

**BEFORE THE  
PUBLIC SERVICE COMMISSION OF MARYLAND**

**IN THE MATTER OF THE MERGER OF  
EXELON CORPORATION AND  
PEPCO HOLDINGS, INC.**

)  
)  
)

**CASE NO. 9361**

**Direct Testimony of  
Tyler Comings**

**On Behalf of  
Maryland Office of People's Counsel**

**December 8, 2014**

---

## Table of Contents

I.	INTRODUCTION AND PURPOSE OF TESTIMONY.....	1
II.	SUMMARY OF TESTIMONY .....	3
III.	THE JOINT APPLICANTS’ CLAIMED MERGER BENEFITS .....	9
A.	THE ECONOMIC IMPACTS OF RELIABILITY IMPROVEMENTS IGNORE PEPCO AND DELMARVA’S GOALS.....	9
B.	THE ECONOMIC IMPACTS IGNORE JOB REDUCTIONS .....	22
C.	THE PRESENTATION OF ECONOMIC IMPACTS IS MISLEADING.....	24
IV.	FINDINGS AND RECOMMENDATIONS .....	28

---

## List of Figures and Tables

Table 1: Original and Adjusted Job Impacts (High Range).....	6
Table 2: Original and Adjusted Job Impacts (Low Range) .....	7
Figure 1: Original Economic Impacts from Reliability - Jobs by Year .....	11
Figure 2: Pepco Historical and Proposed SAIFI.....	12
Figure 3: Delmarva Historical and Proposed SAIFI.....	13
Figure 4: Pepco Historical and Proposed SAIDI .....	14
Figure 5: Delmarva Historical and Proposed SAIDI .....	14
Figure 6: Estimates of Reliability Benefits from ICE Calculator .....	16
Figure 7: Adjusted Economic Impacts from Reliability - Jobs by Year.....	17
Figure 8: Adjusted Total Economic Impact Results - Jobs by Year (High Range) .....	19
Table 3: Original and Adjusted Job Impacts (High Range).....	20
Figure 9: Adjusted Total Economic Impact Results - Jobs by Year (Low Range).....	21
Table 4: Original and Adjusted Job Impacts (Low Range) .....	21
Figure 10: Original Economic Impacts from Customer Investment Fund EE Spending - Jobs by Year.....	26
Figure 11: Original Total Economic Impact Results - Jobs by Year (High Range) .....	27

---

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q Please state your name, business address, and position.**

3 **A** My name is Tyler Comings. I am a Senior Associate with Synapse Energy  
4 Economics, Inc. (Synapse), which is located at 485 Massachusetts Avenue, Suite  
5 2, in Cambridge, Massachusetts.

6 **Q Please summarize your work experience and educational background.**

7 **A** I have nine years of experience in economic research and consulting. At Synapse,  
8 I have worked extensively on the energy planning sector, including economic  
9 impact analyses for Vermont energy efficiency programs for the Vermont  
10 Department of Public Service, a proposed Renewable Portfolio and Efficiency  
11 Standard in Kentucky for Mountain Association for Community Economic  
12 Development (MACED), a “Beyond Business as Usual” energy future for the  
13 U.S. for Civil Society Institute (CSI), and a proposed carbon standard for Natural  
14 Resources Defense Council (NRDC). I have worked on several cases involving  
15 coal and gas plant economics. I have provided consulting services for various  
16 other clients including: U.S. Department of Justice, District of Columbia Office of  
17 the People’s Counsel, District of Columbia Government, New Jersey Division of  
18 Rate Counsel, West Virginia Consumer Advocate Division, Illinois Attorney  
19 General, Nevada State Office of Energy, Sierra Club, Earthjustice, Citizens  
20 Action Coalition of Indiana, Consumers Union, Energy Future Coalition,  
21 American Association of Retired Persons, and Massachusetts Energy Efficiency  
22 Advisory Council.

23 Prior to joining Synapse, I performed research in consumer finance for Ideas42  
24 and economic analysis of transportation and energy investments at Economic  
25 Development Research Group.

26 I hold a B.A. in Mathematics and Economics from Boston University and an  
27 M.A. in Economics from Tufts University.

1 My full resume is attached as Exhibit TFC-1.

2 **Q Please describe Synapse Energy Economics.**

3 **A** Synapse Energy Economics is a research and consulting firm specializing in  
4 energy and environmental issues, including electric generation, transmission and  
5 distribution system reliability, ratemaking and rate design, electric industry  
6 restructuring and market power, electricity market prices, stranded costs,  
7 efficiency, renewable energy, environmental quality, and nuclear power.

8 Synapse's clients include state consumer advocates, public utilities commission  
9 staff, attorneys general, environmental organizations, federal government  
10 agencies, and utilities.

11 **Q On whose behalf are you testifying in this case?**

12 **A** I am testifying on behalf of the Maryland Office of People's Counsel (OPC).

13 **Q Have you submitted testimony in other recent regulatory proceedings?**

14 **A** Yes. I have submitted testimony before the Indiana Utility Regulatory  
15 Commission (Cause 44339) and the Kentucky Public Service Commission (Case  
16 No. 2013-00259). I submitted testimony on the same proposed merger on behalf  
17 of the District of Columbia Government before District of Columbia Public  
18 Service Commission (Case No. 1119) on November 3<sup>rd</sup> and on behalf of New  
19 Jersey Division of Rate Counsel before the New Jersey Board of Public Utilities  
20 (Docket No. EM1406) on November 14<sup>th</sup> of this year.

21 **Q Have you testified in front of the Maryland Public Service Commission**  
22 **previously?**

23 **A** No, I have not.

24 **Q Have you conducted economic impact analyses previously?**

25 **A** Yes. I have conducted many economic impact analyses using both REMI and  
26 IMPLAN models—the latter being the model used by Witness Tierney in this  
27 case. At Economic Development Research Group, starting in 2005, I conducted

1 economic impact analyses of highway projects, airports, and renewable energy  
2 and energy efficiency investments. At Synapse, I have continued to model the  
3 economic impacts of energy resource investments.

4 **Q What is the purpose of your testimony?**

5 **A** I was retained by the OPC to review the Joint Applicants' filing of the proposed  
6 merger ("the merger"). My testimony reviews the economic impact analysis of the  
7 merger as presented in the Direct Testimony of Witness Susan F. Tierney.

8 **Q On what aspects of the merger do the Joint Applicants base the economic  
9 impact estimates?**

10 **A** Witness Tierney estimates economic impacts of the merger based on the Joint  
11 Applicants' pledge of a Customer Investment Fund and assumed improvements to  
12 reliability in Maryland associated with the merger.

13 **Q Are there any exhibits that accompany your testimony?**

14 **A** Yes. I am attaching my resume as Exhibit TFC-1, data responses referred to in my  
15 testimony as Exhibit TFC-2 and Interruption Cost Estimator results as Exhibit  
16 TFC-3.

17 **Q Was your testimony prepared by you or under your direct supervision?**

18 **A.** Yes.

19 **II. SUMMARY OF TESTIMONY**

20 **Q Do the Joint Petitioners claim that the merger will have a positive impact on  
21 the Maryland economy?**

22 **A** Yes. The Joint Applicants present an economic impact analysis of the merger,  
23 claiming that it is "could create up to 7,187 new jobs in Maryland."<sup>1</sup> They present  
24 a range of impacts based on impacts from improved reliability and scenarios for

---

<sup>1</sup> Joint Application, Case No. 9361, page 10.

1 using the proposed Customer Investment Fund (CIF) for investments in energy  
2 efficiency or as a credit on customers' bills.

3 **Q Should the Public Service Commission accept the Joint Applicants' economic**  
4 **impact analysis?**

5 **A** No. For reasons I will discuss further, the Joint Applicants' economic impact  
6 analysis is misleading and grossly incomplete. As it stands, the analysis should  
7 not be taken into account as part of the Public Service Commission's  
8 ("Commission") decision. The Joint Applicants have failed to adequately show  
9 that the merger will have a positive economic impact on the state of Maryland.

10 **Q What are your findings regarding the economic impacts of the Joint**  
11 **Applicants' proposed merger on Maryland?**

12 **A** The economic impacts as presented by the Joint Applicants have the following  
13 flaws:

- 14 1. The economic impacts from reliability improvements are overstated by  
15 ignoring Potomac Electric Power Company (Pepco) and Delmarva's proposed  
16 reliability goals.
- 17 2. The economic impacts presented in the application ignore job losses from  
18 merger synergies—presenting only a positive, lop-sided view of the merger.
- 19 3. The presentation of economic impacts is misleading because it counts  
20 cumulative jobs in each year as "new jobs."

21 **Q What are your recommendations for the Commission?**

22 **A** I recommend, for the reasons explained in this testimony, that the Commission  
23 reject the economic impacts presented by the Joint Applicants mainly because the  
24 analysis has overstated the positive impact of reliability improvements and failed  
25 to consider negative impacts from job reductions due to the merger. As the  
26 analysis stands, the Joint Applicants have failed to adequately show that the  
27 merger will have a positive impact on Maryland's economy.

1 **Q Did you perform an update of the Joint Applicants’ economic impact**  
2 **analysis?**

3 **A** Yes. My adjusted analysis addresses two of my three main findings by: 1)  
4 assuming that Pepco and Delmarva’s proposed reliability goals will be met  
5 regardless of the merger and 2) clearly reporting the job impacts by year.

6 **Q Did the Joint Applicants use a proper baseline comparison to estimate the**  
7 **effects of the merger on reliability?**

8 **A** No. The Joint Applicants’ assumed reliability improvements do not account for  
9 commitments already made by Pepco and Delmarva. Instead, the Joint Applicants  
10 compared their projected reliability goals to Pepco and Delmarva’s historical  
11 performance in terms SAIFI (i.e. number of outages) and SAIDI (i.e. length of  
12 outages) on average from 2011-2013 in order to measure the effects of the merger  
13 on reliability.<sup>2</sup> The merger’s effect on reliability should be based on a comparison  
14 of the Joint Applicants’ planned reliability measures relative to the future RM43  
15 goals proposed by Pepco and Delmarva-- not as compared to the utilities’  
16 historical performance. The Joint Applicants’ comparison implicitly takes credit  
17 for improvements that Pepco and Delmarva would implement regardless of the  
18 merger. Changing the baseline comparison to Pepco and Delmarva’s proposed  
19 goals nullifies the original economic impacts of reliability presented by the Joint  
20 Applicants over the analysis period.

21 **Q How do your adjusted results compare to those presented by the Joint**  
22 **Applicants?**

23 **A** My adjusted results show job losses or sharp job reductions (depending on how  
24 the CIF is allocated) compared to the estimates presented by the Joint Applicants.  
25 The Joint Applicants reported a range of 6,306 to 7,187 “new jobs” in Maryland  
26 from the merger.<sup>3</sup> As I will discuss in more detail, the Joint Applicants’ results  
27 actually represent the summation of jobs per year over the ten-year analysis

---

<sup>2</sup> SAIDI=System Average Interruption Duration Index; SAIFI= System Average Interruption Frequency Index

<sup>3</sup> Direct Testimony Susan F. Tierney, page 7, line 10.

1 period (2015-2024). Stated differently, the average job impact would be 631 to  
 2 719 jobs--the Joint Applicants' reported job impacts divided by 10.<sup>4</sup> The high  
 3 range of 719 average jobs is based on the Joint Applicants' scenario in which the  
 4 Customer Investment Fund (CIF) is spent on energy efficiency (EE) investments,  
 5 in addition to impacts from reliability. The low range of 631 average jobs is based  
 6 on the Joint Applicants' scenario in which the Customer Investment Fund (CIF) is  
 7 used as a direct bill credit to customers, in addition to impacts from reliability

8 My adjusted analysis incorporated Pepco and Delmarva's proposed reliability  
 9 commitments results in an average impact of 58 jobs for the high range (Table 1)  
 10 and -30 jobs for the low range (Table 2). This represents a loss of 92% of the  
 11 original jobs predicted in the high range and reversal of the job gains in the low  
 12 range to job losses. These adjusted results also do not include job losses at PHI  
 13 corporate and utilities from the merger.

