

**DELAWARE THREE-YEAR
PROGRAM PLAN
2017-2019**

**ENERGY EFFICIENCY AND
CONSERVATION
PORTFOLIO**

SUBMITTED TO:

**DELAWARE ENERGY
EFFICIENCY ADVISORY
COUNCIL**

FEBRUARY 15, 2017

Table of Contents

Executive Summary	3
Program Portfolio Summary	3
Portfolio Savings and Costs	4
Program Delivery Models	5
Measuring Program Impact.....	6
1. Strategic Program Overview	7
1.1 Program Design Objectives, Considerations, and Methodology	7
1.2 Program Analysis	8
1.2.1 Review of Existing Programs	9
1.2.2 Review of New Programs.....	9
1.2.3. Portfolio Development	10
1.3 Statewide Program Coordination	10
1.4 Evaluation, Measurement, and Verification.....	11
1.5 Cost-Effectiveness Screening.....	12
1.6 Bill Impacts	13
2. Energy Efficiency Programs	15
2.1 Consumer Products Program.....	15
2.2 Residential Behavior Based Program.....	23
3. Cost Recovery.....	30
4. Appendix A (Program Tables using EM&V Regulations).....	31
5. Appendix B (Avoided Cost Assumptions)	31
4. Appendix C (Cost Recovery Proposal)	31
5. Appendix D (kWh Savings by Measure Type).....	31

Executive Summary

Program Portfolio Summary

Delmarva Power & Light Company (“Delmarva Power”) has developed its proposed portfolio of utility provided Delaware Energy Efficiency Programs for the 2017 through 2019 period (the “Portfolio Plan”).¹ Delmarva Power first presented its initial draft of its Portfolio Plan to the Energy Efficiency Advisory Council (“EEAC”) on January 13, 2016 in accordance with the procedure outlined in 29 *Del.C.* § 8059.² Updated draft versions of Delmarva Power’s energy efficiency portfolio plan were presented to the EEAC on April 13, 2016 and November 14, 2016. Through the extensive EEAC process and collaboration with stakeholders including the Delaware Sustainable Energy Utility (“SEU”), Delaware Department of Natural Resources and Environmental Control (“DNREC”), Staff of the Delaware Public Service Commission (“Staff”), The Delaware Division of the Public Advocate (“Public Advocate”), Delaware Interfaith Power & Light (“DE IPL”), First State Service Centers (“First State”) and others, the portfolio of energy efficiency programs to be offered by Delmarva Power has been significantly refined. Delmarva Power’s final Portfolio Plan, submitted for consideration by the EEAC, includes a Residential Consumer Products Program and the OPOWER Behavior Based Program.³

Delmarva Power developed this Portfolio Plan to achieve cost-effective energy and demand savings for its customers and to contribute to the annual energy reduction goals approved by the EEAC. The targeted goals are defined as the incremental annual electric net energy savings as a percentage of sales forecast; the targeted goal for the state of Delaware is 0.4% in program year one, 0.7% in year two and 1.0% in year three. A significant consideration

¹ The Portfolio Plan is intended to represent full calendar year budgets and savings over a three-year program cycle. The years 2017-2019 can be replaced by Program Year 1, Program Year 2 and Program Year 3.

² 29 *Del.C.* § 8059 (h) (1).

³ If the EEAC recommends the Portfolio Plan to the Delaware Public Service Commission (the “Commission”), Delmarva Power must then seek Commission review and approval to implement its Portfolio Plan. Commission approval must also be obtained for Delmarva Power to recover its costs of and on the Portfolio Plan through the proposed Rate Calculation and Recovery Procedure. 29 *Del.C.* § 8059 (h) (1) e. Delmarva Power’s proposed Rate Calculation and Recovery Procedure was provided to the EEAC and presented during an October 2016 EEAC session. A full copy of the proposed Rate Calculation and Recovery Procedure has also been attached as Appendix C to this Portfolio Plan for the convenience of the EEAC.

for Delmarva Power was limiting the bill impact of these programs and balancing costs to our customers with expected energy savings.

The Company's 2017-2019 Portfolio Plan, including measures, incentive levels, budgets, participation and projected savings, is largely based on the Company's current and past experience implementing energy efficiency programs in Maryland over the last eight years. Delmarva Power conducted a thorough review of its performance in Maryland and the performance of its Pepco affiliate in Maryland to assess the best way to adopt certain programs in Delaware and to account for any differences in the service territories. In addition, Delmarva Power, in conjunction with its planning contractor, conducted internal research, examined imminent changes in codes and standards, investigated new technologies gaining traction, and reviewed the 2014 Delaware Potential Study⁴ prepared by Optimal Energy.⁵ Delmarva Power formalized an approach to constructing avoided costs and benefits based on the Evaluation, Measurement and Verification (EM&V) Regulations prepared by Optimal Energy and adopted by the EEAC, and the efforts of the EM&V working group. In addition, Delmarva Power ensured that reporting requirements meet the standards outlined in these EM&V Regulations and 29 *Del.C.* § 8059.

Portfolio Savings and Costs

Delmarva Power estimated program participation using established modelling practices customized to the specific attributes of the Delaware territory, then applied independently verified deemed savings values to forecast energy and demand savings, program costs, and cost-effectiveness for each program within its Portfolio Plan. Estimated incremental electric energy and demand savings for the proposed suite of programs at the net wholesale level for 2017-2019 are 44,830 annual megawatt hours (MWh) and 8.418 megawatts (MW) peak demand load reductions. Delmarva Power is projecting to achieve .22% savings as percentage of its total retail sales in 2017, .33% in 2018 and .41% in 2019. The forecast of total program costs for the Portfolio Plan is approximately \$17.6 million over the three-year period. In addition, Delmarva

⁴ "Study of Potential for Energy Savings in Delaware," *Optimal Energy*, September 4, 2014.

⁵ As explained above, the Portfolio Plan was also developed in coordination with members of the EEAC, including Chesapeake Utilities, municipalities, cooperatives, environmental groups, industry representatives, low income organizations, DNREC, DNREC's EEAC consultant - Optimal Energy, and the SEU, as well as Commission Staff and the Public Advocate.

Power calculated program savings using assumptions outlined in the EM&V Regulations (see Appendix A). The EM&V Regulations direct energy providers to use a discount rate of 4.0% and include non-energy benefits such as an adder for air emissions externalities. Delmarva Power decided to calculate its program outputs using both the assumptions outlined in the EM&V regulations, and more conservative assumptions (such as excluding non-energy benefits and using a higher weighted average cost of capital) in order to demonstrate a robust cost-effectiveness when applying conservative metrics. Applying the conservative assumption, the cost-effectiveness for the three-year program cycle is estimated to be 1.53 for the Consumer Products Program and 2.45 for the Behavior Program under the Total Resource Cost (TRC) Test. When Delmarva Power uses the cost assumptions detailed in the EM&V Regulations, the “EEAC TRC” is calculated to be 2.18 for Consumer Products and 2.93 for the Behavior Based Program. All aspects of Delmarva Power’s program proposal are subject to Commission approval.

Table 1: 2017-2019 Planned Portfolio Outcomes

Program	Budget	Net Energy Savings (MWh)	Peak Demand Savings (MW)	Benefits (\$ million)	Costs (\$ million)	TRC	EEAC TRC
Consumer Products	\$11,264,851	21,194	2.704	\$17.22	\$11.24	1.53	2.18
Behavior Based	\$6,342,105	23,636	5.714	\$13.70	\$5.58	2.45	2.93

*Note: The Behavior Based Program reports MWh savings and MW savings as program-to-date snapshots

Program Delivery Models

Program implementation is provided by third-party vendors who will implement the programs, including retailer interactions, processing incentives and spot audit verification. Delmarva Power works with selected vendors to establish a detailed implementation plan, measure lists, deemed savings and rebate levels. Delmarva Power will continuously monitor and evaluate its portfolio’s performance in order to implement improvements and address any unforeseen issues that arise.

Programs will be promoted via direct outreach, advertising messaging, direct mail, bill inserts, e-mail, community events, testimonials, case studies, business development activities of trade allies, and other program-specific tactics to create awareness and interest in the targeted

demographic. In addition, Delmarva Power will coordinate with the SEU regarding the marketing and promotion of programs as set forth in its 2015 Amended Merger Settlement Agreement.⁶ Delmarva Power will also explore opportunities to work with Commission Staff and the Public Advocate to further educate its customers regarding the available programs.⁷

Measuring Program Impact

Delmarva Power will adopt from its successful Maryland energy efficiency operations its system for planning, implementing, and internally evaluating demand side management programs, including the infrastructure necessary to support these programs. The program data will be maintained and archived in a database that will track reported participation activity such as measures installed, projects completed, energy and demand savings, and customer incentives paid. Delmarva Power's implementation team will verify the implementation contractor tracking data system and analyze a statistical sample of projects and measures to maintain quality and confidence levels of precision required by the State of Delaware and PJM. Maintaining a detailed financial accounting system and participant data tracking system will continue to be critical to ensure that demand-side management program funds are accounted for, spent appropriately, and where feasible, determine resources bid into the PJM markets to offset program costs. There have been preliminary discussions in the EM&V working group regarding establishment of a state-wide database for reporting purposes and Delmarva Power will transition to such a system if one becomes available.

Delmarva Power will report energy and demand savings to DNREC on an annual basis in accordance with 29 *Del.C.* § 8059.⁸ Measurement of savings will comply with the EM&V Regulations adopted by the EEAC and Delmarva Power will conduct program evaluations in accordance with the procedure outlined in these Regulations.

The EM&V independent contractor will use the data extracts to derive engineering and data factors which will be tabulated into realization rates for the verified savings and required

⁶ PSC Docket No. 14-193, "Amended Settlement Agreement In the Matter of the Application of Delmarva Power & Light Company, Exelon Corporation, Pepco Holdings Inc., Purple Acquisition Corporation, Exelon Energy Delivery Company, LLC and New Special Purpose Entity for Approvals Under the Provisions of 26 Del C. §§ 215 and 1016 (Filed June 18, 2014)," paragraph 97. Approved by PSC Order No.8746 (June 2, 2015).

