMI program are incremental costs and benefits that are related to the AMI project.

(ii) Pepco zonal loads

(iii) DPL zonal loads

(iv) Similar to the Capacity Price Mitigation benefit, the Energy Price Mitigation is estimating benefits within Maryland

(v) AP zonal loads

(vi) Similar to the Capacity Price Mitigation benefit, the Energy Price Mitigation is estimating benefits within Maryland

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3-12 Hurley, p. 19: Regarding the statement that "BGE assumes that the SEM and SER programs will achieve energy reductions of 1.5% by 2016 for eligible customers. This assumption is based off the evaluation of its third party vendor, OPower and verified by another third-party, Navigant," please provide the OPower and Navigant reports for the SER program.

STAFF RESPONSE:

The evaluation reports are for the SEM program, not the SER program.

SPONSOR: Daniel Hurley

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Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

3-14 Hurley, p. 22: Please provide the basis for the statement that "a majority of the Supply Side benefits are appropriately valued."

STAFF RESPONSE:

Mr. Hurley reviewed the testimony of the company, data request of the parties and the documents from Case No. 9208 as discussed and footnoted in my direct testimony.

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Staff Response to OPC DR No. 3 to Staff Response Date: February 26, 2016

- 3-15 Hurley, pp. 22-23, re "Avoided Capacity Cost Demand" and "Capacity Price Mitigation Demand":
 - a. Please provide the basis for Mr. Hurley's conclusion that "Avoided Capacity Cost Demand" and "Capacity Price Mitigation – Demand" are among "the most reliable as presented by BGE."
 - b. Please explain the difference between the "Capacity Price Mitigation Demand" discussed on p. 23 and the "Capacity Price Mitigation" discussed on p. 16.
 - c. Please provide all Staff reviews of the "Avoided Capacity Cost Demand" and "Capacity Price Mitigation – Demand" benefit methodologies, related to the report "Methodologies to Capture Additional Advanced Metering Infrastructure / Smart Grid Benefits" and to the current proceeding.
 - d. Regarding both "Avoided Capacity Cost Demand" and "Capacity Price Mitigation – Demand" analyses:
 - i) List the Staff personnel who reviewed each of BGE's assumptions.
 - ii) Provide any memos, emails, or other documents describing or memorializing Staff's review.
 - iii) Explain how Staff determined how much the SER load reductions on a few summer days would affect the PJM load forecasts, BGE capacity requirements, and capacity prices in each Maryland load zone.
 - iv) Provide the Staff analysis that led it to concur that the change in price from additional resources or reduced load would be half of the VRR curve slope, as BGE assumed.

STAFF RESPONSE:

a. Mr. Hurley based analysis on the review of BGE's testimony and response to data requests and that the Company had applied a consistent methodology to the calculation of the Avoided Capacity – Demand and Capacity Price Mitigation – Demand in the Methodologies to Capture Additional Advanced Metering Infrastructure/Smart Grid Benefits report.

b. Capacity Price Mitigation – Demand is related to demand reductions that did not clear or were bid in to the Capacity auction and Capacity Price Mitigation is related to the effect of resources that were cleared in the Capacity auction as a supply resource.

c. Staff did not file a separate analysis with the Commission in regards to the Methodologies to Capture Additional Advanced Metering Infrastructure/Smart Grid Benefits report.

d. i) Mr Hurley

ii) Mr. Hurley reviewed the testimony of the company, data request of the parties and the documents from Case No. 9208 as discussed and footnoted in my direct testimony.

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iii) Staff did not rely on the Capacity Price Mitigation – Supply or Avoided Capacity Cost – Demand in its analysis of the Core Benefits in determining the cost effectiveness of the AMI system.

iv) Staff did not rely on the Capacity Price Mitigation – Supply or Avoided Capacity Cost – Demand in its analysis of the Core Benefits in determining the cost effectiveness of the AMI system.