14 **Table 1: Original and Adjusted Job Impacts (High Range)<sup>5</sup>**  
 15

Total Job-Years	Joint Applicants' High Range	Adjusted High Range
CIF (EE)	1,166	1,166
Reliability	6,021	-582
<b>Total Impacts</b>	<b>7,187</b>	<b>584</b>
<b>Average Annual Jobs</b>	<b>719</b>	<b>58</b>

16  
 17 *Note: This table does not include impacts from PHI corporate, Pepco and Delmarva*  
 18 *job reductions due to the merger*  
 19  
 20  
 21  
 22  
 23

---

<sup>4</sup> This is done by dividing the total job-years by ten. Using the low end of the range (6,306 job-years) translates to 631 average jobs per year. Using the high end of the range (7,187 job-years) translates to 719 average jobs per year.

<sup>5</sup> The Joint Applicants' estimation of economic impacts comes from "Tierney workpapers - IMPLAN workbook and exhibits.xlsx"

1 **Table 2: Original and Adjusted Job Impacts (Low Range)**<sup>6</sup>  
2

Total Job-Years	Joint Applicants' Low Range	Adjusted Low Range
CIF (Direct Bill Credit)	285	285
Reliability	6,021	-582
<b>Total Impacts</b>	<b>6,306</b>	<b>-297</b>
<b>Average Annual Jobs</b>	<b>631</b>	<b>-30</b>

3  
4 *Note: This table does not include impacts from PHI corporate, Pepco and Delmarva*  
5 *job reductions due to the merger*

6 **Q Should your adjusted analysis be considered “final” by this Commission?**

7 **A** No. My adjusted analysis corrects the Joint Applicants’ reliability assumptions,  
8 resulting in job losses or sharp reductions in job gains compared to the original  
9 estimates, depending on how the CIF is allocated. However, my adjusted analysis  
10 does not include an estimation of the economic impacts from job reductions at  
11 PHI, Pepco and Delmarva from the merger, since there was not sufficient  
12 evidence provided by the Joint Applicants to do so. When asked, the Joint  
13 Applicants failed to produce an estimate of job losses at each subsidiary due to the  
14 merger.<sup>7</sup> Therefore, a rigorous analysis of the job loss impacts was not possible.

15 **Q Did the Joint Applicants anticipate that there will be job reductions due to**  
16 **the merger?**

17 **A** Yes. Witness Crane plainly states that “the merger will result in some reductions  
18 in force.”<sup>8</sup> The Joint Applicants have proposed a commitment not to reduce the  
19 PHI utilities’ workforce (including Pepco and Delmarva) for two years after the  
20 merger is consummated.<sup>9</sup> However, this does not prevent reductions from  
21 occurring after the two-year period lapses. Also, this commitment does not apply  
22 to the PHI corporate workforce, which could be reduced immediately after the  
23 merger is consummated. Indeed, Witness Khouzami presents an analysis of “net

---

<sup>6</sup> Ibid.

<sup>7</sup> Data Response to MD OPC Set 5, Question No. 21.

<sup>8</sup> Direct Testimony of Christopher M. Crane, page 19, lines 8-9.

<sup>9</sup> Direct Testimony of Christopher M. Crane, page 19, lines 11-14.

1 synergy estimates” from the merger, including a “glidepath of O&M synergies”  
2 which shows estimated savings from job reductions at Exelon and PHI starting in  
3 the first year.<sup>10</sup> However, it is unclear how many jobs will be reduced in Maryland  
4 due to these synergies since an estimate has not been provided.

5 **Q Did the Joint Applicants estimate economic impacts from these job**  
6 **reductions?**

7 No, unfortunately. The analysis presented by the Joint Applicants is only positive  
8 and one-sided. The Joint Applicants presented the positive impacts of the CIF and  
9 assumed reliability improvements, but have not estimated the negative impacts  
10 resulting from job losses at PHI corporate or utility subsidiaries (Pepco and  
11 Delmarva).

12 Despite modeling the economic impacts of the merger over a ten-year period—  
13 eight of which occur after the Joint Applicants’ two-year commitment period to  
14 freeze Pepco and Delmarva worker reductions—Witness Tierney “has not  
15 modeled any economic implications associated with that two-year commitment or  
16 any potential involuntary attrition after this period.”<sup>11</sup> She has also not accounted  
17 for the job reductions at PHI corporate that would result from merger “synergies”  
18 discussed elsewhere by the Joint Applicants.

19 The negative economic impacts of job reductions at Pepco, Delmarva and PHI  
20 corporate should be accounted for in order to get a more complete view of the  
21 effect of the merger on Maryland’s economy. Currently, it is unclear if the “net”  
22 impacts of the merger are positive or negative using the Joint Applicants’  
23 estimates. Instead, the Joint Applicants have chosen to present a positive, lopsided  
24 view of the merger in which no jobs are lost in the future. The economic impacts  
25 of the merger are, therefore, grossly incomplete and easily misconstrued.

---

<sup>10</sup> Exhibit CVK-2, page 7 of 12.

<sup>11</sup> Data Response to MD OPC Set 4, Question No. 17

1 **III. THE JOINT APPLICANTS’ CLAIMED MERGER BENEFITS**

2 **A. THE ECONOMIC IMPACTS OF RELIABILITY IMPROVEMENTS IGNORE**  
3 **PEPCO AND DELMARVA’S GOALS**

4 **Q On what basis does Witness Tierney estimate the economic impacts of the**  
5 **merger?**

6 **A** Witness Tierney estimates economic impacts based on the Joint Applicants’  
7 pledges of a Customer Investment Fund (CIF) and proposed reliability  
8 commitments. While the Joint Petitioners have not proposed a method of  
9 distributing the CIF, Witness Tierney looked at three scenarios for spending those  
10 funds: (1) direct bill credits to customers, (2) credits to low-income customers,  
11 and (3) energy efficiency (EE) investments. Each of these three CIF scenarios  
12 result in a direct stimulus to the New Jersey economy—to the extent that dollars  
13 are spent in the state—either through re-spending of bill savings or energy  
14 efficiency contractors and equipment. With respect to reliability improvement  
15 commitments, Witness Tierney assumes that the improvements due to the merger  
16 will result in positive economic impacts based on customers’ willingness to pay to  
17 avoid outages. In this section, I focus on the impacts related to reliability.

18 **Q How did Joint Applicants value the assumed reliability improvements?**

19 **A** The impacts from reliability are based on the value of the length and number of  
20 outages to customers. The underlying assumption for each value is a component  
21 of the Interruption Cost Estimate (“ICE”) calculator use by the Joint Applicants.  
22 This tool uses various estimates, in part relying on surveys of customers’  
23 willingness to pay for electricity service reliability.<sup>12</sup> Users can enter values for  
24 reliability measures with and without an improvement (such as SAIDI, SAIFI and  
25 CAIDI).<sup>13</sup> The tool then estimates the total change in the value of reliability  
26 benefits based on this assigned value of outages and changes in reliability  
27 measures. The Joint Applicants compared their projected reliability goals to

---

<sup>12</sup> See: <http://www.icecalculator.com/ice/relevant-reports.htm>

<sup>13</sup> CAIDI= Customer Average Interruption Duration Index

1 Pepco and Delmarva’s historical performance in terms SAIFI (i.e. number of  
2 outages) and SAIDI (i.e. length of outages) in 2011-2013.

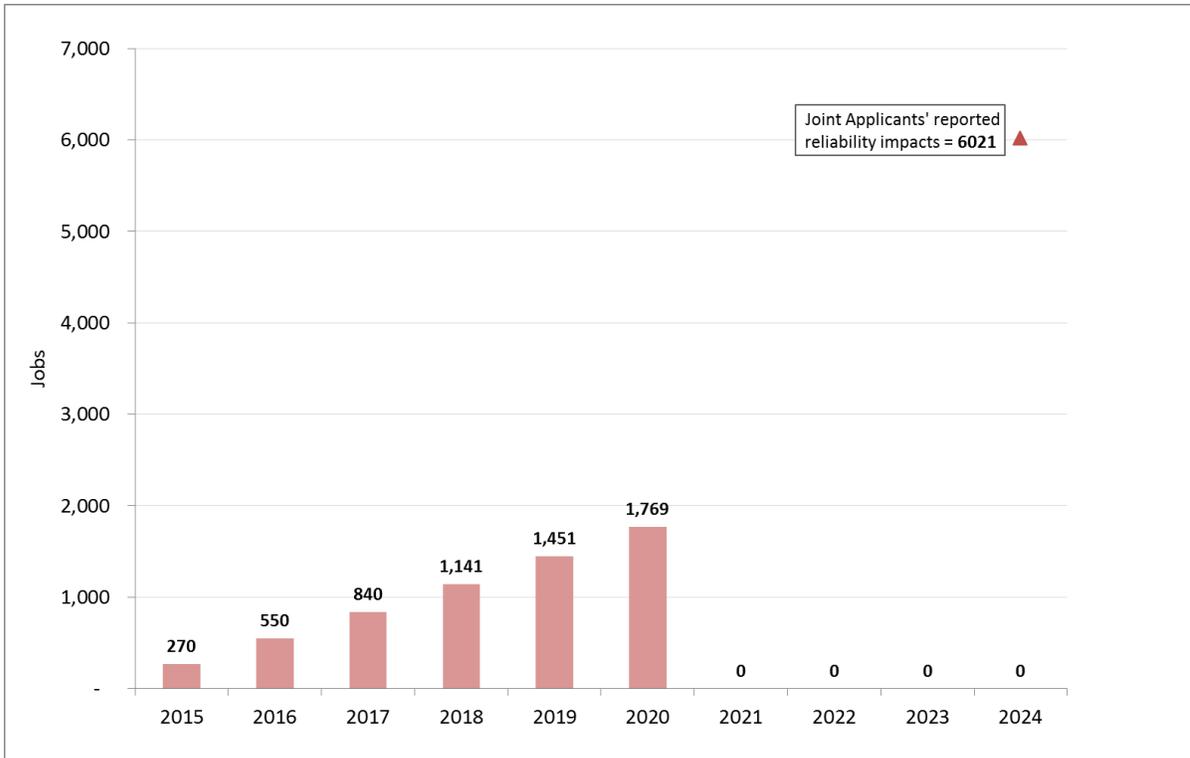
3 **Q What did the Joint Applicants estimate for job impacts from reliability**  
4 **improvements?**

5 **A** The reliability impacts are generated from an estimation of customers’ value of  
6 outages, assuming that residents and businesses can re-spend or produce more,  
7 respectively, with improved reliability. The IMPLAN model was used to estimate  
8 the spin-off effects from this increased spending (for residents) and production  
9 (for businesses) due to reliability improvements. The Joint Applicants report job  
10 impacts as “new jobs” when, in fact, they are cumulative job-years. A job-year is  
11 the equivalent of one full-time job being performed for one year. For instance,  
12 one job being performed for ten years would equal ten job-years. As I describe  
13 later in my testimony, the distinction between “new “jobs” and job-years is  
14 important and could lead to confusion about the job activity created.

15 Figure 1 shows the results from Witness Tierney’s analysis of reliability impacts,  
16 recast to show the jobs by year. The assumed reliability improvement generates  
17 an estimated 270 jobs in 2015 and increases to 1,769 jobs in 2020 with none in  
18 subsequent years. Over the 10-year period, this is the equivalent of 6,021  
19 cumulative job-years (the number reported by Witness Tierney as “new jobs”).  
20 The Joint Applicants’ assumed reliability improvements from 2015 to 2020 only;  
21 thus, the impacts stop after 2020.<sup>14</sup>

---

<sup>14</sup> Direct Testimony of Susan F. Tierney, page 31, lines 15-16.