⁷ For example, to the extent that Staff or the Public Advocate include information regarding EE on their respective websites, there may be an opportunity to provide links to Delmarva Power's website for specific program information.

⁸ 29 *Del.C.* § 8059 (h) (2).

program reporting. The EM&V process will help Delmarva Power build upon the successes of existing programs and address areas where improvements are needed. Further discussion on the external evaluation, measurement and verification of proposed programs is detailed in section 1.4.

1. Strategic Program Overview

The Portfolio Plan draws heavily from Delmarva Power's experience and implementation efforts operating in its Maryland service territory. The proposed portfolio of programs is based on current Maryland programs (which have been revised and adapted to the Delaware service territory), updated codes and standards, the current best practices of successful programs in other jurisdictions, Delaware stakeholder input, directives outlined in 29 *Del.C.* § 8059, Optimal Energy's Potential Study, and additional research, program evaluation and analysis.

In order to help meet state energy savings goals authorized through the Delaware EEAC, it is necessary to establish highly cost-effective programs with the potential to reach a large segment of customers. The proposed Portfolio Plan is expected to achieve 44,830 MWh in net wholesale savings and was screened using the TRC Test for cost-effectiveness. Delmarva Power used assumptions detailed in the EM&V Regulations to calculate the TRC ratio and will report it as the "EEAC TRC". Delmarva Power also used more conservative assumptions in order to demonstrate the cost-effectiveness of its programs in what will be reported as the "TRC". Annual incremental savings as a percentage of retail sales are projected to be .22% in 2017, .33% in 2018 and .41% in 2019 without consideration of non-energy benefits.

1.1 Program Design Objectives, Considerations, and Methodology

Delmarva Power has used a comprehensive and collaborative approach to the overall planning, design, and modeling of the 2017-2019 energy efficiency programs. The program portfolio's objective is to provide cost-effective energy savings opportunities for customers of all income levels. If necessary and/or beneficial to customers, Delmarva Power will coordinate with other energy providers to standardize program delivery and incentive levels if needed to minimize confusion and provide consistency where possible. The 2017-2019 program design effort considers a host of factors, which include rising energy efficiency codes and standards and efficiency baselines, customer free ridership, and the impact on avoided costs due to lower energy costs, all of which ultimately impact the cost-effectiveness of the 2017-2019 Plan.

Program design accounts for rising energy efficiency baselines by dropping lower tiers of efficient measures from the program measure mix while targeting higher efficiency measures to further transform the market and drive greater savings in Delaware. In the first program cycle, Delmarva Power will largely target highly cost-effective lighting savings opportunities, and subsequently, the programs will drive towards deeper and more extensive retrofits, early retirement of inefficient equipment and harder to reach customers. The importance of making the correct investments in the higher efficiency products, especially in lighting, is critical as solid state lighting could have a useful life of up to 20 years, which is nearly fourfold greater than CFLs and tenfold greater than halogens. Color rendering and brightness are among many critical factors for customers choosing the correct measures to ensure customer satisfaction and longevity of the useful life of the measures.

The TRC Test is considered the standard screening tool for program design and the calculation can be impacted by depressed energy prices (decreasing the value of energy savings), and free ridership (a portion of the savings is not permitted to be included as a benefit). A higher customer investment is required to offset the increasing incremental cost of achieving higher efficiency and conservation opportunities; some programs are challenged to achieve higher levels of savings while buying down higher incremental costs to achieve those savings in a cost-effective manner. As stated in the EM&V Regulations, the TRC Test will primarily be used to screen all measures for cost-effectiveness where each program is required by Delaware legislation to be cost-effective.

Delmarva Power has relied on key program evaluation studies to inform the 2017-2019 Plan, including the Mid-Atlantic Technical Reference Manual (TRM), Navigant evaluation findings and reports for Delmarva Power's performance in the state of Maryland, and the current Northeast Energy Efficiency Partnerships (NEEP) incremental cost study. Delmarva Power is also an active member of the Consortium for Energy Efficiency (CEE). Recommendations from EM&V contractors will be incorporated into Delmarva Power's planning model as they become available.

1.2 Program Analysis

Delmarva Power uses a bottom-up approach to build its program portfolio. The program analysis phase of the process involves reviewing, validating, and/or adjusting program

assumptions used in the Maryland program portfolio plan, including program costs, baselines, savings, and participation in the planning model. Each program will be tested for cost-effectiveness (see section 1.5 for more detail on cost-effectiveness methodology) and Delmarva Power will continue to follow the California Standard Practice Manual. The program portfolio will be developed and adjusted in order to contribute to the savings goals outlined through the EEAC process.

1.2.1 Review of Existing Programs

Delmarva Power's past experience implementing energy efficiency programs in Maryland has provided valuable input into the modeling of programs in Delaware for the 2017 through 2019 program cycle. A thorough review of existing program performance has been conducted to recognize what is needed to push, stabilize, or roll back any individual program. Existing program modeling involves the following key steps:

- Carrying out a comprehensive review of existing program costs and making adjustments as required to the planning model to reflect differences between Delmarva Power's Delaware and Maryland service territories. Incentive levels and non-incentive program costs are scrutinized in light of actual program implementation experience and market changes.
- Evaluating new information concerning measure cost and performance.
- Extrapolating future participation based on historical customer participation rates, Optimal Energy's Potential Study, and current estimated market saturation.
- Evaluating the achievable forecast of proposed programs.

1.2.2 Review of New Programs

In future program cycles, Delmarva Power could leverage subject matter experts, program managers, building analytics experts, researchers, modelers, and third-party resources to analyze new programs. The major difference between new and existing program modeling is that program costs and participation estimates will be based largely on the experience of other utilities, programs, and markets; penetration rates from other jurisdictions would be applied and adjustments would be made as necessary to account for territory differences.

1.2.3. Portfolio Development

Delmarva Power developed the final portfolio by balancing the program elements needed to help meet the portfolio objectives and savings targets as set forth at the beginning of the planning process. This took into account any compromises, additions, or agreed upon adjustments with the various stakeholders and Delmarva Power's internal review. In addition, one of the most important considerations was evaluating the potential bill impact against the potential savings (see section 1.6). The planning model aggregated the savings forecasted for the planning years and also provided cost-effectiveness test results on a program and portfolio level basis. The planning model follows the most up to-date guidance of the California Standard Practice Manual as well as additional guidance from the EEAC process.

1.3 Statewide Program Coordination

In developing the Portfolio Plan, Delmarva Power has worked closely with representatives of the EEAC including the SEU and DNREC, community based low income organizations, Optimal Energy, Commission Staff, the Public Advocate, and other EEAC members and interested stakeholders. It was important to Delmarva Power to avoid duplicating program offerings to avoid any potential overlap and confusion in the marketplace. For example, when it was announced at the July 13, 2016 EEAC meeting that the Energy Efficiency Investment Fund (EEIF) recently received funding for a three year period, Delmarva Power, DNREC and Optimal Energy decided it was best that the Company drop its commercial program offering since prescriptive and custom incentives were already covered in EEIF. In addition, per the merger settlement agreement, Delmarva Power collaborated with the Delaware SEU and together, it was decided that the SEU would be the entity to offer and provide all funding for the Quick Home Energy Check-Up Program previously proposed to be offered by Delmarva Power, along with the SEU's Home Performance with ENERGY STAR Program.⁹ The legislation indicates that the use of energy audits to identify comprehensive energy efficiency measures should be prioritized and it was decided that these programs should be run by the SEU.¹⁰

⁹ See PSC Docket No. 14-193, "Amended Settlement Agreement In the Matter of the Application of Delmarva Power & Light Company, Exelon Corporation, Pepco Holdings Inc., Purple Acquisition Corporation, Exelon Energy Delivery Company, LLC and New Special Purpose Entity for Approvals Under the Provisions of 26 Del C. §§ 215 and 1016 (Filed June 18, 2014)," paragraph 97. Approved by PSC Order No. 8746 (June 2, 2015).

¹⁰ 29 Del.C. § 8059(h)(1)

Delmarva Power has participated for over a year in monthly meetings with low income organizations to collaborate and discuss how low income customers can best be reached and impacted by energy efficiency programs. Delmarva Power has also been participating in the official EEAC low income working group which began May 11, 2016. The goal of the EEAC low income working group was to determine how best to allocate four million dollars earmarked from the Exelon-Pepco Holdings merger for low income programs in Delaware; however, the working group has expanded in scope to collaborate on a comprehensive strategy for implementing low income programs in Delaware, to ensure that low income customers will be able to take advantage of available EE programs. This work with organizations representing low income customers has been invaluable to both Delmarva Power and its low income customers.

Delmarva Power has participated in all EEAC meetings as well as worked with Optimal Energy and the EM&V working group to formalize an approach to constructing avoided costs and benefits in order to be compliant with the EM&V Regulations. Delmarva Power counsel presented its cost recovery proposal to the Council in compliance with 29 *Del.C.* § 8059 in October 2016 (see Appendix C).¹¹ Delmarva Power will continue to collaborate and engage in ongoing discussions with Delaware stakeholders to help the Company improve program implementation activities.

1.4 Evaluation, Measurement, and Verification

The EM&V process in Delaware will support the ability of Delmarva Power to analyze the strengths and weaknesses of programs, identify improvements to program offerings, and calculate the cost-effectiveness of these programs. The EM&V evaluation reports and process improvement recommendations will provide Delmarva Power and its implementation contractors with feedback for modifying program designs, while maintaining cost-effectiveness at the program level. The evaluation reports will be prepared in accordance with the EM&V Regulations developed by DNREC's consultant Optimal Energy. Delmarva Power has allocated five percent of each program's total budget to EM&V activities.