Office of People's Counsel Data Request No. 4 to Staff Request Date: February 19, 2016

Staff Response to OPC DR No. 4 to Staff Response Date: February 26, 2016

- 4-2. The only "PeakRewards Operability benefit" that Mr. Hurley describes is "saving BGE from paying a customer a PeakRewards bill credit that does not have functioning equipment" (p. 23).
 - a. Does Mr. Hurley believe that the other PeakRewards Operability benefits claimed by BGE are correct?
 - i) If so, please provide Staff's analysis of those claimed benefits.
 - ii) If not, does Staff believe that those claimed benefits should be excluded from the cost-benefit analysis?
 - b. If Mr. Hurley agrees that "saving BGE from paying a customer a PeakRewards bill credit that does not have functioning equipment" is a benefit, please explain why.

STAFF RESPONSE:

- a. Mr. Hurley did not include any benefits from the PeakRewards Enhancement in his primary review of the cost effectiveness of the AMI system. However, Mr. Hurley believes the estimated benefits offered by the Company are reasonable after reviewing the direct testimony and responses to data requests of the party.
- b. Yes, it is a benefit. If the Company is able to identify and remove customers with inoperable switches from the PeakRewards program, this would reduce the costs of the program and the EmPOWER surcharge by not paying a customer a credit who is not participating in the program.

Office of People's Counsel Data Request No. 5 to Staff Request Date: February 22, 2016

Staff Response to OPC DR No. 5 to Staff Response Date: February 29, 2016

Hurley

5-1. Please describe the "asset live discount factor" mentioned by Mr. Hurley and indicate where BGE used that factor.

RESPONSE:

Mr. Hurley included the term "asset live discount factor" in error and this matter will be addressed in Rebuttal Testimony.

Office of People's Counsel Data Request No. 5 to Staff Request Date: February 22, 2016

Staff Response to OPC DR No. 5 to Staff Response Date: February 29, 2016

- 5-3. Regarding the statement that "The key factors for Avoided T &D are replacement cost for transmission import capability and distribution substations, load carrying capabilities, import capability and system peak load, and the asset live discount factor" (Hurley Direct at 14):
 - a. Please explain how BGE's computation uses "load carrying capabilities" and provide a cite to the documents in which BGE uses this "key factor."
 - b. Please define the "key factor" that Mr. Hurley calls "the asset live discount factor," explain how BGE's computation uses "the asset live discount factor," and provide a cite to the documents in which BGE uses this "key factor."

RESPONSE:

a. For the Avoided Transmission Cost benefit BGE used an Import Capability of 6,527 MW as a part of the calculation of the Avoided Cost in cell E309 of Staff DR06_02 CONFAtt15-Market Benefits.

For the Avoided Distribution Cost benefit BGE used the All-Time System Peak Load of 7,236 MW in cell E324 of Staff DR06_02 CONFAtt15-Market Benefits.

b. Please see response to question 5-2.

Office of People's Counsel Data Request No. 5 to Staff Request Date: February 22, 2016

Staff Response to OPC DR No. 5 to Staff Response Date: February 29, 2016

- 5-5. Hurley, p. 14: Regarding the statement that "The Company has consistently applied the cost savings for transmission and distribution in the cost effectiveness analysis for the PeakRewards program implementation in 2008 through the cost effectiveness analysis for the EmPOWER Maryland programs." (Hurley Direct at 14).
 - a. If Mr. Hurley believe that BGE applied the same T&D values in the filings for PeakRewards, EmPOWER, and the present case, please provide the documents that demonstrate that consistency.
 - b. Please identify the \$/kW-year avoided T&D benefits that BGE applied in this proceeding.
 - c. Please identify where in this proceeding BGE applied the "functionality discount factor" that BGE applied in the EmPOWER Maryland evaluation (as reported in the Exeter Associates report "Avoided Energy Costs in Maryland" at 31).

RESPONSE:

- a. Mr. Hurley was stating that BGE has applied an Avoided T&D benefit for PeakRewards and EmPOWER and the Commission has approved the T&D benefit in those programs.
- b. Mr. Hurley used the term \$/kw-year in error. BGE used the term \$/kw for transmission and distribution avoided cost and the values are calculated in the Staff DR06_02 CONFAtt15-Market Benefits at cells E310 and E325.
- c. BGE did not apply the Functionality discount factor in this proceeding.