1

2 **Figure 1: Original Economic Impacts from Reliability - Jobs by Year<sup>15</sup>**

3

4 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
 5 *job reductions due to the merger*

6 **Q Do the assumed reliability improvements presented by the Joint Applicants**  
 7 **accurately characterize the effects of the merger on reliability?**

8 **A** No. As discussed by Witness Lanzalotta, the Joint Applicants’ assumed reliability  
 9 improvements do not account for commitments already made by Pepco and  
 10 Delmarva.<sup>16</sup> The Joint Applicants compared their reliability goals for 2015  
 11 through 2020 to Pepco and Delmarva’s historical performance in terms SAIFI and  
 12 SAIDI in 2011-2013.<sup>17</sup> This implicitly assumes that Pepco and Delmarva will  
 13 continue to perform as they have in the past. However, Pepco and Delmarva are  
 14 subject to standards for 2015 reliability and have both proposed more stringent

<sup>15</sup> The Joint Applicants’ estimation of economic impacts comes from “Tierney workpapers - IMPLAN workbook and exhibits.xlsx”

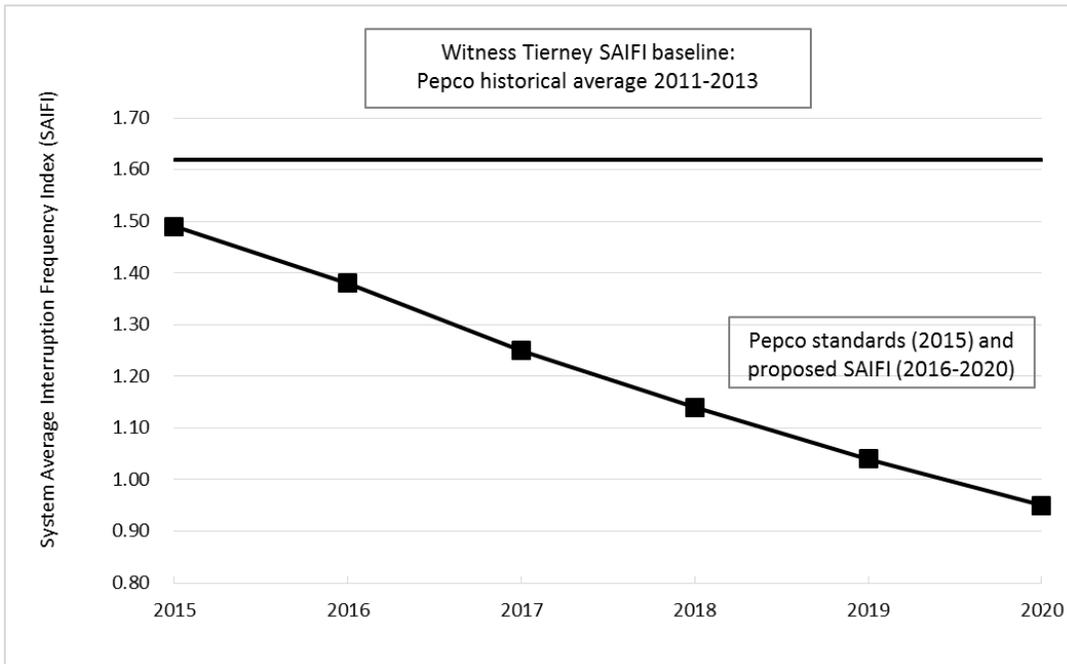
<sup>16</sup> Pepco and Delmarva reliability goals filed in Maryland Admin Docket No. RM43.

[http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction\\_new.cfm?CaseNumber=RM43](http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction_new.cfm?CaseNumber=RM43)

<sup>17</sup>The Joint Applicants’ reliability assumptions are from ”Tierney workpapers - ICE Calculator input.xlsx

1 reliability goals from 2016 through 2020.<sup>18, 19</sup> The 2015 standards and 2016-2020  
2 Pepco and Delmarva proposed goals improve upon each utility's past  
3 performance used in the Joint Applicants' analysis: in each year, the Pepco and  
4 Delmarva proposed goal for SAIFI and SAIDI is more stringent than their  
5 historical average for that measure in 2011-2013.

6 Figure 2 and Figure 3 show Pepco and Delmarva's historical SAIFI performance  
7 (the Joint Applicants' baseline assumption without the merger) and each utility's  
8 proposed SAIFI goals. The comparison of the Joint Applicants' assumed SAIFI  
9 with and without the merger implicitly captures improvements (i.e. lower SAIFI)  
10 already planned by Pepco and Delmarva.



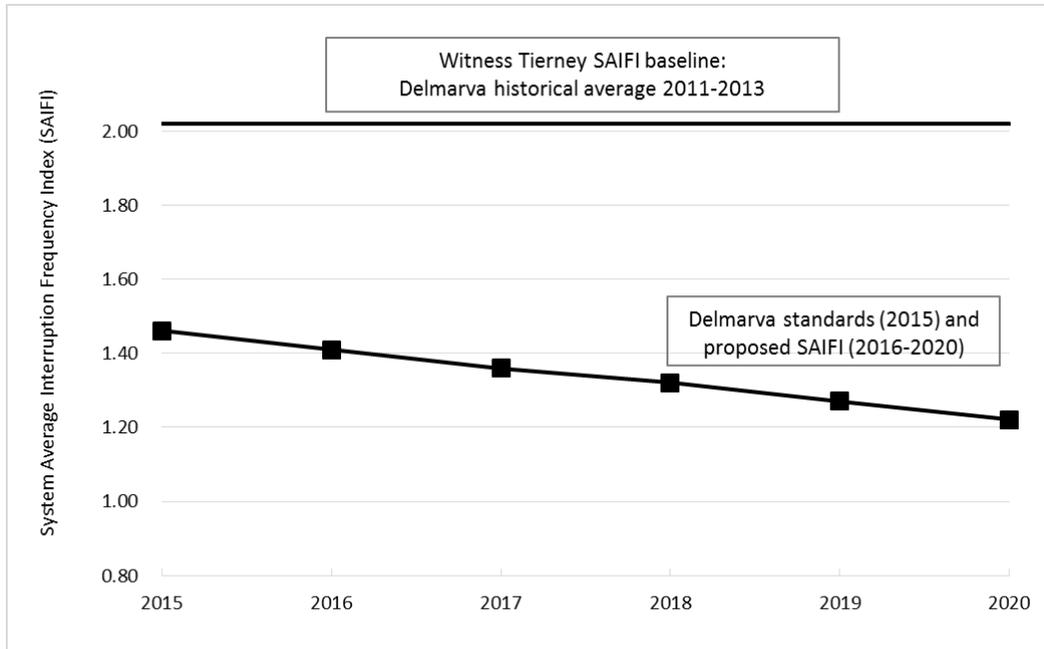
11  
12  
13 **Figure 2: Pepco Historical and Proposed SAIFI<sup>20</sup>**

<sup>18</sup> Direct Testimony of Charles R. Dickerson, page 4, lines 7-10.

<sup>19</sup> Direct Testimony of Charles R. Dickerson, page 5, lines 13-16

<sup>20</sup> Pepco and Delmarva reliability goals filed in Maryland Admin Docket No. RM43.

[http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction\\_new.cfm?CaseNumber=RM43](http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction_new.cfm?CaseNumber=RM43). Also see Direct Testimony of Charles R. Dickerson, page 5, lines 13-16.



1

2 **Figure 3: Delmarva Historical and Proposed SAIFI<sup>21</sup>**

3

4 **Figure 4** Figure 2 and

5

6

7

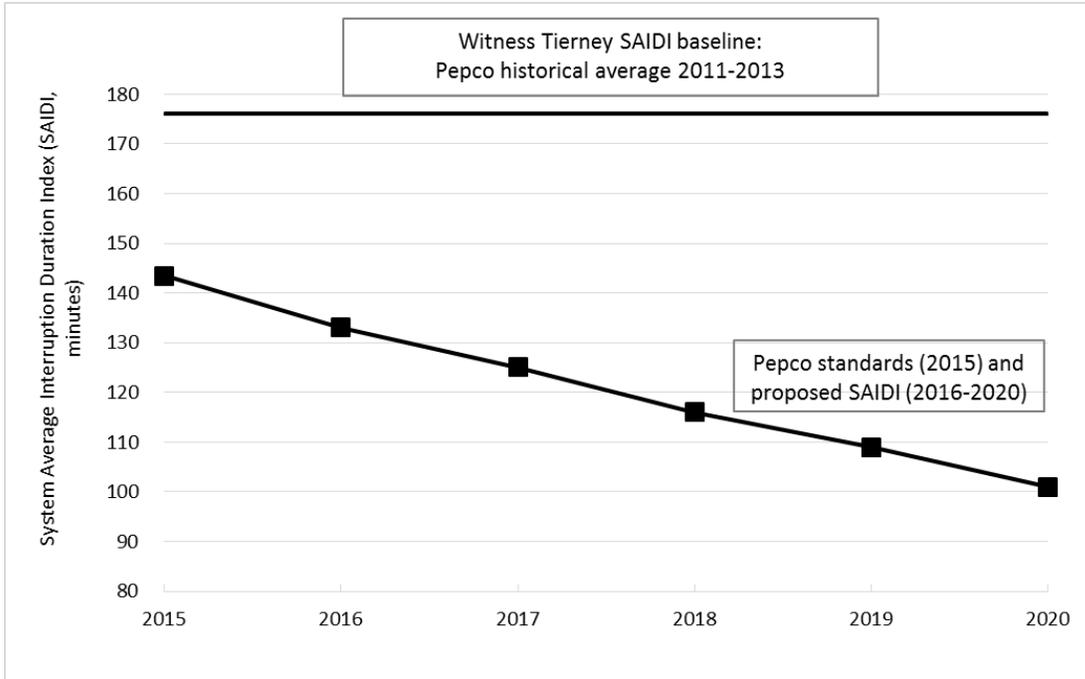
8

9

Figure 3 show Pepco and Delmarva’s historical SAIDI performance (the Joint Applicants’ assumption without the merger) and each utility’s proposed SAIDI goals. As with the SAIFI goals, the comparison of the Joint Applicants’ assumed SAIDI with and without the merger implicitly captures improvements (i.e. lower SAIDI) already planned by Pepco and Delmarva.

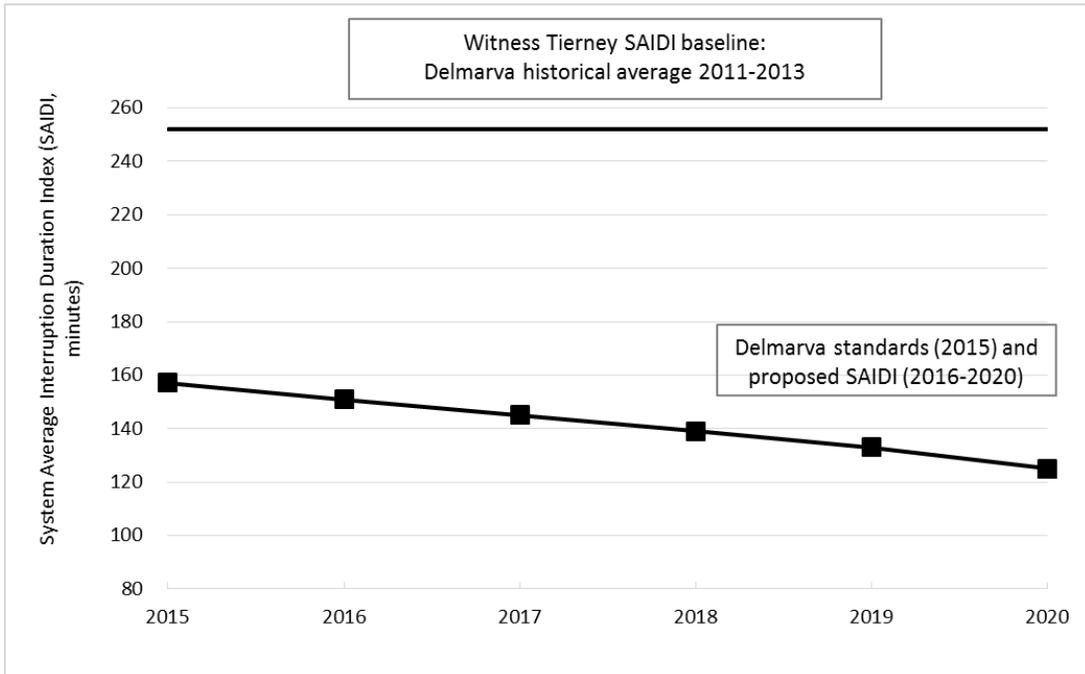
---

<sup>21</sup> Ibid



1  
2  
3  
4

**Figure 4: Pepco Historical and Proposed SAIDI<sup>22</sup>**



5  
6  
7

**Figure 5: Delmarva Historical and Proposed SAIDI<sup>23</sup>**

<sup>22</sup> Pepco and Delmarva reliability goals filed in Maryland Admin Docket No. RM43. [http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction\\_new.cfm?CaseNumber=RM43](http://webapp.psc.state.md.us/intranet/AdminDocket/CaseAction_new.cfm?CaseNumber=RM43). Also see Direct Testimony of Charles R. Dickerson, page 5, lines 13-16.