Delmarva Power will work closely with the selected implementation contractor to ensure that Commission approved program implementation requirements are adhered to and program related metrics are reported in an accurate and timely manner. Contractors will make site visits to

¹¹ 29 *Del.C.* §8059 (h)(1)(e)

monitor programs, perform quality assurance, validate the rightful receipt of incentives and guard against fraud and misconduct. Contractor ex-ante savings data is adjusted through the evaluation process of applying evaluator suggested realization and net-to-gross ratios factors to determine the ex-post savings.

An evaluation report will present an analysis of each program, offer recommendations for program improvements and suggest adjustments to Delmarva Power's customer reported savings based upon process and impact evaluations. The report will also provide recommendations for approaches to increase program participation and customer satisfaction, to improve program tracking databases, and to improve savings algorithms and estimates. Delmarva Power will consider the evaluators' recommendations and these comments will be incorporated into current implementation efforts as well as the next planning cycle. Delmarva Power will continue discussing through the EEAC and EM&V working group process other recommendations from the evaluators in order to come to a consensus.

1.5 Cost-Effectiveness Screening

Delmarva Power screened its programs using the TRC Test as directed by the EM&V Regulations approved by the EEAC. The TRC Test is the primary cost-effectiveness test historically relied upon for demand side management program design and it measures the net cost of a program, including both the participants' and the utility's costs.

Delmarva Power calculated the TRC using assumptions outlined in the EM&V Regulations which has been designated as the "EEAC TRC" and also calculated a TRC under more conservative assumptions; Delmarva Power wanted to ensure that its programs will be overwhelmingly cost-effective, even if more traditionally conservative assumptions were used in the calculation, such as a higher discount rate based on the utility cost of capital and excluding non-energy benefits. Delmarva Power has relied upon the results of the TRC Test as a threshold condition for determining the final recommended mix of programs where individual programs must be cost-effective on a standalone basis.

The methodology and values for avoided costs are detailed in a memo attached as Appendix B. Electric avoided costs are based on values developed for the Maryland Energy

Administration in Delmarva Power’s Maryland service territory.¹² Avoided electric energy costs include electric energy, Demand Reduction Induced Price Effects (“DRIPE”), and Renewable Energy Credits as defined by Delaware regulations and statute.¹³ Avoided capacity costs are composed of generating capacity, transmission and distribution capacity, and DRIPE. Avoided gas costs were developed by Delmarva Power based on the Company’s current GCR commodity gas rate adjusted for reconciliations, and forecasted using the Department of Energy’s Annual Energy Outlook forecast for Middle Atlantic Energy Prices.¹⁴ Methodology and sources for both avoided electric and natural gas costs was discussed and developed in the EM&V Working Group and approved by the EEAC on January 11, 2017.

1.6 Bill Impacts

The monthly bill impact for a residential customer starts in 2017 at a monthly rate of \$.20 based on 912 kWh¹⁵ in average household monthly usage, and increases to \$.63 per month in 2018 and \$1.10 per month in 2019.

Table 2: Delmarva Power Residential Monthly Bill Impacts

Rate Class	2017	2018	2019
Residential	\$.20	\$.63	\$1.10

Note: The bill impact will be impacted by PJM revenues offsetting program expenditures as well as the annual true-up mechanism which is part of the cost-recovery proposal (See Appendix C for further information on the cost-recovery proposal).

The Company has evaluated four scenarios in order to demonstrate how participating in Delmarva Power’s EE programs will impact the residential surcharge.

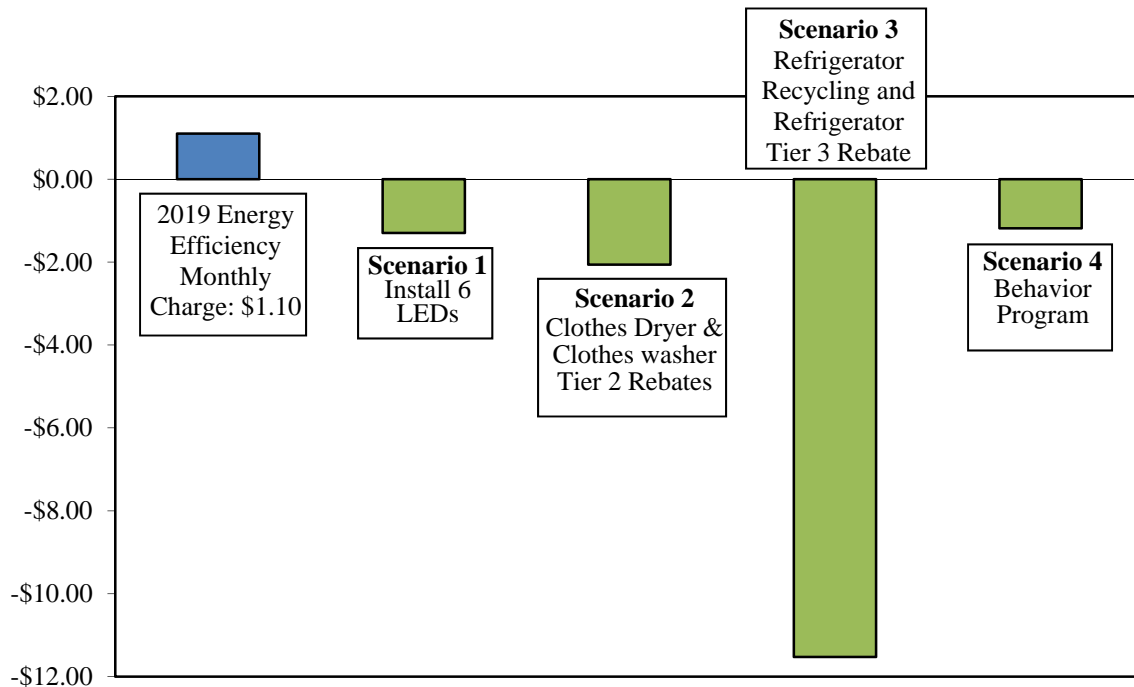
¹² See “Avoided Energy Costs in Maryland: Assessment of the Costs Avoided through Energy Efficiency and Conservation Measures in Maryland,” Prepared by Exeter Associates for the Maryland Department of Natural Resources, April 2014.

¹³ 26 Del. C. §§352(18) and (25).

¹⁴ Delmarva Power estimated avoided gas prices through 2030 by applying the same percentage change year over year based on Table 3.2, Residential Natural Gas Forecast for the MidAtlantic, Annual Energy Outlook, Energy Information Administration (“EIA”), 2017

¹⁵ Average monthly residential sales per household are forecasted to be 912 kWh in 2017, 910 kWh in 2018, and 908 kWh in 2018.

Figure 1: Examples of Gross Monthly Savings after Participating in Delmarva Power’s Programs



- Scenario 1 – Net monthly bill savings of \$.19; assumes a residential customer installs six LED bulbs, purchased through the mass market discount programs offered at selected stores, saving approximately 143 kWh annually.
- Scenario 2 – Net monthly bill savings of \$.96, assumes a customer purchases a clothes dryer and a Tier 2 clothes washer, saving approximately 228 kWh annually.
- Scenario 3 – Net monthly bill savings of \$10.43, assumes the customer purchases a new Tier 2 refrigerator and recycles their old refrigerator, saving approximately 1,277 kWh annually.
- Scenario 4 – Net monthly bill savings of \$.09, assumes the customer participates in the Behavior Program saving approximately 131 kWh annually.

As noted in Figure 1, the actual improvement gains and sensitivity of the impacts will be dependent of the participation level of the customer. Please note this is a conservative savings estimate and does not include the savings related additional non-energy and comfort benefits.

Actual surcharge amounts will vary over time due to actual demand side management programs expenditure. In addition, savings will depend on the many variables within each household.

2. Energy Efficiency Programs

Delmarva Power’s energy efficiency portfolio for its 2017-2019 Plan is designed to achieve 44,830 in total MWh energy savings over the program cycle. The total portfolio over the 2017-2019 program cycle is cost-effective with a TRC of 1.84 and an EEAC TRC Ratio of 2.43 (please refer to section 1.5 for further discussion on the TRC and Appendix A, which presents program outputs based on assumptions outlined in the EM&V regulations). Delmarva Power’s portfolio is highly cost-effective with an emphasis on capturing lighting savings.

Table 3: Net Wholesale Forecast for Energy Efficiency Program Portfolio

Total Portfolio	2017	2018	2019	Total*
Annual MWh Savings	18,102	26,419	32,970	44,830
Annual MW Savings	4.656	5.593	6.903	8.418
Participants	193,531	196,887	202,877	233,295
Incentive Costs	1,623,035	1,950,990	2,539,825	6,113,850
Implementation Costs	3,481,931	3,712,637	4,298,538	11,493,106
Total Program Costs	5,104,965	5,663,627	6,838,363	17,606,956
EEAC TRC Ratio				2.43
TRC Ratio				1.84

*Note: The Behavior Based Program reports MWh savings, MW savings and participants as program-to-date snapshots so as a result, Table 3 represents yearly snapshots for the total residential portfolio. The “total” column represents the sum of 2017, 2018 and 2019 savings for Consumer Products programs and adds in the 2019 snapshot savings from the Behavior Based Program.

2.1 Consumer Products Program

Program Overview and Key Objectives

The Consumer Products Program consists of three main elements:

Residential Lighting: The Residential Lighting Program offers Delmarva Power customers instant in-store discounts on select ENERGY STAR® certified LED bulbs and fixture products at participating retail locations. Lighting products are selected in conjunction with the Company’s implementation contractors and retail and manufacturing partners. A request for proposal (RFP) will be issued to request industry proposals for qualified ENERGY STAR products across a wide retail channel.

Incentives are structured to ensure that a large variety of products are offered across multiple retail channels to reach all customers.

The program's field team will educate customers on the benefits of purchasing energy efficient lighting products, choosing the appropriate light bulb for the desired application, and how to properly recycle and dispose of light bulbs. Customers will learn that many factors are involved in the decision of selecting the right light bulb including wattage, lumens delivered, the color rendering index of the light bulb, and the expected lifetime of the light bulb. The program field team will conduct customer education through in-store demonstrations and will train retail staff to deliver the information in an appropriate, informative, and easy to understand format.

Additionally, Delmarva Power will work with community based organizations to distribute light bulbs at food banks and other locations in order to reach low income customers.

Appliance Rebates: Delmarva Power's Appliance Rebate Program will offer rebates for the purchase of ENERGY STAR certified refrigerators, clothes washers, freezers, room air conditioners (RACs), and heat pump water heaters. Inexpensive refrigerators at current code will be offered to low income customers at no cost with the condition that they recycle their old (*i.e.*, not to current code) refrigerator. Approximately eight hundred ENERGY STAR Tier 1 refrigerators will be available annually for this low-income component of the program.

Appliance Recycling: The Appliance Recycling Program is designed to remove old, inefficient refrigerators, freezers, dehumidifiers and RACs from the grid. The program aims to prevent the customer from either using a haul-away and resale service, or transferring the appliance to another customer. In other words, the recycling portion of the program is designed to ensure that old, inefficient units are removed from service permanently. Each unit collected will be disposed of in an environmentally responsible way, in compliance with the U.S. Environmental Protection Agency's (EPA) Responsible

Appliance Disposal (RAD) criteria. In addition to the energy savings, the program offers several additional non-energy related benefits, which include¹⁶:

- Preventing emissions of ozone depleting substances and greenhouse gases (GHGs) by not allowing their release from refrigerants and insulating foams found in older appliances;
- Preventing the release of polychlorinated biphenyls (PCBs), mercury, and oil; and
- Saving landfill space and energy by recycling rather than landfilling durable materials (i.e. metals, plastics, and glass).

As an incentive to participate, Delmarva Power residential customers are offered a monetary incentive to allow the vendor to pick up the eligible appliance from their home. The Appliance Recycling Program will be delivered through third party contractors that specialize in proper appliance recycling.

Target Market

The Consumer Products Program is available to all residential customers and Delmarva Power will work with community based organizations to reach low income customers with a refrigerator replacement program and to distribute light bulbs at food banks and potentially other locations. The Appliance Recycling component is geared toward customers that have individually metered accounts, secondary units and customers purchasing new appliances with an older unit that is still operational.

Market Conditions

Lighting: Delmarva Power will promote standard and specialty ENERGY STAR LED products at variable incentive levels within its measure mix. The viability of substantial net energy savings associated with the promotion of efficient lighting products during the 2017-2019 timeframe is demonstrated both by the realization rates in the latest available program evaluation in Maryland and other research in this area.¹⁷ There remains a strong opportunity to promote LEDs given the transition of the baseline technology from standard incandescent bulbs to EISA

¹⁶ “Disposing of Appliance Responsibly,” *United States Environmental Protection Agency*: <http://www2.epa.gov/rad/disposing-appliances-responsibly>.

¹⁷ Craigo-Snell, Seth. (*Forthcoming*), “Is it Still Cost Effective to Promote Light Bulbs? Should We?” International Energy Program Evaluation Conference, Chicago, IL: August 13-15, 2013.

compliant halogen bulbs. However, due to rising energy efficiency baselines and recently updated codes and standards, it will be increasingly difficult to achieve lighting savings. The market is also facing new competition from “Value LED bulbs,” which are much less expensive and are successfully penetrating the market. Delmarva Power will look closely at targeting ENERGY STAR 2.0 bulbs which will compete with Value LED bulbs in price while still maintaining the high standards of being an ENERGY STAR labeled product.

Appliance Rebates: Major appliances comprise more than a quarter of household energy use, and represent a significant opportunity for energy savings in the residential program portfolio. At the same time, ENERGY STAR has increasingly become the standard for major appliance manufacturers and retailers, which has resulted in market penetration for certain ENERGY STAR certified products to be higher than the 25–35% threshold that the ENERGY STAR program requires in order to differentiate between the most efficient products in the market.

Consequently, ENERGY STAR is currently working with all stakeholders to address these high penetration levels and various updates to the specifications are currently in development. New specifications were effective for refrigerators in September of 2014, clothes washers in March of 2015, clothes dryers in January of 2015, and heat pump water heaters in April of 2015.

Delmarva Power will closely monitor the market as ENERGY STAR appliances continue to gain market share. As specifications change, it may be necessary for the Company to add or eliminate products or tiers in order to avoid lower net-to-gross ratios.

The Company used the experience it has gained over the past two implementation cycles in Maryland, along with data from the KEMA baseline study, to establish and measure participation projections. For instance, the KEMA baseline study states that in a weighted average of residential customers, there are 1.32 refrigerators per residence. Using this number, multiplied by the Delmarva Power’s residential customer base, and dividing by the expected measure life of a refrigerator, provides the expected number of refrigerators to be purchased by residential customers in a given year. This value was then used along with implementation experience from Delmarva Power’s Maryland operations to determine the amount of expected

participation in the refrigerator portion of the program. Similar techniques were taken for the other appliances offered in the program.

Appliance Recycling: A U.S. Department of Energy (DOE) evaluation of refrigerator market profiles conducted for the ENERGY STAR program has shown that the household saturation of second refrigerators has been rising nationally, with 10% of households keeping their old units annually. Given this state of affairs, and given the relatively low costs to properly remove and dispose of such appliances, the Appliance Recycling Program offers opportunities for cost-effective peak demand reduction and annual energy savings.

Participation rates are projected using a targeted Annual Harvest Rate (AHR), with large aggressive programs achieving AHRs of approximately 1.25% of the eligible customer base. As the programs ramp-up, the AHR is typically between 0.3 and 0.6%, building up to 1 to 1.25% at full implementation based on the utility's goals.

Measures Promoted

Specific lighting measures proposed for 2017-2019 include:

- Standard LEDs
- Specialty LEDs
- Ceiling Fans
- Occupancy Sensors

Specific ENERGY STAR appliance rebate measures proposed for 2017-2019 include:

- Clothes washers
- Refrigerators
- Room Air Conditioners
- Electric pump water heaters
- Clothes dryers
- Dehumidifiers

The measures available to be recycled through the Appliance Recycling Program include:

- Refrigerators
- Freezers
- Room Air Conditioners

- Dehumidifiers

Delivery Model

Delmarva Power would like to be able to respond quickly to market conditions by adjusting incentive levels throughout the program cycle to correspond with any retail price changes of the incented measures. Recommended measure level incentives are:

Table 4: Incentive Amounts by Measure

Consumer Products Incentive Amounts	
Measure	Proposed Max Incentive*
Lighting	
Standard ENERGY STAR LED	\$4
Specialty ENERGY STAR LED	\$6
Ceiling Fans	\$25
Occupancy Sensors	\$7
Appliance Rebates	
ENERGY STAR Heat Pump Water Heater	\$500
ENERGY STAR Refrigerator Tier 1	\$50
ENERGY STAR Refrigerator Tier 2	\$100
ENERGY STAR Refrigerator Tier 3	\$150
ENERGY STAR Clothes Washer Tier 1	\$50
ENERGY STAR Clothes Washer Tier 2	\$75
ENERGY STAR Clothes Washer Tier 3	\$100
ENERGY STAR Clothes Dryer	\$50
ENERGY STAR Room A/C Unit	\$30
ENERGY STAR Dehumidifier	\$30
Appliance Recycling	
Dehumidifier Recycling	\$25
Refrigerator Recycling	\$50
Freezer Recycling	\$50
Room A/C Unit Recycling	\$25

*Note: Incentives may be adjusted during the program cycle based on current market conditions

For the lighting component, the proposed customer incentives represent the maximum incentive being provided. Delmarva Power, in conjunction with its implementation contractor, will evaluate the current state of the lighting market when these programs will be officially rolled out and adjust the incentives accordingly. The average incentives for LED products will decline steadily throughout the period consistent with the projected drop in the retail price of LED products.

Marketing Overview

An official marketing plan and strategy will be developed in conjunction with the Company's hired implementation contractor. In the event the Public Service Commission approves this program, the Company will draft an RFP for an implementation contractor following the approval of this plan by the Delaware Commission. In addition, Delmarva Power will coordinate marketing efforts with the Delaware SEU as directed in the merger settlement agreements.

The marketing strategy described below is based on Delmarva Power's experience in Maryland and is intended to illustrate the type of activities which could be conducted.

Lighting: To drive greater traffic and deeper participation, three key time periods are used to market the Lighting Program. The first is during Q1 and Q4 because the days are shorter and there is a greater need for lighting. During this period, the greatest weight will be placed on Q4 when it gets darker earlier in the day. The second period is around Earth Day in April. During this time, environmental messages are more prominent in the media so it is a good time to leverage this awareness to help drive traffic to the Lighting Program. As a way to keep lighting top-of-mind, the third period is summer. Lighting is purchased year-round to replace burned out bulbs. As a result, continuing to maintain awareness of energy efficient lighting options throughout the year is important. In addition, summer also presents the opportunity to promote efficient lighting for outdoor applications as people spend time in their yards in the evening. The program was designed to provide all residential customers with the opportunity to participate in the program and improve the energy efficiency of their homes. To promote this program, Delmarva Power may also use a combination of tactics, including in-store point of purchase (POP) signage, to educate customers about the program and drive participation.

Appliance Rebates: The marketing for this program is based on an analysis of current program participation data from Delmarva Power's Maryland operations; the targeted time periods will consist of key retail holidays and marketing will ramp up at the start of the year, with a campaign promoting President's Day weekend, historically a top sales weekend for appliances and for participation in the rebate program. In addition, Delmarva Power targets other retail holidays such as Memorial Day, the Fourth of July, Labor Day and Thanksgiving. Delmarva Power will also conduct cross-marketing with the Appliance Recycling component to increase sales of ENERGY STAR certified appliances.

Consumers will learn about the Appliance Rebate Program in a variety of ways. For example, the marketing campaign will likely include messaging that highlights the value of purchasing rebated ENERGY STAR certified products. In addition, the Company may provide retailers with a suite of in-store POP signage and materials to highlight rebated ENERGY STAR certified products and rebate offers. To promote this program, Delmarva Power will likely use a multi-dimensional combination of marketing mediums including awareness building tactics to educate customers about the program and the offers available to help them save energy and money, and to drive them to purchase ENERGY STAR products.