1 **Q Did the Joint Applicants use a proper comparison to estimate the effects of**  
2 **the merger on reliability?**

3 No. The merger's effect on reliability should be based on a comparison of the  
4 Joint Applicants' plan relative to the future RM43 standards proposed by Pepco  
5 and Delmarva-- not compared to the utilities' historical performance. The Joint  
6 Applicants' comparison implicitly takes credit for improvements that Pepco and  
7 Delmarva would implement regardless of the merger. As I discuss later, changing  
8 the baseline comparison to Pepco and Delmarva's proposed goals nullifies the  
9 original economic impacts of reliability presented by the Joint Applicants over the  
10 analysis period.

11 **Q Did you perform an analysis that incorporates the Pepco and Delmarva's**  
12 **proposed reliability goals for 2015 through 2020?**

13 **A** Yes. The estimated benefits of reliability using the Joint Applicant's assumptions  
14 are compared to estimates using Pepco and Delmarva's 2015 standards and  
15 proposed goals for 2016-2020 in Figure 6.<sup>24</sup> Consistent with Witness Tierney's  
16 methodology, benefits occur if the Joint Applicants' planned reliability metric is  
17 more stringent than the baseline standards, resulting in a net improvement with  
18 the merger--shown in the solid line. These benefits lead the Joint Applicants to  
19 project job gains due to reliability from 2015 through 2020.

20 I re-ran the US Department of Energy ICE calculator (the same method used by  
21 Witness Tierney) to derive the value of reliability improvements in each year with  
22 the Pepco and Delmarva goals as a baseline--shown in the dashed line.<sup>25</sup>

23 Estimated costs (i.e. negative benefits) occur if the Joint Applicants' planned  
24 reliability metric is less stringent than the Pepco and Delmarva's goals—as seen  
25 in 2015 through 2018. The estimated reliability benefits in 2015 in my adjusted  
26 analysis are -\$42 million (or \$42 million in costs) compared to \$23 million in  
27 benefits estimated by the Joint Applicants. By 2020, the reliability benefits are

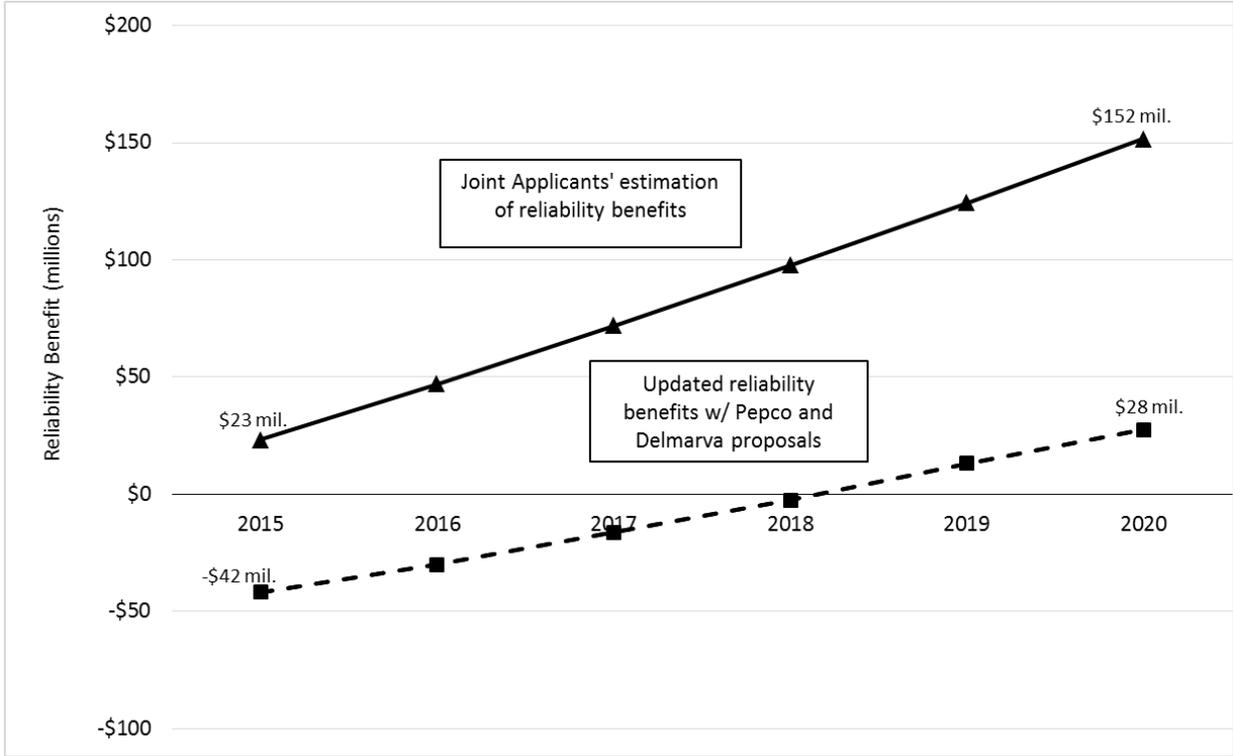
---

<sup>23</sup> Ibid

<sup>24</sup> See Exhibit TFC-3.

<sup>25</sup> Results presented in Exhibit TFC-3 with separate runs for Pepco and Delmarva. Figure 6 shows the addition of results for the two utilities.

1 positive in both scenarios but significantly reduced using my adjusted  
 2 assumptions: \$28 million compared to \$152 million estimated by the Joint  
 3 Applicants—a decrease of 82%.



4

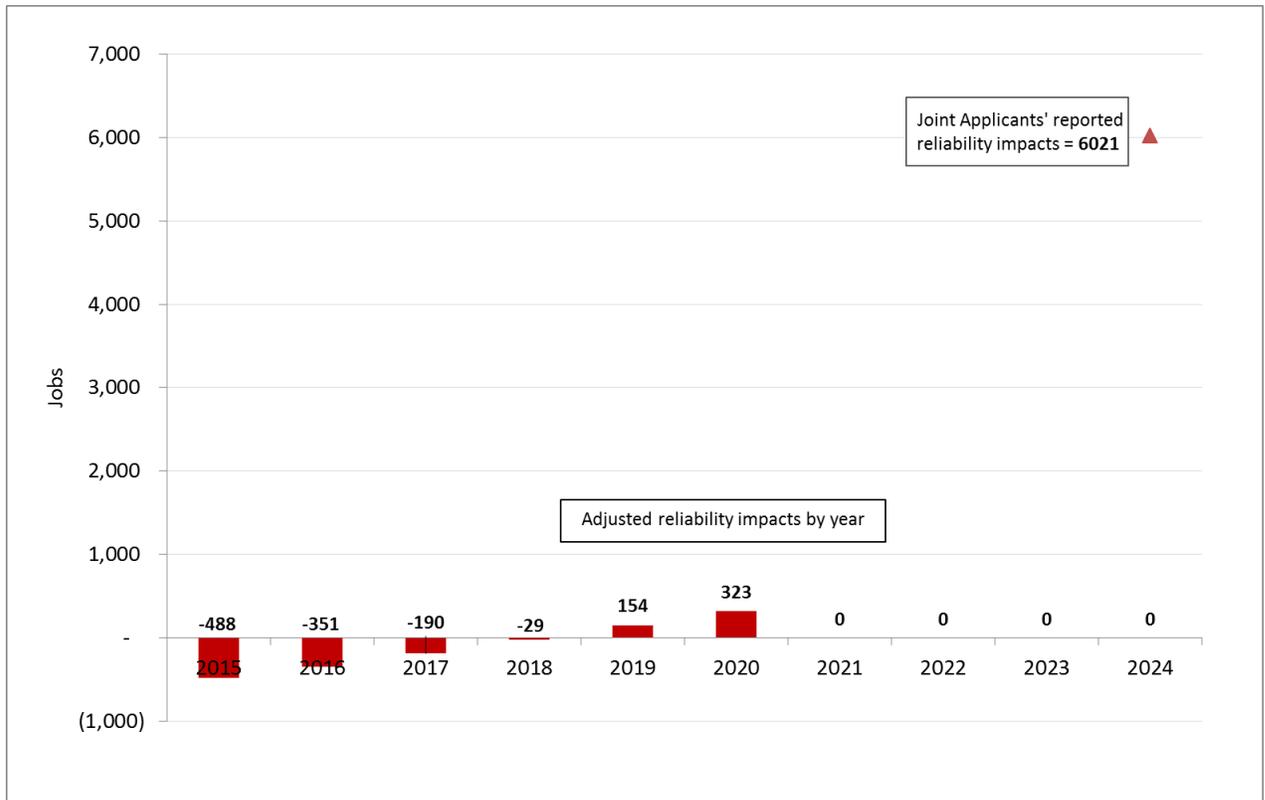
5 **Figure 6: Estimates of Reliability Benefits from ICE Calculator<sup>26</sup>**

6 **Q Did you estimate the job impacts from updating the Joint Applicants’**  
 7 **reliability assumptions?**

8 Yes. Figure 7 below shows the resulting reliability impacts of the merger  
 9 assuming Pepco and Delmarva goals as the baseline. The adjusted impacts show  
 10 job reductions that track the negative benefits (i.e. costs) shown in the dashed line  
 11 in Figure 6 for 2015 through 2018 (inclusive). The lowest job impact estimate is  
 12 -488 in 2015. On a cumulative basis, this adjusted analysis shows a loss of 582  
 13 job-years compared to a gain of 6,021 job-years estimated by the Joint Applicants.

<sup>26</sup> The Joint Applicants’ estimation of reliability benefits comes from “Tierney workpapers - IMPLAN workbook and exhibits.xlsx”. Updated reliability benefits are provided in Exhibit TFC-3.

1 Assuming that Pepco and Delmarva will meet their proposed reliability goals  
 2 results in a cumulative job-year loss rather than a gain over the ten year period.



3

4 **Figure 7: Adjusted Economic Impacts from Reliability - Jobs by Year<sup>27</sup>**

5

6 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
 7 *job reductions due to the merger*

8 **Q If you used the Pepco and Delmarva goals as a baseline, why are there**  
 9 **changes in the adjusted jobs from year to year due to the merger?**

10 **A** The comparison is between what the Joint Applicants assumed and what Pepco  
 11 and Delmarva have proposed for goals in each year. Witness Tierney used the  
 12 Joint Applicants' 2020 goal value for SAIFI and SAIDI and then assumed a linear  
 13 trend for the years 2015 through 2019 based, with the 2011-2013 average as a  
 14 starting point. The methodology leads to lower SAIFI and SAIDI for 2018 and

<sup>27</sup> Ibid

1 2019 compared to the Pepco and Delmarva goals. Therefore, these impacts are an  
2 artifact of the Joint Applicants’ assumed SAIFI and SAIDI in each year.

3 **Q In reality, would jobs be affected by changes in reliability?**

4 **A** Not necessarily. The impacts from reliability are based on the value of the length  
5 and number of outages to customers. The underlying assumptions for this value  
6 constitute a component of the ICE calculator, which uses various estimates, in  
7 part relying on surveys of customers’ willingness to pay for electricity service  
8 reliability.<sup>28</sup> However, the value that people and businesses ascribe to outages  
9 does not clearly translate to money in their pockets that can be re-spent.  
10 Therefore, unlike the CIF, improvements in reliability are not a direct stimulus to  
11 the economy. I do not to diminish the importance of reliability, only point out that  
12 its incremental impacts on the economy are more difficult to estimate compared to  
13 a more direct stimulus, such as a bill credit.

14 **Q How does the adjusted estimate of total impacts compare to the high range of**  
15 **those presented by the Joint Applicants?**

16 **A** The Joint Applicants reported a range of 6,306 to 7,187 “new jobs” in Maryland  
17 from the merger, which vary due to several proposed uses of the Customer  
18 Investment Fund (CIF).<sup>29</sup> As I will discuss further, the job impacts results actually  
19 represent the summation of jobs per year (i.e., job-years) over the 10-year analysis  
20 period (2015-2024). Stated differently, the average job impact from the Joint  
21 Applicants’ results over the 10-year period is between 631 and 719 jobs.<sup>30</sup> The  
22 high range of impacts is due to spending the CIF on energy efficiency (EE), in  
23 addition to impacts from reliability. The low range is based on using the CIF as a  
24 direct bill credit for Maryland customers, in addition to impacts from reliability.