Appliance Recycling: The seasonality for this program continues to be developed based on an analysis of current program participation data and marketing may be focused during two key time periods. The first is in the spring when customers do their spring cleaning and undertake home improvements, particularly in April and May. During this time, customers may decide to get rid of old appliances sitting unused in their homes or replace old appliances with new appliances. The second season is fall; as kids go back to school, families tend to organize and clean out their homes, including replacing and recycling old appliances. While advertising should be focused on these two seasons, some tactics may be implemented year-round to ensure that the program remains top-of-mind for customers and the program can continue operating throughout the year. Delmarva Power may also cross-market the Appliance Recycling Program with the Appliance Rebate component because customers often become aware of the recycling program due to exposure in the retail setting, either through POP or through a sales associate during a refrigerator or freezer purchase. In addition, the Appliance Recycling component may be cross-marketed with Home Audit programs offered by the Delaware SEU to appeal to customers who receive recommendations to replace their old, energy inefficient appliances. To

promote the program, Delmarva Power may use a combination of tactics to include awareness building and direct response to educate customers about the program and available offers.

Three-Year Deployment Strategy

Throughout the implementation of this program, Delmarva Power will monitor its progress to determine what program improvements can be made either mid-cycle or deployed with the next planning period.

Evaluation, Measurement & Verification

Delmarva Power will adhere to the methodology and requirements as written in the EEAC adopted EM&V Regulations.

Expected Impacts

Table 5: Net Wholesale Forecast of Consumer Products Program

Consumer Products Program	2017	2018	2019	Total
Annual MWh Savings	5,210	6,650	9,334	21,194
Annual MW Savings	0.666	0.849	1.188	2.704
Participants	13,531	16,887	22,877	53,295
Incentive Costs	\$1,623,035	\$1,950,990	\$2,539,825	\$6,113,850
Implementation Costs	\$1,297,720	\$1,633,690	\$2,219,591	\$5,151,001
Total Program Costs	\$2,920,755	\$3,584,680	\$4,759,416	\$11,264,851
EEAC TRC Ratio				2.18
TRC Ratio				1.53

Note: See Appendix A for program tables based on assumptions outlined in the EM&V Regulations.

2.2 Residential Behavior Based Program

Program Overview and Key Objectives

The primary objective of Delmarva Power’s Behavior Based Program is to motivate Delmarva Power customers to engage in energy saving behavior through the regular distribution of personalized home energy reports. By placing customers in an anonymous representative group based on home location, size, and other publicly available criteria, customers will be able to make meaningful comparisons regarding their usage relative to a peer group. The reports deliver consistent information in a simple and visually appealing way, providing customers with the necessary context to take appropriate actions to reduce their energy use. In addition, the program will provide a new feature called “High Usage Alerts” in order to inform customers

when their energy usage has skyrocketed. Customers will be able to contact Company Customer Service Representatives and Energy Advisors as needed who will have online access to the mailed reports. As available, information provided to customers will also be based on hourly information provided by AMI meters, providing even deeper insight into energy usage and usage patterns.

Another component of the program is the Web Portal. The Web Portal is complementary to the email and paper reports, and provides customers with a more detailed view of their energy use. Designed to be a holistic web experience for customers, the Web Portal additionally gives customers the ability to: set energy savings goals for themselves, identify what is using the most energy in their house, access a vast library of energy saving tips, create a plan of action to achieve reduction goals, and make updates to their account profile and preferences.

On account of its high cost-effectiveness and the program's ability to motivate and potentially reach all residential customers¹⁸ to engage in energy savings behavior, the Behavior Based program has increasingly become a significant portion of Delmarva Power's program portfolio in Maryland. OPower's program is typically delivered at a cost of \$.02/kWh to \$.04/kWh with verified energy savings of 1.5-2.5%. By comparison, weatherization or in-home audits can cost \$.10/kWh or greater.

Target Market

The OPower platform enables advanced segmentation and will provide Delmarva Power with the capability to reach out to different customer segments with personalized messaging. For example, the home energy reports will include personalized messaging and low/no-cost energy saving tips to help empower low income customers in Delmarva Power's service territory. As one example, this tailored messaging, available in multiple languages, can boost the impact of Delaware's weatherization programs by increasing awareness and helping customers maximize the value of their installed measures. OPower's research has shown that once low-income customers are aware of these programs, they are more likely than other customers to participate.

¹⁸ For EM&V purposes, it is necessary to have a control group of residential customers who are not part of the Behavior Program in order to accurately measure the program's impact.

Customers will receive reports relevant to whatever fuel service they receive from Delmarva Power (electric, gas, or both) on a single report. The delivery timeline for offering natural gas behavior reports to these dual fuel customers is still being evaluated.

Market Considerations

The operation of behavior based programs continues to make up a larger portion of utilities' energy efficiency and demand side management programs. Typically as seen in behavior based programs, it may take up to two years to ingrain energy savings behaviors into customers who have been used to simply paying their utility bill. A behavior based program acts to change these behaviors and provide customers with access to more personalized granular data, designed to be relative to their specific needs.

Measures Promoted

The measures offered in the Behavior Based Program include printed and mailed reports, emailed reports, high bill alerts as appropriate, and access to the Web Portal.

Delivery Model

None of the services offered are considered incentives, however all services are at no additional cost to the customer.

Marketing Overview

OPower's home energy reports deliver proactive, targeted messages to customers about their energy use and provide personalized savings tips and other energy efficiency program promotions. These direct-mail and digital reports are designed to grab each customer's attention with unique insights and relevant content specifically tailored for different customer demographics. OPower's research shows that customers are most receptive to information from their utilities at certain times of the customer lifecycle, like seasonal changes or starting a new contract, so unique editions of these reports are delivered throughout the year. For example, a "welcome edition" addresses frequently asked questions and educates customers at the start of the program about things like how the neighbor comparison is calculated. When the weather warms up, a "summer edition" will be delivered with tips about ways to save during these months with personalized disaggregation data related to how much energy a customer is using for cooling. Similarly a "winter edition" can show how much energy a customer is using for

heating and then deliver the most relevant tips and marketing modules. At other times of the year, customers receive progress reports which provide an update on energy usage versus their neighbors and energy efficiency tips. The following is an example of a Home Energy Report:

UtilityCo

1515 N. Courthouse Road, Floor 8
Arlington, VA 22201-2909

0014837 0023-C10-1 -P14851-730905

*****AUTO**5-DIGIT 12345

PLUGGIE
1515 N COURTHOUSE ROAD
8TH FLOOR
ARLINGTON, VA 22201



Home Energy Report

May 20, 2015

Account number 8249865991

We've put together this report to help you understand your energy use and what you can do to save.

Find a list of rebates and energy-saving products and services you can buy.

www.utilityco.com/rebates

Here's how you compare to neighbors



Apr 21, 2015 - May 20, 2015

This is based on 87 similar homes within approx. 4 miles. Efficient neighbors are the 20% who use the least amount of electricity. See back for details.

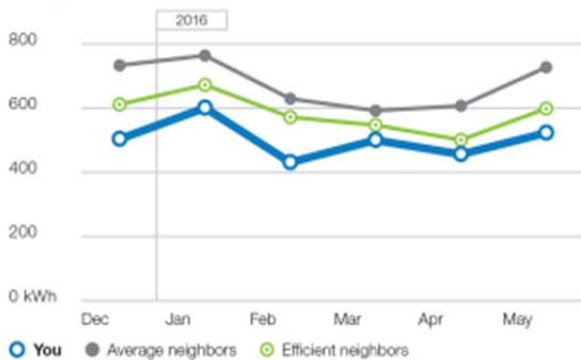
Great

Good

Using more than average

14% less electricity than efficient neighbors

Neighbor comparison over time



Over the last 6 months, you used less than your efficient neighbors.

\$58 saved

Tips from efficient neighbors



Unplug electronics when they're not in use
Save up to \$75 per year



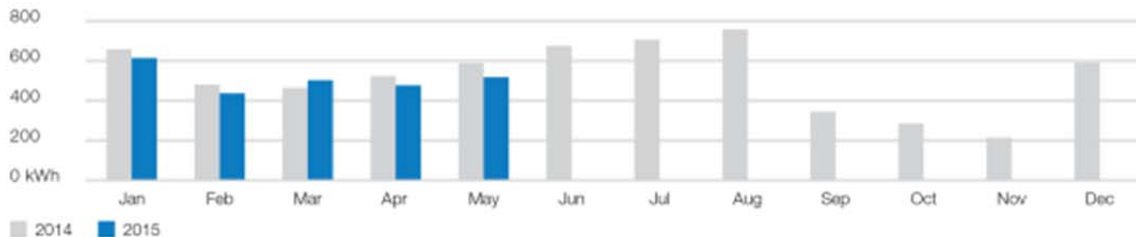
Replace your inefficient light bulbs
Save up to \$30 over the bulb life

Turn over

Track your progress



So far this year, you used 6% less than last year.



Save on your next bill



Buy ENERGY STAR® appliances and electronics

The U.S. Department of Energy tests the efficiency of household appliances and electronics. The best earn the ENERGY STAR label. This program saves American households millions of dollars every year.

The ENERGY STAR label can be found on efficient models of many products. Certified models often run more quietly, last longer, and are more convenient to use than conventional models. Visit www.energystar.gov for details.

Save up to \$30 per year

Frequently asked questions

What's a kWh?

A kilowatt hour (kWh) is a way to measure electricity use. A 100-watt lightbulb uses 1 kWh every 10 hours.

How is my comparison calculated?

Your electricity use is compared to homes with a similar size, building type, and heating system. You can view your home information at www.utilityco.com/homeprofile.

Why is my utility sending me this report?

When customers save energy, we get closer to meeting our state energy efficiency goals. It's good for everyone.

How do I stop receiving reports?

Call 1-800-999-9999.

We're here to help

▶ www.utilityco.com/reports

▶ reports@utilityco.com

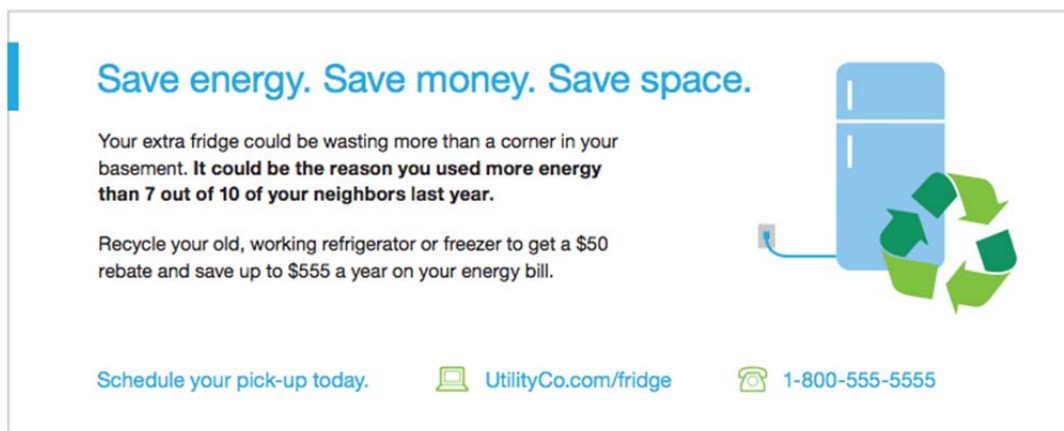
▶ 1-888-888-8888

Find more energy saving purchases

▶ www.utilityco.com/rebates



In addition, the home energy reports could promote or cross market the programs offered through by other energy providers in Delaware. OPower has observed that when utilities advertise specific energy efficiency programs or initiatives through the home energy reports, participation in the programs increases on average between 10-30%. For example, the figure below illustrates a sample promotional message for a refrigerator recycling program that Delmarva Power could send to a segment of customers with the highest propensity to act:



Delmarva Power will work with other energy efficiency providers, such as the Delaware SEU, to explore how we can work together to cross-market energy efficiency programs offered in Delaware.

Three-Year Deployment Strategy

As noted earlier, savings from the behavioral program will ramp up over the three year program period. Over the course of this period, new features being currently being developed with the vendor for all Exelon Utilities will be rolled out for Delmarva Power customers. These are expected to include alerts for high usage, HVAC disaggregation (allowing for more personalized tips and insights), net energy metering and other advanced modules that leverage available customer information.

Evaluation, Measurement & Verification

Delmarva Power will adhere to the methodology and requirements as adopted in the EM&V Regulations.

Expected Impacts

The forecast for this program is based on the Company’s experience running this program in Maryland and OPower’s rigorous and widely approved method for measuring savings which involves randomized controlled trial design with statistical billing analysis. OPower programs consistently deliver 1.5% to 2.5% reductions in energy use. These results have been independently verified over 70 times and commissions in over 35 states have approved these programs as energy efficiency resources. See Appendix A for program tables using assumptions outlined in the EM&V Regulations.

Table 6: Net Wholesale Forecast for Residential Behavior Based Program

Behavior Based Program	2017	2018	2019	Total
Annual MWh Savings	12,893	19,769	23,636	23,636
Annual MW Savings	3.989	4.744	5.714	5.714
Participants	180,000	180,000	180,000	180,000
Incentive Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$2,184,211	\$2,078,947	\$2,078,947	\$6,342,105
Total Program Costs	\$2,184,211	\$2,078,947	\$2,078,947	\$6,342,105
EEAC TRC Ratio				2.93
TRC Ratio				2.45

Note: MWh savings, MW savings and participants are program-to-date snapshots for each year.

3. Cost Recovery

Delmarva Power’s proposed Rate Calculation and Recovery Procedure was provided to the EEAC and presented during an October 2016 EEAC session. Another full copy of the previously provided proposed Rate Calculation and Recovery Procedure has been attached as Appendix C to this Portfolio Plan for the convenience of the EEAC. The proposed Rate Calculation and Recovery Procedure was developed by Delmarva Power with significant collaboration from both Commission Staff and the Public Advocate.

4. Appendix A (Program Tables using EM&V Regulations)

5. Appendix B (Avoided Cost Assumptions)

4. Appendix C (Cost Recovery Proposal)

5. Appendix D (kWh Savings by Measure Type)

APPENDIX A

Delmarva Power Program Tables Using Assumptions Outlined in the EM&V Regulations

Table 7: Net Wholesale Forecast of Consumer Products Program (EM&V Regulations Assumptions)

Consumer Products Program	2017	2018	2019	Total
Annual MWh Savings	5,390	6,880	9,657	21,927
Annual MW Savings	0.763	0.972	1.361	3.096
Participants	13,531	16,887	22,877	53,295
Incentive Costs	\$1,623,035	\$1,950,990	\$2,539,825	\$6,113,850
Implementation Costs	\$1,297,720	\$1,633,690	\$2,219,591	\$5,151,001
Total Program Costs	\$2,920,755	\$3,584,680	\$4,759,416	\$11,264,851
EEAC TRC Ratio	2.18			

Table 8: Net Wholesale Forecast of Behavior Based Program (EM&V Regulations Assumptions)

Behavior Based Program	2017	2018	2019	Total
Annual MWh Savings	13,339	20,453	24,455	24,455
Annual MW Savings	4.568	5.432	6.543	6.543
Participants	180,000	180,000	180,000	180,000
Incentive Costs	\$0	\$0	\$0	\$0
Implementation Costs	\$2,184,211	\$2,078,947	\$2,078,947	\$6,342,105
Total Program Costs	\$2,184,211	\$2,078,947	\$2,078,947	\$6,342,105
EEAC TRC Ratio	2.93			

Note: MWh savings, MW savings and participants are program-to-date snapshots for each year.

Table 9: Net Wholesale Forecast of Total Portfolio (EM&V Regulations Assumptions)

Total Portfolio	2017	2018	2019	Total
Annual MWh Savings	18,729	27,333	34,111	46,382
Annual MW Savings	5.331	6.405	7.904	9.639
Participants	193,531	196,887	202,877	233,295
Incentive Costs	1,623,035	1,950,990	2,539,825	6,113,850
Implementation Costs	3,481,931	3,712,637	4,298,538	11,493,106
Total Program Costs	5,104,965	5,663,627	6,838,363	17,606,956
EEAC TRC Ratio	2.43			

MEMORANDUM

To: Delaware EEAC

From: Optimal Energy, EEAC Consultant

Date: January 10, 2017

Subject: Avoided costs for use in cost-effectiveness analysis

SUMMARY

The EM&V subcommittee of the Delaware EEAC has engaged in several discussions regarding avoided costs for use in assessing the cost-effectiveness of energy efficiency measures and programs implemented by the Delaware utilities, DNREC, and the SEU. An initial recommendation for avoided costs was presented to the Council at the December meeting, but questions raised by those present resulted in further deliberations by the subcommittee and additional analysis by the Council's consultants. This memo summarizes the revised recommendation developed by the subcommittee at its meeting on January 10th.

GENERAL APPROACH TO AVOIDED COSTS

To develop avoided costs in a timely manner to support energy efficiency plan submissions by Delaware utilities and other program administrator, the Council has relied on available data from relevant jurisdictions and public sources. The intent is to use these avoided costs only until such time as a Delaware-specific study can be completed. Until then, the Council believes that the approved avoided costs are sufficient to support decisions regarding the cost-effectiveness of efficiency measures, programs, and portfolios. It was determined to use a single state-wide set of avoided costs for electric energy and capacity to ensure consistency and comparability in program cost-effective results. The determination was also made to use specific natural gas avoided costs for each utility, due to the differences in gas supply cost and the relative simplicity of splitting the territory areas. The committee recommends that the avoided costs be applied for the 3-year planning period. This will provide program administrators with a more consistent basis for planning their programs. This memo is accompanied by a Microsoft Excel® workbook that details the sources and calculations for the avoided costs presented here.

Gas Avoided Costs Calculation

Gas avoided costs are primarily based on each gas utility's gas service rate (GSR) or gas commodity rate (GCR). Based on conversations with both Chesapeake and DPL, this rate represents the avoidable marginal cost of supplying gas to customers. It includes the variable costs of gas transportation from the pipeline take-off point. It does not include fixed costs or other expenses that do not vary with the amount of gas supplied. These rates are also filed with the Public Service Commission.

Both Chesapeake and DPL provided the Council's consultant with a workbook containing information on their filed GSR/GCR for 2016-2017 and the portion of that rate that represents prior year reconciliations. Chesapeake has requested that this workbook remain confidential. Future years' GSR/GCR is based on the projections for changes in gas prices in the Mid-Atlantic region developed by the Energy Information Administration (EIA).¹ Each utility's base GSR/GCR was converted from units of million cubic feet (MCF) to million British thermal units (Btu) assuming a heat rate of 1.032 MMBtu per MCF.²

Avoided Natural Gas (all usage)		
Year	Chesapeake (2016\$ / MMBtu)	DPL (2016\$ / MMBtu)
2016	7.77	4.26
2017	7.77	4.26
2018	7.82	4.29
2019	7.92	4.34
2020	8.09	4.43
2021	8.24	4.52
2022	8.40	4.60
2023	8.49	4.66
2024	8.56	4.69
2025	8.56	4.69
2026	8.54	4.69
2027	8.62	4.73
2028	8.73	4.79
2029	8.84	4.85
2030	8.92	4.89
2031	8.99	4.93
2032	9.06	4.97
2033	9.14	5.01
2034	9.21	5.05
2035	9.29	5.09
2036	9.36	5.13
2037	9.44	5.18
2038	9.52	5.22
2039	9.59	5.26

¹ EIA, Annual Energy Outlook, Table 3.2, Middle Atlantic Energy Prices, 2017

² Source: <https://www.eia.gov/tools/faqs/faq.cfm?id=45&t=8>

Electric Avoided Costs Calculations

Avoided electric energy costs are based on values developed for the Maryland Energy Administration (MEA) for use by DPL in their Maryland service territory.³ DPL's service territory in Maryland and Delaware together compose a single zone as defined by PJM, the regional system operator. We are using the reported avoided energy costs including a component for demand-reduction induced price effects, or DRIPE. To these avoided costs we have added the value of avoided Renewable Energy Credits (RECs) and Solar Renewable Energy Credits (SRECs) as defined by 26 Del. C. §§352(18) and (25). In 26 Del. C. §354(a) the requirement to acquire RECs and SRECs is tied to total state electric sales, reductions in sales from efficiency programs reduce the need to acquire RECs/SRECs.