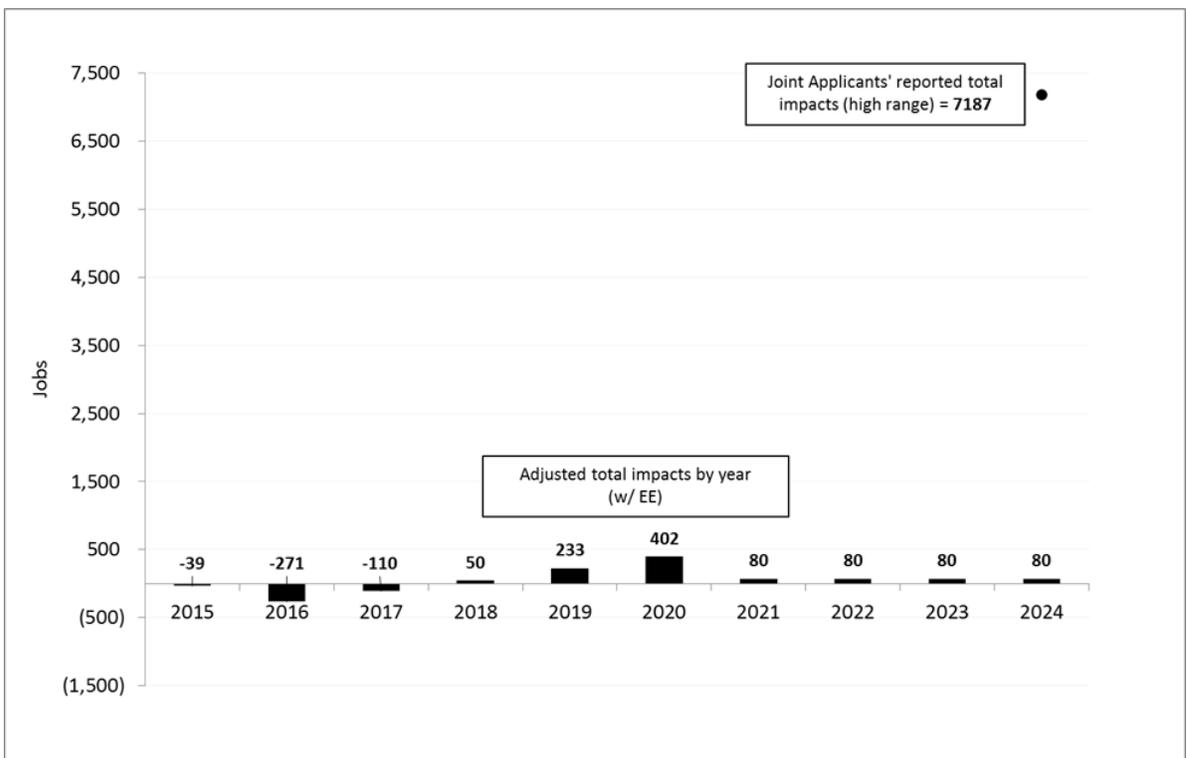
---

<sup>28</sup> See: <http://www.icecalculator.com/ice/relevant-reports.htm>

<sup>29</sup> Direct Testimony Susan F. Tierney, page 7, line 10.

<sup>30</sup> This is done by dividing the total job-years by the number of years. Using the low end of the range (6306 job-years) translates to 631 average jobs per year. Using the high end of the range (7187 job-years) translates to 719 average jobs per year.

1 My results presented in Figure 8 and Table 3 show, after incorporating  
 2 Maryland’s reliability standards and adding the impacts from the CIF on energy  
 3 efficiency (the basis for the high range), an average of 58 jobs per year—a sharp  
 4 decrease from the 719 average jobs from the Joint Applicants estimates. The high  
 5 range of 7,187 “new jobs” reported by the Joint Applicants is the cumulative job-  
 6 years over the ten-year period. Using the same metric, my results show a  
 7 cumulative gain of 584 job-years—or a 92% reduction from the Joint Applicants’  
 8 estimates.



9  
 10 **Figure 8: Adjusted Total Economic Impact Results - Jobs by Year (High Range)<sup>31</sup>**  
 11

12 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
 13 *job reductions due to the merger*  
 14

15  
 16  
 17  
<sup>31</sup> The Joint Applicants’ estimation of economic impacts comes from “Tierney workpapers - IMPLAN workbook and exhibits.xlsx”

1  
2  
3  
4  
5  
6  
7

**Table 3: Original and Adjusted Job Impacts (High Range)<sup>32</sup>**

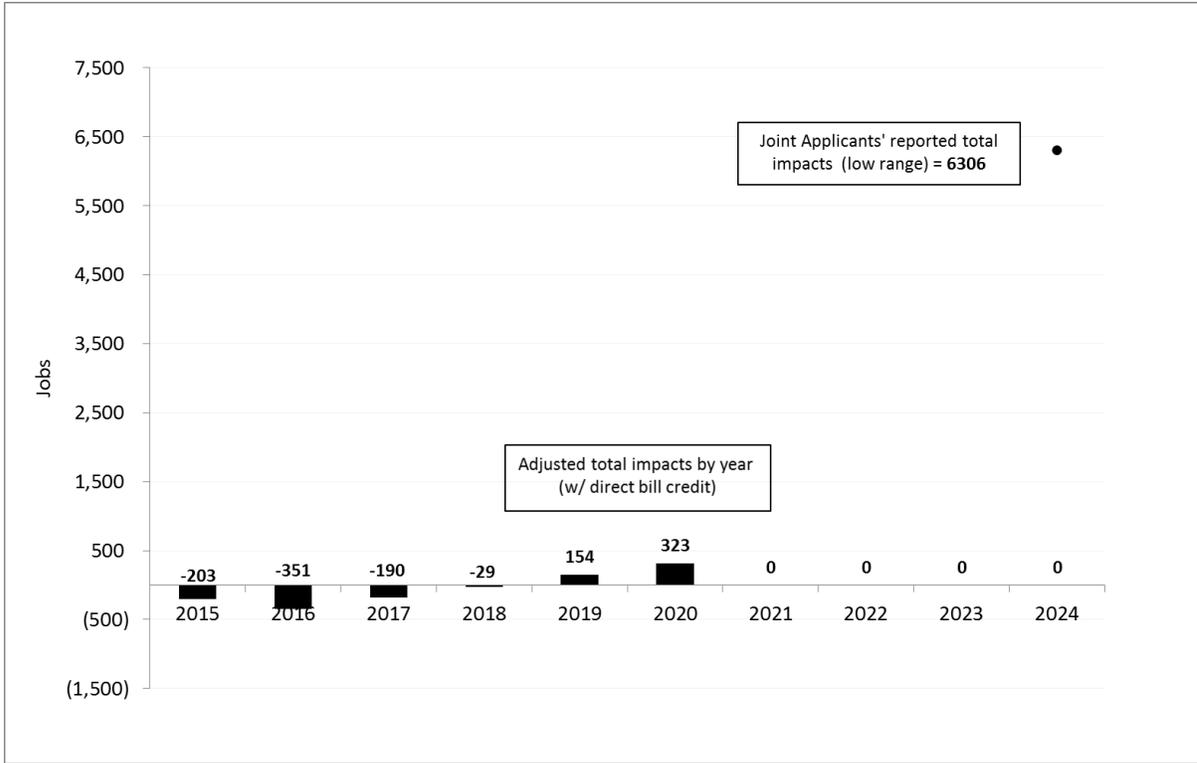
<b>Total Job-Years</b>	Joint Applicants' High Range	Adjusted High Range
CIF (EE)	1,166	1,166
Reliability	6,021	-582
<b>Total Impacts</b>	<b>7,187</b>	<b>584</b>
<b>Average Annual Jobs</b>	<b>719</b>	<b>58</b>

8 **Q** How does the adjusted estimate of total impacts compare to the low range of  
9 those presented by the Joint Applicants?

10 **A** My results presented in Figure 9 and Table 4 show, after incorporating  
11 Maryland’s reliability standards and including the original, unaltered impacts  
12 from the CIF as a direct bill credit (the basis for the low range), an average of -30  
13 jobs per year—compared the 631 average jobs from the Joint Applicants’  
14 estimates. The low range of 6,306 “new jobs” reported by the Joint Applicants is  
15 the cumulative job-years over the ten-year period. Using the same metric, my  
16 results show a cumulative loss of 297 job-years. Therefore, the changes in  
17 assumptions underlying reliability impacts change the estimated job gains from  
18 the merger to job losses.

---

<sup>32</sup> Ibid



1

2 **Figure 9: Adjusted Total Economic Impact Results - Jobs by Year (Low Range)**<sup>33</sup>

3

4 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
 5 *job reductions due to the merger*

6

7

8

**Table 4: Original and Adjusted Job Impacts (Low Range)**<sup>34</sup>

Total Job-Years	Joint Applicants' Low Range	Adjusted Low Range
CIF (Direct Bill Credit)	285	285
Reliability	6,021	-582
<b>Total Impacts</b>	<b>6,306</b>	<b>-297</b>
<b>Average Annual Jobs</b>	<b>631</b>	<b>-30</b>

9

10 *Note: This table does not include impacts from PHI corporate, Pepco and Delmarva*  
 11 *job reductions due to the merger*

<sup>33</sup> Ibid

<sup>34</sup> Ibid

1 **Q Should your analysis be considered “final” by this Commission?**

2 **A** No. My adjusted analysis corrects the Joint Applicants’ reliability assumptions,  
3 resulting in job losses or sharp reductions in job gains compared to the original  
4 estimates, depending on how the CIF is allocated. However, my adjusted analysis  
5 does not include an estimation of the economic impacts from job reductions at  
6 PHI, Pepco and Delmarva from the merger, since there was not sufficient  
7 evidence provided by the Joint Applicants to do so. When asked, the Joint  
8 Applicants failed to produce an estimate of job losses for each entity due to the  
9 merger.<sup>35</sup> Therefore, a rigorous analysis of the job loss impacts was not possible.

10 **B. THE ECONOMIC IMPACTS IGNORE JOB REDUCTIONS**

11 **Q Did the Joint Applicants anticipate that there would be job reductions due to**  
12 **the merger?**

13 **A** Yes. Witness Crane plainly states that “the merger will result in some reductions  
14 in force.”<sup>36</sup> Witness Khouzami claims:

15 The Merger of Exelon and PHI will create the opportunity to  
16 realize savings by eliminating overlap and duplication in company-  
17 wide operations, realizing economies of scale and streamlining  
18 corporate functions.<sup>37</sup>

19 **Q Did the Joint Applicants estimate direct job reductions in Pepco and**  
20 **Delmarva’s workforce due to the merger?**

21 **A** No. Witness Crane discusses the Joint Applicants’ two-year commitment not to  
22 reduce employment at PHI utility subsidiaries, including Pepco and Delmarva.<sup>38</sup>  
23 However, this does not prevent reductions from occurring after the two-year  
24 period lapses. When asked to show pre and post-merger employees by entity, the

---

<sup>35</sup> Data Response to MD OPC Set 5, Question No. 21.

<sup>36</sup> Direct Testimony of Christopher M. Crane, page 19, lines 8-9.

<sup>37</sup> Direct Testimony of Carim V. Khouzami, page 23, lines 9-11.

<sup>38</sup> Direct Testimony of Christopher M. Crane, page 19, lines 11-14.

1 Joint Applicants provided pre-merger numbers and added that “post-merger  
2 numbers have not been determined.”<sup>39</sup>

3 **Q Did the Joint Applicants estimate economic impacts from Pepco and**  
4 **Delmarva workforce reductions?**

5 No, unfortunately. Despite modeling the economic impacts of the merger over a  
6 ten-year period—eight of which occur after the commitment period—Witness  
7 Tierney “has not modeled any economic implications associated with that two-  
8 year commitment or any potential involuntary attrition after this period.”<sup>40</sup>

9 **Q Does the two-year commitment also cover PHI corporate employees?**

10 **A** No. The two-year commitment does not apply to the PHI corporate workforce.  
11 Therefore, the PHI corporate workforce could be reduced immediately after the  
12 merger is consummated.

13 **Q Did the Joint Applicants estimate reductions in PHI corporate workforce in**  
14 **Maryland due to the merger?**

15 **A** Not for Maryland, specifically. Witness Khouzami presents an analysis of “net  
16 synergy estimates” from the merger, including a “glidepath of O&M synergies,”  
17 which shows estimated savings from job reductions at Exelon and PHI starting in  
18 the first year.<sup>41</sup> However, it is unclear how these synergies will result in  
19 employees cut from Maryland and other PHI jurisdictions given the data  
20 provided.

21 **Q Did the Joint Applicants estimate economic impacts from these PHI**  
22 **corporate workforce reductions?**

23 **A** No. In addition to not including economic impacts from Pepco and Delmarva job  
24 reductions, Witness Tierney’s analysis has also not accounted for job reductions  
25 at PHI corporate in Maryland that would result from merger “synergies”  
26 discussed elsewhere by the Joint Applicants, claiming that:

---

<sup>39</sup> Data Response to MD OPC Set 5, Question No. 21.

<sup>40</sup> Data Response to MD OPC Set 4, Question No. 17.

<sup>41</sup> Exhibit CVK-2, page 7 of 12.

1 She has no information regarding any reductions in employee  
2 positions or other Maryland operations resulting from the proposed  
3 merger, and therefore has not conducted any analysis that would  
4 consider any such economic impacts.<sup>42</sup>

5 **Q Did the Joint Applicants present the positive economic impacts of the**  
6 **merger?**

7 Yes. The Joint Applicants presented the economic impacts of the Customer  
8 Investment Fund and reliability improvements. The results of Witness Tierney's  
9 analysis show positive economic impacts in each of the ten years.

10 **Q Should the economic impact results presented by the Joint Applicants be**  
11 **considered complete?**

12 Absolutely not. The analysis presented by the Joint Applicants is a positive and  
13 one-sided view of the merger, in which no jobs are lost in the future. PHI  
14 corporate employees at long-term positions could be cut immediately, and Pepco  
15 and Delmarva employees could be reduced two years after the merger is  
16 complete. The negative economic impacts of job reductions at Pepco, Delmarva  
17 and PHI corporate should be accounted for in order to get a more complete view  
18 of the effect of the merger on the economy of Maryland. Currently, it is unclear if  
19 the "net" impacts of the merger are positive or negative using the Joint  
20 Applicants' estimates. The economic impacts of the merger are, therefore, grossly  
21 incomplete and easily misconstrued.

22 **C. THE PRESENTATION OF ECONOMIC IMPACTS IS MISLEADING**

23 **Q How do the Joint Applicants present the economic impact results?**

24 **A** Witness Tierney presents a range of 6,306 to 7,187 "new jobs" in Maryland from  
25 the merger.<sup>43</sup> Witness Crane also discusses "the creation of between 6,306 and  
26 7,187 jobs" in Maryland.<sup>44</sup> As discussed in the previous sections, these estimates

---

<sup>42</sup> Data Response to Staff Set 2, Question No. 146.

<sup>43</sup> Direct Testimony of Susan F. Tierney, page 7, line 10.

<sup>44</sup> Direct Testimony of Christopher M. Crane, page 17, lines 21-22.

1 do not include job losses due to the merger and overstate the impacts from  
2 reliability.

3 **Q Does this result mean that the Joint Applicants are projecting 6,306 to 7,187**  
4 **new jobs in the Maryland workforce as a result of the merger?**

5 **A** No. These impact results actually represent the job-years (i.e., cumulative job  
6 impacts per year) over the ten-year analysis period (2015-2024).

7 **Q Please explain the concept of job-years.**

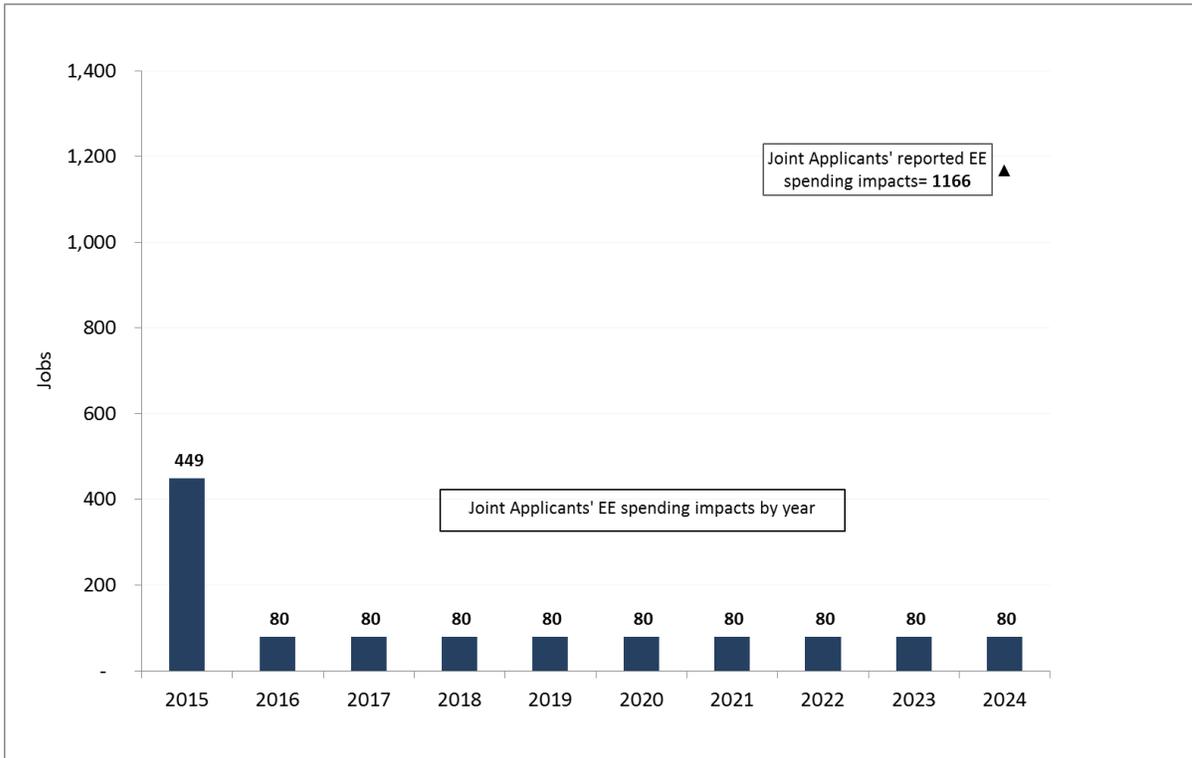
8 **A** A job-year is the equivalent of one full-time job being performed for one year.  
9 This can be a useful measure in that it can represent both short- and long-term  
10 activities. However, it should be reported clearly and distinguished from “new  
11 jobs.” For instance, one long-term job being performed for ten years compared to  
12 ten short-term jobs needed for only one year (such as in construction) are both  
13 equal to ten job-years. To report these ten job-years as ten “new jobs” could lead  
14 one to conclude that ten more long-term jobs would be created, when this is not  
15 the case. Based on the examples above, the result could be reported as one long-  
16 term job or ten jobs that only last one year, or ten “job-years.”

17 **Q How do the cumulative job-year impacts from the Customer Investment**  
18 **Fund compare to the job impacts per year?**

19 Figure 10 illustrates why presentation of job impacts matters. The results are  
20 taken directly from Witness Tierney’s workpapers and are simply recast to show  
21 the results by year. The figure shows the annual job impacts by year assuming the  
22 CIF is spent on energy efficiency investments. This activity generates an  
23 estimated 449 jobs in 2015 and 80 jobs in each subsequent year; which is the  
24 equivalent of 1,166 job-years (the number reported by Witness Tierney as “new  
25 jobs”). (Figure 1 showed the original annual impact estimates from reliability.)

1 **Q Does your criticism extend to the Customer Investment Fund itself?**

2 **A** No. I have no particular issue with the Joint Applicants offering the CIF and I do  
3 not deny that it would generate economic impacts in Maryland. However, I do  
4 take issue with how the impacts are presented.



5

6 **Figure 10: Original Economic Impacts from Customer Investment Fund EE**  
7 **Spending - Jobs by Year**<sup>45</sup>

8

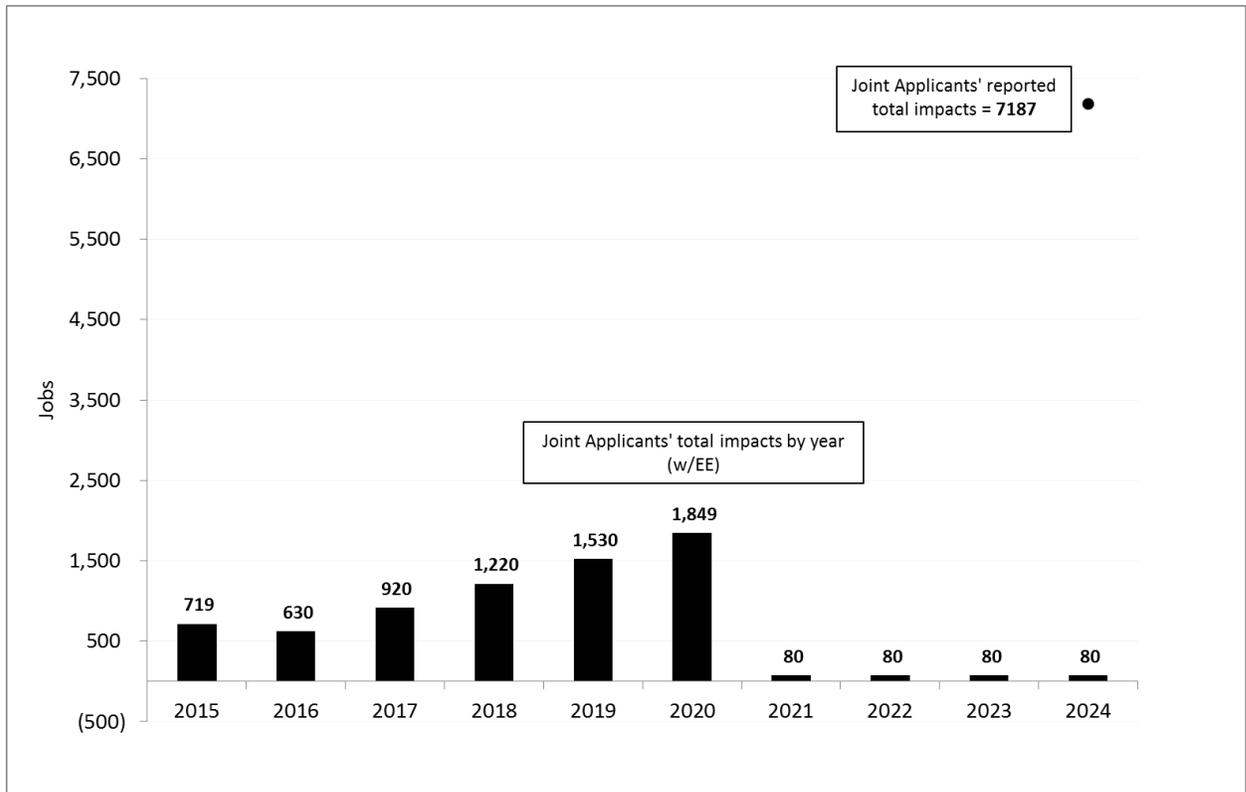
9 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
10 *job reductions due to the merger*

11 **Q How do the cumulative job-years compare to the annual job impacts per**  
12 **year?**

13 **A** Figure 11 shows the total economic impacts from reliability improvements (seen  
14 in Figure 1) and the CIF energy efficiency scenario. This scenario generates the  
15 highest job impact in 2020 (with 1,849 jobs). In each subsequent year, 80 jobs are  
16 generated due to re-spending of efficiency savings. Over the 10-year period, this

<sup>45</sup> The Joint Applicants' estimation of reliability benefits comes from "Tierney workpapers - IMPLAN workbook and exhibits.xlsx"

1 is the equivalent of 7,187 job-years (the high end of the range reported by Witness  
2 Tierney as “new jobs”).