Electric energy avoided costs in the MEA study are specified by energy period: winter on-peak and off-peak and summer on-peak and off-peak. To simplify the avoided costs into a single set of projections for each customer sector (i.e., residential or commercial), we developed a composite load shape of energy savings from efficiency measures based on the end-uses likely to represent a majority of energy savings. Avoided electric capacity costs are also based on the MEA study. Avoided capacity costs are composed of generating capacity, transmission and distribution capacity, and DRIPE.

³ Avoided Energy Costs in Maryland: Assessment of the Costs Avoided through Energy Efficiency and Conservation Measures in Maryland, Prepared by Exeter Associates for the Maryland Energy Administration, April 2014.

Year	Avoided Electric Energy		Avoided Electric Capacity
	Residential (2016\$ / MWh)	Commercial (2016\$ / MWh)	all users (2016\$ / kW)*
2016	68.61	76.17	110.36
2017	68.01	76.00	114.31
2018	66.00	73.07	115.08
2019	64.92	71.79	116.53
2020	63.90	70.28	118.57
2021	64.11	70.25	121.19
2022	65.19	71.19	124.30
2023	66.73	72.61	127.88
2024	67.39	73.22	131.92
2025	67.65	73.28	136.41
2026	68.59	74.07	141.34
2027	69.04	74.53	146.69
2028	69.91	75.26	152.47
2029	70.93	76.50	158.69
2030	70.77	76.07	165.35
2031	70.77	76.07	162.98
2032	70.77	76.07	162.98
2033	70.77	76.07	162.98
2034	70.77	76.07	162.98
2035	70.77	76.07	162.98
2036	70.77	76.07	162.98
2037	70.77	76.07	162.98
2038	70.77	76.07	162.98
2039	70.77	76.07	162.98

* Avoided electric capacity to be applied to summer peak kW, as defined by PJM

Formulae

Gas avoided cost = (Utility GCR/GSR) * (EIA price escalator) * (MMBtu/MCF conversion)\

Electric energy avoided cost = (avoided energy cost from MEA study) + (energy DRIPE from MEA study) + (value of avoided REC/SREC purchases)

Electric capacity avoided cost = (avoided capacity cost from MEA study*) + (capacity DRIPE)

* Avoided capacity cost from MEA study includes PJM capacity costs and transmission & distribution avoided capacity costs

Delmarva Power & Light Company, Delaware

SUMMARY OF

**Proposal to Energy Efficiency Advisory Council for
Energy Efficiency Rate Calculation and Recovery Procedure for Regulated Utilities**

A. INTRODUCTION

Pursuant to the 2014 amendments to the Delaware Energy Act (the “EE Amendments”), Energy Efficiency Working Group (EEAC) members have been involved in the EEAC process. The statutory responsibilities of the EEAC include developing energy efficiency (EE) program portfolios for all utilities in Delaware. With respect to regulated utilities, the EEAC’s additional statutory responsibilities include development of recommended rate recovery mechanisms. The EEAC must then recommend adoption of the programs and recovery mechanisms to the Commission for its review and approval. Delmarva Power has provided the EEAC with a more thorough document covering Delmarva Power’s proposals for:

1. The recovery mechanism the EEAC should recommend to the Commission;
2. The procedure the EEAC should recommend to the Commission for the Commission’s review and approval of:
 - a. EEAC recommendations concerning EE programs and a recovery mechanism, and
 - b. Annual EE Rate adjustments.
3. The manner in which the EE Rate should appear on Delmarva Power’s bills.

This document is designed to provide a less technical summary of the proposals listed above. The more thorough document is provided as an attachment hereto.

B. EE AMENDMENT STATUTORY PROVISIONS RELATED TO RECOVERY

The following are the primary statutory provisions that the EEAC must keep in mind when considering the proposal summarized in this document:

1. The Recovery Process Must be Efficient and Timely
2. Costs May not be Placed in Rate Base

CONFIDENTIAL / FOR DISCUSSION PURPOSES (10/12/16)

3. Rates Must be Annually Adjusted
4. The Rate Must Include Both Recovery of Costs and a Rate of Return
5. Commission Approval of Both EE Programs and Recovery Mechanism is Required

C. RATE COMPUTATION FOR DELMARVA POWER EE PROGRAMS

The rate computation mechanism proposed and summarized below for adoption in Delaware is based upon the mechanism proven to be efficient and effective in Maryland.

1. EE Rate Based upon Program Budget for Year-Ahead: The recommended first year of the EE Rate for regulated utilities will be established based upon the budget established by the regulated utility and the EEAC for the first year of the program.
2. Amortization Period of Five Years: Delmarva Power recommends a general amortization period of five years for EE programs.
3. EE Rate and Annual Amount Recovered – Year 1: The EE Rate is determined by calculating the annual amount to be recovered and dividing that amount by the forecasted KWh load. The annual amount to be recovered would consist of:
 - a. Forecasted program costs;
 - b. Forecasted amortization of program costs; and
 - c. Forecasted rate of return on the unamortized balance.
4. Annual EE Rate Adjustments - Subsequent to Year 1: Subsequent to Year 1, the EE Rate will include the components outlined in Section C.3. above, to be annually adjusted as follows:
 - a. Add forecasted amortized costs related to any additional EE programs recommended by the EEAC and approved by the Commission; and
 - b. Adjust for prior period true-ups.

D. PROCEDURE FOR COMMISSION APPROVAL OF EEAC RECOMMENDED PROGRAMS AND RATE RECOVERY MECHANISM

Once the EEAC recommends both EE programs and rate recovery mechanisms for regulated utilities, those recommendations must be reviewed and approved by the Commission

CONFIDENTIAL / FOR DISCUSSION PURPOSES (10/12/16)

before implementation. Two types of Commission proceedings will be needed.

1. Recommended Commission Procedure for Approving
EEAC-Recommended EE Programs and Recovery Mechanism

Delmarva will file an Application for Approval of the EEAC recommendations. Delmarva anticipates that the Application will be supported by pre-filed testimony of at least three witnesses. It is anticipated that a rather traditional schedule for an evidentiary hearing will be established and followed.

2. Recommended Commission Procedure for Annual EE Rate Adjustments

Because the EE Amendments provide that the Commission must utilize a recovery process that provides for annual adjustments to the EE Rate of the same type used for “other supply resources,” Delmarva Power recommends the following annual process, which is similar to that used for annually adjusting Delmarva’s Standard Offer Service (“SOS”) rate:

- a. At least 60 days before new annually adjusted EE Rates are scheduled to go into effect, Delmarva will file an annual application for approval of an adjusted EE Rate for the upcoming 12 month period.
- b. At a regularly scheduled Commission meeting within a few weeks after the application is filed, the Commission will issue an order that: (1) opens a docket, and (2) permits EE Rates, as filed, to go into effect subject to refund within 60 days.
- c. Staff and DPA will conduct an audit of the annual EE Rate filing. In the event that Staff or DPA discover any errors during the audit process, EE Rates will be adjusted for the remainder of the annual period to account for the error.
- d. At the conclusion of the audit, Staff will provide a report to the Commission and at a regularly scheduled Commission meeting, the Commission will hear testimony and issue its final ruling on Delmarva’s annual EE Rate adjustment.

The EE Rate and total monthly EE charge will be identified as a separate line item on bills of regulated utilities, rather than being bundled as part of other rates.

-END OF SUMMARY-

Attachment Cover Sheet

FOR DISCUSSION PURPOSES**Delmarva Power & Light Company, Delaware****Proposal to Energy Efficiency Advisory Council for
Energy Efficiency Rate Calculation and Recovery Procedure for Regulated Utilities**A. INTRODUCTION

Pursuant to the 2014 amendments to the Delaware Energy Act (the “EE Amendments”), Delmarva Power, the Department of Natural Resources and Environmental Control (DNREC), and additional participants in a diverse group of appointed Energy Efficiency Working Group (EEAC) members have been involved in the EEAC process. The statutory responsibilities of the EEAC include developing energy efficiency (EE) program portfolios for all utilities in Delaware.¹ With respect to regulated utilities, which include Delmarva Power & Light Company and Chesapeake Utilities, the EEAC’s statutory additional responsibilities include development of recommended rate recovery mechanisms.² The EEAC must then recommend adoption of the programs and recovery mechanisms to the Commission for its review and approval.³ This document summarizes Delmarva Power’s proposals to the EEAC concerning the following:

1. The recovery mechanism the EEAC should recommend to the Commission;
2. The procedure the EEAC should recommend to the Commission for the Commission’s review and approval of:
 - a. EEAC recommendations concerning EE programs and a recovery mechanism, and
 - b. Annual EE Rate adjustments.
3. The manner in which the EE Rate should appear on Delmarva Power’s bills.

¹ 29 Del.C. § 8059 (h) (1) c. Provides: ... “the advisory council shall review energy efficiency, peak demand reduction, and fuel switching *program plans* for each affected energy provider and *recommend them for approval* by the appropriate regulatory authority....”

² 29 Del.C. § 8059 (h) (1) e. provides: “Recovery of appropriate costs shall be through a *rate-recovery mechanism* that is consistent with the goals and objectives of this section and *recommended by the advisory council*, filed by the affected energy providers, and *approved by the Commission*.”

³ See footnotes 1 and 2.