3  
4 **Figure 11: Original Total Economic Impact Results - Jobs by Year (High Range)<sup>46</sup>**

5  
6 *Note: This figure does not include impacts from PHI corporate, Pepco and Delmarva*  
7 *job reductions due to the merger*

8 **Q How is the presentation of job impacts by the Joint Applicants misleading?**

9 **A** Someone reading “new jobs” may assume that the numbers represent long-term  
10 additions to the workforce in Maryland. In reality, most of the job impacts  
11 presented by the Joint Applicants represent short-term re-spending in each year—  
12 not to be confused with long-term employment that occurs at PHI corporate and  
13 utility entities. On average, the Joint Applicants’ are estimating an impact of 631  
14 to 719 jobs per year but report the accumulation of jobs by year as 6,306 to 7,187  
15 “new jobs” in Maryland.

<sup>46</sup> Ibid

1 **IV. FINDINGS AND RECOMMENDATIONS**

2 **Q What are your findings?**

3 **A** The economic impact analysis, as presented by the Joint Applicants, has the  
4 following flaws:

- 5 1. The economic impacts from reliability improvements are overstated. The Joint  
6 Applicants have overstated both the level of reliability improvement that  
7 should be attributed to the merger, and the impact such improvements would  
8 have on the State’s economy. Reliability improvements would happen  
9 regardless of the merger, given Pepco and Delmarva’s proposed goals. After  
10 assuming these goals are met regardless of the merger, the job impacts from  
11 reliability are negative and the total job impact estimates are negative or  
12 sharply reduced (depending on the use of the CIF).
- 13 2. The economic impacts presented in the application ignore job losses. These  
14 negative economic impacts should be accounted for in order to get a more  
15 complete view of the effect of the merger on Maryland. Unfortunately, the  
16 Joint Applicants have neglected to take this critical component into account in  
17 the original economic impact estimates. Instead, they only present a positive,  
18 lop-sided view of the merger.
- 19 3. The presentation of economic impacts is misleading by presenting cumulative  
20 jobs by year as “new jobs.” Declaring 6,306 to 7,187 “new jobs” leads readers  
21 to assume that this represents long-term additions to the workforce in  
22 Maryland. In reality, these are the accumulated job-years over a ten-year  
23 period. On average, the Joint Applicants’ are estimating, based on their flawed  
24 methodology, an impact of 631 to 719 jobs.

25 **Q What are your recommendations for the Commission?**

26 **A** I recommend, for the reasons explained in this testimony, that the Commission  
27 reject the economic impacts presented by the Joint Applicants mainly because the  
28 analysis has overstated the positive impact of reliability improvements and failed  
29 to consider negative impacts from job reductions due to the merger. As the

1           analysis stands, the Joint Applicants have failed to adequately show that the  
2           merger will have a positive impact on Maryland's economy.

3    **Q     Does this conclude your testimony?**

4    **A     It does.**



## Tyler Comings, Senior Associate

---

Synapse Energy Economics | 485 Massachusetts Avenue, Suite 2 | Cambridge, MA 02139 | 617-453-7050  
tcomings@synapse-energy.com

### PROFESSIONAL EXPERIENCE

**Synapse Energy Economics Inc.**, Cambridge, MA. *Senior Associate*, July 2014 – present, *Associate*, July 2011 – July 2014.

Conducts research on energy system planning and coal plant economics, and performs economic modeling and analysis in support of a wide range of projects. Performs economic impact and benefit-cost analyses, statistical modeling, and research on environmental issues. Recent work includes developing economic impacts of energy efficiency programs in Vermont and a scenario of clean energy investments for the U.S.

**Ideas42**, Boston, MA. *Senior Associate*, 2010 – 2011.

Organized studies analyzing behavior of consumers regarding finances, and worked with top researchers in behavioral economics. Managed implementation and data analysis for a study of mitigation of default for borrowers that were at-risk of delinquency. Performed case studies for World Bank on financial innovations in developing countries.

**Economic Development Research Group Inc.**, Boston, MA. *Research Analyst, Economic Consultant*, 2005 – 2010.

Performed economic impact modeling and benefit-cost analyses using IMPLAN and REMI for transportation and renewable energy projects, including support for Federal stimulus applications. Performed statistical modeling, including results on the timing of effects of highway construction on economic growth in Appalachia. Developed a unique Web-tool for the National Academy of Sciences on linkages between economic development and transportation, and presented findings to state government officials around the country. Created economic development strategies and improvements to company's economic development software tool.

**Harmon Law Offices, LLC.**, Newton, MA. *Billing Coordinator, Accounting Liaison*, 2002 – 2005.

Allocated IOLTA and Escrow funds, performed bank reconciliation and accounts receivable. Projected legal fees and costs for cases at the firm.

**Massachusetts Department of Public Health**, Boston, MA. *Data Analyst (contract)*, 2002.

Designed statistical programs using SAS based on data taken from health-related surveys. Extrapolated trends in health awareness and developed benchmarks for performance of clinics and other healthcare facilities for statewide assessment.

---

## EDUCATION

**Tufts University**, Medford, MA

Master of Arts in Economics, 2007

**Boston University**, Boston, MA

Bachelor of Arts in Mathematics and Economics, 2002. *Cum Laude*, Dean's Scholar.

## ADDITIONAL SKILLS

**Software:** MS Office, STATA, SPSS, SAS, REMI, IMPLAN, Mathematica

**Programming:** C++

**Languages:** Conversant in French

## PUBLICATIONS

Takahashi, K. 2014. *Maximizing Public Benefit through Energy Efficiency Investments*. Synapse Energy Economics for Sierra Club.

Comings, T., S. Fields, K. Takahashi, G. Keith. 2014. *Employment Effects of Clean Energy Investments in Montana*. Synapse Energy Economics for Montana Environmental Information Center and Sierra Club.

Daniel, J., T. Comings, J. Fisher. 2014. *Comments on Preliminary Assumptions for Cleco's 2014/2015 Integrated Resource Plan*. Synapse Energy Economics for Sierra Club.

Fisher, J., T. Comings, D. Schlissel. 2014. *Comments on Duke Energy Indiana's 2013 Integrated Resource Plan*. Synapse Energy Economics and Schlissel Consulting for Mullet & Associates, Citizens Action Coalition of Indiana, Earthjustice, and Sierra Club.

Comings, T., K. Takahashi, G. Keith. 2013. *Employment Effects of Investing in Select Electricity Resources in Washington State*. Synapse Energy Economics for Sierra Club.

Stanton, E. A., T. Comings, K. Takahashi, P. Knight, T. Vitolo, E. Hausman. 2013. *Economic Impacts of the NRDC Carbon Standard*. Synapse Energy Economics for Natural Resources Defense Council (NRDC).

Ackerman, F., T. Comings, P. Luckow. 2013. *A Review of Consumer Benefits from a Corporate Average Fuel Economy (CAFE) Standards*. Synapse Energy Economics for Consumer Union.

Comings, T., P. Knight, E. Hausman. 2013. *Midwest Generation's Illinois Coal Plants: Too Expensive to Compete? (Report Update)* Synapse Energy Economics for Sierra Club.

Stanton, E. A., F. Ackerman, T. Comings, P. Knight, T. Vitolo, E. Hausman. 2013. *Will LNG Exports Benefit the United States Economy?* Synapse Energy Economics for Sierra Club.

Vitolo, T., G. Keith, B. Biewald, T. Comings, E. Hausman, P. Knight. 2013. *Meeting Load with a Resource Mix Beyond Business as Usual: A regional examination of the hourly system operations and reliability*

---

*implications for the United States electric power system with coal phased out and high penetrations of efficiency and renewable generating resources.* Synapse Energy Economics for Civil Society Institute.

Keith, G., S. Jackson, A. Napoleon, T. Comings, J. Ramey. 2012. *The Hidden Costs of Electricity: Comparing the Hidden Costs of Power Generation Fuels.* Synapse Energy Economics for Civil Society Institute.

Fagan, R., M. Chang, P. Knight, M. Schultz, T. Comings, E. Hausman, R. Wilson. 2012 *The Potential Rate Effects of Wind Energy and Transmission in the Midwest ISO Region.* Synapse Energy Economics for Energy Future Coalition.

Bower, S., S. Huntington, T. Comings, W. Poor. 2012. *Economic Impacts of Efficiency Spending in Vermont: Creating an Efficient Economy and Jobs for the Future.* Optimal Energy, Synapse Energy Economics, and Vermont Department of Public Service for American Council for an Energy-Efficient Economy (ACEEE).

Comings, T., E. Hausman. 2012. *Midwest Generation's Illinois Coal Plants: Too Expensive to Compete?* Synapse Energy Economics for Sierra Club.

Woolf, T., J. Kallay, E. Malone, T. Comings, M. Schultz, J. Conyers. 2012. *Commercial & Industrial Customer Perspectives on Massachusetts Energy Efficiency Programs.* Synapse Energy Economics for Massachusetts Energy Efficiency Advisory Council.

Hornby, R., T. Comings. 2012. *Comments on Draft 2012 Integrated Resource Plan for Connecticut (January 2012).* Synapse Energy Economics for AARP.

Hornby, R., D. White, T. Vitolo, T. Comings, K. Takahashi. 2012. *Potential Impacts of a Renewable and Energy Efficiency Portfolio Standard in Kentucky.* Synapse Energy Economics for Mountain Association for Community Economic Development and the Kentucky Sustainable Energy Alliance.

Hausman, E., T. Comings, G. Keith. 2012. *Maximizing Benefits: Recommendations for Meeting Long-Term Demand for Standard Offer Service in Maryland.* Synapse Energy Economics for Sierra Club.

Keith, G., B. Biewald, E. Hausman, K. Takahashi, T. Vitolo, T. Comings, P. Knight. 2011. *Toward a Sustainable Future for the U.S. Power Sector: Beyond Business as Usual 2011.* Synapse Energy Economics for Civil Society Institute.

Hausman, E., T. Comings, K. Takahashi, R. Wilson, W. Steinhurst, N. Hughes, G. Keith. 2011. *Electricity Scenario Analysis for the Vermont Comprehensive Energy Plan 2011.* Synapse Energy Economics for the Vermont Department of Public Service.

Steinhurst, W., T. Comings. 2011. *Economic Impacts of Energy Efficiency Investments in Vermont.* Synapse Energy Economics for the Vermont Department of Public Service.

Petraglia, L., T. Comings, G. Weisbrod. 2010. *Economic Development Impacts of Energy Efficiency and Renewable Energy in Wisconsin.* Economic Development Research Group and PA Consulting Group for Wisconsin Department of Administration.

---

Economic Development Research Group. 2009. *Economic Assessment of Proposed Brockton Power Facility*. Prepared for Brockton Power Company.

Economic Development Research Group and KEMA NV. 2009. *Economic Benefits of Connecticut's Clean Energy Program*. Prepared for the Connecticut Clean Energy Fund.

Howland, J., D. Murrow, L. Petraglia, T. Comings. 2009. *Energy Efficiency: Engine of Economic Growth in Eastern Canada*. Economic Development Research Group and Environment Northeast.

Economic Development Research Group and KEMA NV. 2008. *New York Renewable Portfolio Standard: Economic Benefits Report*. Prepared for New York State Energy Research and Development (NYSERDA).

Economic Development Research Group and Navigant Consulting. 2008. *Economic Potential of an Advanced Biofuels Sector in Massachusetts*. Prepared for the Massachusetts Office of Energy and Environmental Affairs.

Economic Development Research Group. 2006. *Environmental Impacts of Massachusetts Turnpike and Central Artery/Tunnel Projects*. Prepared for the Massachusetts Turnpike Authority.

## TESTIMONY

**State of New Jersey Board of Public Utilities (Docket No. EM14060581):** Direct testimony on the economic impact analysis filed by Exelon Corporation and Pepco Holdings, Inc. in their joint petition for the merger of the two entities. On behalf of the New Jersey Division of Rate Counsel. November 14, 2014.

**District of Columbia Public Service Commission (Formal Case No. 1119):** Direct testimony evaluating the economic impact analysis of the proposed Exelon-Pepco merger. On behalf of the District of Columbia Government. November 3, 2014.

**Kentucky Public Service Commission (Case No. 2013-00259):** Direct and supplemental testimony regarding East Kentucky Power Cooperative's Application for Cooper Station Retrofit and Environmental Surcharge Cost Recovery. On behalf of Sonia McElroy and Sierra Club. November 27, 2013 and December 27, 2013.

**Indiana Utility Regulatory Commission (Cause No. 44339):** Direct testimony in the Matter of Indianapolis Power & Light Company's Application for a Certificate of Public Convenience and Necessity for the Construction of a Combined Cycle Gas Turbine Generation Facility. On behalf of Citizens Action Coalition of Indiana. August 22, 2013.

*Resume dated November 2014*

**Response of the Applicants**  
**Maryland Public Service Commission – Case No. 9361**  
**In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc.**

**Discovery request submitted by:** Office of People’s Counsel

**Discovery request set number:** Fourth Set

**Response prepared by or under the direction of:** Dr. Susan F. Tierney

**Response date:** October 10, 2014

---

**OPC-4-17:**

In reference to the Direct Testimony of Susan Tierney at page 43, lines 12-20:

- a. In what year could “involuntary attrition” start to occur per the Company’s commitment? How does this coincide with the timing of economic impacts presented in this testimony?
- b. Would “involuntary attrition” resulting from the Merger lead to negative economic impacts? If so, please explain how these would be quantified. If not, why not?

**Response:**

- a. As noted in Table SFT-1 of her prefiled Direct Testimony, Dr. Tierney understands that Exelon’s commitment is for a period of at least two years. Dr. Tierney has not modeled any economic implications associated with that two-year commitment or with any potential involuntary attrition after this period or with conditions occurring in the absence of the proposed merger.
- b. To the extent that involuntary attrition were to occur, and resulted in an employed individual no longer being employed anywhere in Maryland, it could result in a direct loss of a job and the labor income associated with it. The total impact would reflect the total number of previously employed individuals that were no longer employed in Maryland, along with their total labor income. Quantifying these impacts would require knowledge of what these two numbers are, to the extent they are greater than zero.

**Response of the Applicants**  
**Maryland Public Service Commission – Case No. 9361**  
**In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc.**

**Discovery request submitted by:** Office of People’s Counsel

**Discovery request set number:** Fifth Set

**Response prepared by or under the direction of:** Exelon / PHI

**Response date:** October 10, 2014

---

**OPC-5-21:**

Referring to Appendix C, pages 1-3, provide the actual number of employees for each business entity listed on pages 1 and 2 for PHI pre-merger and Exelon pre-merger and the estimated number of employees for each business entity listed on page 3 for the post-merger organization.

**Response:**

Exelon

(As of 10/10/2014)

EVC	Exelon Ventures Company	0
ExGen	Exelon Generation Company	10,412
CER	Constellation Energy Resources	3
CNE	Constellation New Energy	0
EBSC	Exelon Business services	2,496
	<i>Exelon Delivery sum of PECO, ComEd and</i>	
<b>EEDC</b>	<b>BGE</b>	<b>12,223</b>
PECO	PECO Energy Company	2,459
ComEd	Commonwealth Edison Company	6,452
BGE	Baltimore Gas & Electric Co	3,312

PHI

(As of 10/2/2014)

Atlantic City Electric Company	543
Delmarva Power & Light Company	865
PHI Service Company	1,764
Pepco	1,488
Pepco Energy Services	469
Total	5,129

Post-merger numbers have not been determined.

**Response of the Applicants**  
**Maryland Public Service Commission – Case No. 9361**  
**In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc.**

**Discovery request submitted by:** Office of Staff Counsel

**Discovery request set number:** Second Set

**Response prepared by or under the direction of:** Dr. Susan F. Tierney

**Response date:** October 3, 2014

---

**Staff-2-146:**

Please indicate where in Dr. Tierney's analysis, or in her underlying workpapers, she quantifies the direct and indirect effect of reductions in the Maryland workforce anticipated in the Exelon synergy savings analyses addressed in the Joint Application and by various witnesses in filed testimony. These reductions have been identified as coming primarily from duplications in service company positions.

**Response:**

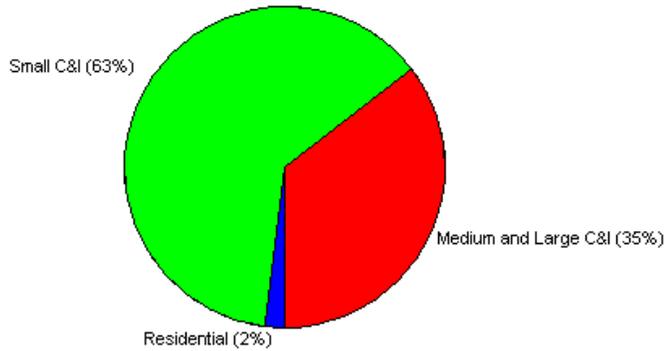
Dr. Tierney is aware of Exelon's commitment that for two years following approval and consummation of the merger, it will not permit a net reduction in the employment levels of Pepco, Delmarva Power or Atlantic City Electric due to involuntary attrition resulting from the merger integration process. Beyond that information, she has no information regarding any reductions in employee positions or other Maryland operations resulting from the proposed merger, and therefore has not conducted any analysis that would consider any such economic impacts.

**Estimated Value of Reliability Improvement**

Sector	No. of Customers	Total Benefit (2015\$)	Benefit per Customer (2015\$)
<b>Medium and Large C&amp;I</b>	2,254	\$-15,629,409.2	\$-6,934.1
<b>Small C&amp;I</b>	24,155	\$-27,791,004.8	\$-1,150.5
<b>Residential</b>	174,435	\$-876,101.1	\$-5.0
<b>All</b>	200,844	\$-44,296,515.0	\$-220.6

[\[-\] hide pie chart](#)

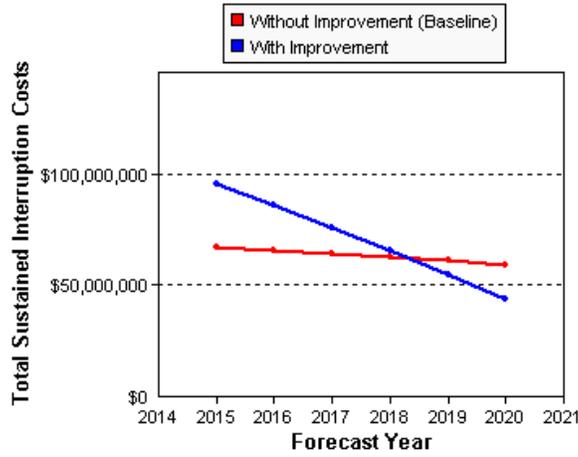
**Distribution of Benefits by Sector**



**Forecast of Total Sustained Interruption Costs**

Year	Without Improvement (Baseline)	With Improvement	Total Benefit
<b>2015</b>	\$66,918,924.9	\$95,858,804.2	(\$28,939,879.3)
<b>2016</b>	\$65,561,585.8	\$86,055,166.2	(\$20,493,580.4)
<b>2017</b>	\$64,212,966.7	\$75,901,796.2	(\$11,688,829.6)
<b>2018</b>	\$62,826,454.4	\$65,441,743.7	(\$2,615,289.2)
<b>2019</b>	\$61,318,230.9	\$54,694,163.5	\$6,624,067.4
<b>2020</b>	\$58,883,516.5	\$43,722,875.6	\$15,160,640.9

[\[-\] hide line chart](#)



Input Values						
Initial Year: 2015			No. of Non-Residential Customers: 26,409			
Expected Lifetime of Improvement (Years): 6			No. of Residential Customers: 174,435			
Expected Annual Inflation Rate: 2%						
Discount Rate: 6%						
States: Maryland						
Expected SAIFI, CAIDI and SAIDI						
Year	Expected Reliability <u>without</u> Improvement			Expected Reliability <u>with</u> Improvement		
	SAIFI	SAIDI (in minutes)	CAIDI (in minutes)	SAIFI	SAIDI (in minutes)	CAIDI (in minutes)
2015	1.460	157.2	107.7	1.860	225.2	121.1
2016	1.410	151.0	107.1	1.700	198.4	116.7
2017	1.360	145.0	106.6	1.540	171.6	111.4
2018	1.320	139.0	105.3	1.380	144.8	104.9
2019	1.270	133.0	104.7	1.220	118.0	96.7
2020	1.220	125.1	102.5	1.060	91.2	86.0

This tool was funded by the [Lawrence Berkeley National Laboratory](#) and [Department of Energy](#). Developed by [Freeman, Sullivan & Co.](#)

Learn more about the federal initiatives that support the development of the technologies, policies and projects transforming the electric power industry on [SmartGrid.gov](#).

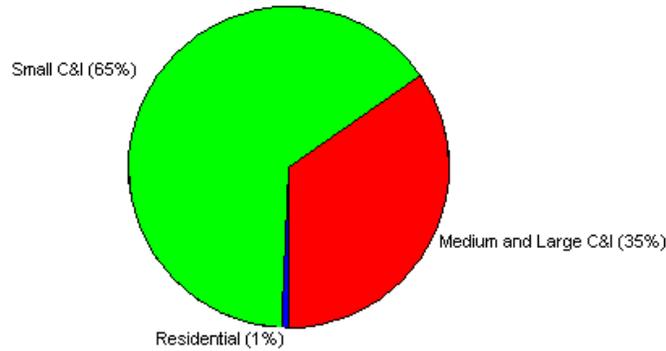
Copyright 2011

### Estimated Value of Reliability Improvement

Sector	No. of Customers	Total Benefit (2015\$)	Benefit per Customer (2015\$)
<b>Medium and Large C&amp;I</b>	4,067	\$-3,933,528.1	\$-967.2
<b>Small C&amp;I</b>	43,587	\$-7,353,352.0	\$-168.7
<b>Residential</b>	489,028	\$-67,979.3	\$-0.1
<b>All</b>	536,682	\$-11,354,859.4	\$-21.2

[\[-\] hide pie chart](#)

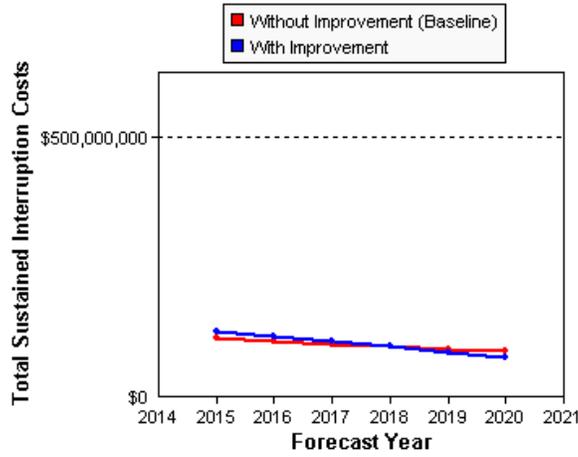
### Distribution of Benefits by Sector



### Forecast of Total Sustained Interruption Costs

Year	Without Improvement (Baseline)	With Improvement	Total Benefit
<b>2015</b>	\$112,292,276.6	\$125,165,451.0	(\$12,873,174.5)
<b>2016</b>	\$106,279,399.4	\$115,836,223.1	(\$9,556,823.7)
<b>2017</b>	\$101,542,468.2	\$106,122,188.2	(\$4,579,719.9)
<b>2018</b>	\$96,035,901.6	\$95,911,323.6	\$124,578.0
<b>2019</b>	\$91,841,768.3	\$85,296,279.3	\$6,545,488.9
<b>2020</b>	\$86,737,268.8	\$74,263,825.4	\$12,473,443.4

[\[-\] hide line chart](#)



Input Values	
Initial Year: 2015	No. of Non-Residential Customers: 47,654
Expected Lifetime of Improvement (Years): 6	No. of Residential Customers: 489,028
Expected Annual Inflation Rate: 2%	
Discount Rate: 6%	
States: Maryland	

Expected SAIFI, CAIDI and SAIDI						
Year	Expected Reliability <u>without</u> Improvement			Expected Reliability <u>with</u> Improvement		
	SAIFI	SAIDI (in minutes)	CAIDI (in minutes)	SAIFI	SAIDI (in minutes)	CAIDI (in minutes)
2015	1.490	143.3	96.2	1.496	161.0	107.6
2016	1.380	133.0	96.4	1.372	146.0	106.4
2017	1.250	125.0	100.0	1.248	131.0	105.0
2018	1.140	116.1	101.8	1.124	116.0	103.2
2019	1.040	109.0	104.8	1.000	101.0	101.0
2020	0.950	101.0	106.3	0.876	86.0	98.2

This tool was funded by the [Lawrence Berkeley National Laboratory](#) and [Department of Energy](#). Developed by [Freeman, Sullivan & Co.](#)

Learn more about the federal initiatives that support the development of the technologies, policies and projects transforming the electric power industry on [SmartGrid.gov](#).

Copyright 2011