FOR DISCUSSION PURPOSES**B. EE AMENDMENT STATUTORY PROVISIONS RELATED TO RECOVERY**

The EE Amendments contain several provisions that deal specifically with the recovery mechanism to be used by regulated utilities. The following are the primary provisions that the EEAC must keep in mind for purposes of considering the proposal outlined in this document:

1. The Recovery Process Must be Efficient and Timely: The recovery process recommended by the EEAC and ultimately adopted by the Commission must be both efficient and timely.⁴
2. Costs May not be Placed in Rate Base: EE Program costs may not be placed in rate base.⁵
3. Annually Adjusted Rate: The energy efficiency rate (EE Rate) shall be adjusted on an annual basis.⁶
4. Deferred Accounting: Regulated utilities are entitled to deferred accounting for the costs incurred in the development and implementation of EE programs.⁷

⁴ 29 Del.C. § 8059 (h) (1) e provides, in pertinent part:

“Notwithstanding any provision in Title 26, the Commission shall approve the recovery of appropriate costs incurred by Commission-regulated affected energy providers for approved programs and portfolios *on an annual basis*, in the same manner as other supply resources, including allocated costs pursuant to this paragraph (h)(1).

.... [T]he Commission shall utilize a process that achieves the *efficient and timely recovery on an annual basis* by commission-regulated affected energy providers....”

29 Del.C. § 8059 (h) (1) e 1 provides, in pertinent part:

“...the Commission shall utilize a process that achieves the efficient and timely recovery ... by commission-regulated affected energy providers of appropriate *costs and associated rates of return* related to implementing activities and programs recommended by the advisory council.”

⁵ 29 Del.C. § 8059 (h) (1) e 2.

⁶ See, footnote 4.

⁷ 29 Del.C. § 8059 (h) (1) e. 2 provides: “[A]ppropriate *costs* incurred arising out of activities and programs recommended by the advisory council that are not subject to contemporaneous recovery *shall be subject to deferred accounting treatment*....” In the world of utility rate making, “deferred accounting” means that costs incurred by regulated utilities that are subjected to deferred accounting are recoverable regardless of whether they are incurred during a base rate case test period. Where a utility is entitled to a return on its investment under deferred accounting, the return will begin to accrue when the costs are incurred. An example of why deferred accounting is required by the EE Amendments may be helpful. Without deferred accounting, if Delmarva Power were to incur \$500,000 in a 12 month period developing EE programs, educating customers, and paying

FOR DISCUSSION PURPOSES

5. Recovery of Costs and a Rate of Return: The EE Rate must include both recovery of the costs incurred by the regulated utility and a rate of return on the unamortized balance.⁸ The phrase “return on the unamortized balance” means that a regulated utility is entitled to a reasonable rate of return on the portion of its energy efficiency investment that has not yet been recovered in rates.
6. Commission Approval Required: As stated above, the recovery mechanism recommended by the EEAC must be approved by the Commission before EE programs can be implemented.⁹

The recovery mechanism recommended by Delmarva in this memorandum is designed to comply with each of the mandatory recovery provisions set forth in the EE Amendments.

C. RATE COMPUTATION FOR DELMARVA POWER EE PROGRAMS

Delmarva Power’s Maryland territory and Delmarva’s affiliated utility, Pepco Maryland, have several years of experience with *Empower Maryland*, which is the name for the portfolio of energy efficiency programs that have been implemented in Delmarva’s service territory in Maryland. The rate computation mechanism used for *Empower Maryland* utilizes a Commission-approved rate. The *Empower Maryland* mechanism does not place EE program costs in rate base; provides for annual adjustments; and has proven to be both efficient and timely. The rate computation mechanism proposed and described below for adoption in Delaware is based upon the mechanism used for *Empower Maryland* programs.

1. EE Rate Based upon Program Budget for Year-Ahead: The recommended first year of the EE Rate for regulated utilities will be established based upon the budget established by the regulated utility and the EEAC for the first year of the program. The EE program budget will include, *inter alia*, incentives to customers, equipment,

contractors to implement EE programs for its customers, that \$500,000 would only be recoverable if the 12 months during which the costs are incurred is a test year used in a base rate case proceeding. If the 12 month period during which that \$500,000 is incurred in a non-test year for a base rate case, then Delmarva will not be able to recover those costs. With deferred accounting, however, Delmarva may defer the \$500,000 regardless of whether it intends to use the 12 month period as a base rate case test year. The \$500,000 in EE costs incurred will be amortized over five years and converted into an annual EE Rate without the need for a base rate case proceeding. Of course, because all amounts spent by Delmarva on EE programs will be recovered through the EE Rate that is adjusted annually, amounts spent on EE programs will not be recovered in base rates.

⁸ 29 Del.C. § 8059 (h) (1) e. provides that regulated utilities are entitled to recovery of “appropriate *costs and associated rates of return* related to implementing activities and programs....”

⁹ See footnotes 1 and 2.

FOR DISCUSSION PURPOSES

installation costs, program and marketing costs, operating and maintenance costs, and costs incurred in the EEAC process.¹⁰

2. Amortization Period of Five Years: Delmarva Power recommends a general amortization period of five years for EE programs, which is the amortization period used and approved for *Empower Maryland* programs. There may be programs for which a shorter or longer amortization period is appropriate, depending upon various factors, such as anticipated life of equipment and customer rate impact.
3. EE Rate and Annual Amount Recovered – Year 1: The EE Rate is determined by calculating the annual amount to be recovered (as outlined below) and dividing that amount by the forecasted KWh load.

The annual amount to be recovered would consist of the following components:

- a. Forecasted program costs;
 - b. Forecasted amortization of program costs;¹¹ and
 - c. Forecasted rate of return on the unamortized balance.
4. EE Rate and Annual Amount Recovered - Each Year Subsequent to Year 1: Subsequent to Year 1, the EE Rate will include the components outlined in Section C.3. above, to be annually adjusted as follows:
 - a. Add forecasted amortized costs related to any additional EE programs recommended by the EEAC and approved by the Commission; and
 - b. Adjust for prior period true-ups.¹²

¹⁰ In the event any revenues associated with the disposition of load savings become available, whether from within PJM-based markets or other sources, provisions to reduce the cost to customers by the amount of those revenues will be included in the EE Rate calculation.

¹¹ The forecasted amortization schedule is calculated by dividing the forecasted expenditures by the appropriate amortization period.

¹² Because rates are forecasted based upon Commission approved budgets, the actual amount recovered will be either above or below the forecast at the end of the actual rate year, requiring a true up the following rate year. On an annual basis, a true up will be made of actual EE Charge revenue billed in the previous year versus the revenue requirement for the period determined based on actual period sales, costs and amortization. Forecasted information is replaced with actual costs, amortization levels and required return on these costs using the Company's authorized rate of return. The recovery of these costs is included as part of the prior period true up. Fully amortized programs (i.e., after year 5) will be removed from the rate through the amortization true up process.

FOR DISCUSSION PURPOSES

D. **PROCEDURE FOR COMMISSION APPROVAL OF EEAC
RECOMMENDED PROGRAMS AND A RATE RECOVERY MECHANISM**

The EE Amendments provide that the EEAC shall recommend both EE programs and rate recovery mechanisms for regulated utilities.¹³ The EEAC-recommended programs and recovery mechanisms must then be approved by the Commission.¹⁴ This Section will address Delmarva’s proposals for: 1. The Commission’s procedure for approving EEAC recommended EE programs and a recovery mechanism; and 2. The Commission’s procedure for approving annual EE Rate adjustments.

1. **Recommended Commission Procedure for Approving
EEAC-Recommended EE Programs and Recovery Mechanism**

After the EEAC has made its recommendations to the Commission, regulated utilities will need to file for Commission approval of those recommendations. Because the Commission review and potential approval of a recovery mechanism will involve “rate making,” evidentiary hearings will be required in compliance with the Administrative Procedures Act (“APA”)¹⁵ and the Rules of Practice and Procedure of the Public Service Commission (“Commission Rules”).¹⁶

Delmarva will file an Application for Approval of the EEAC recommendations (“Application”). Delmarva anticipates that the Application will be supported by pre-filed testimony of at least three witnesses: (1) one Delmarva Power witness to testify concerning how Delmarva proposes to implement the EEAC recommended programs, (2) one Delmarva Power witness to testify concerning the EEAC recommended recovery mechanism (*i.e.*, how rates will be established and updated annually), and (3) potentially, one EEAC witness (*potentially the EEAC’s technical consultant*) to testify concerning the EEAC’s conclusions on matters such as: cost effectiveness, EM&V, and analyses performed by/on behalf of the EEAC. It is anticipated that a “traditional” schedule for the matter will be established, which will include: public notice, an intervention opportunity, public comment opportunity, discovery, the opportunity for other parties to submit pre-filed testimony, an evidentiary hearing, and briefing (if necessary).

¹³ See footnotes 1 and 2.

¹⁴ *Id.*

¹⁵ 26 Del.C. § 10124

¹⁶ 26 Del.Admin.C. § 1001

FOR DISCUSSION PURPOSES2. Recommended Commission Procedure for Annual EE Rate Adjustments

The EE Amendments provide that the Commission must utilize a recovery process that provides for annual adjustments to the EE Rate.¹⁷ The legislation further provides that the process used should be the same type used for “other supply resources.”¹⁸

The only “other” electric resource that is currently considered by the Commission to be a “supply resource[.]” is Standard Offer Service (“SOS”).¹⁹ SOS rates are adjusted annually to reflect: the results of the SOS auction for the year and true ups from the prior SOS year. The process used by the Commission for the annual SOS rate proceeding is not as formalized as the process used in a base rate case, nor is it generally adversarial in nature. The process is summarized as follows:

- a. At least 60 days before new annual SOS rates are scheduled to go into effect, Delmarva files an annual application for approval of new SOS rates for the upcoming 12 month period.²⁰ The annual SOS application contains, among other things, rate calculations, spreadsheets and other information necessary to validate the proposed SOS rates.
- b. At a regularly scheduled Commission meeting within a few weeks after the application is filed, the Commission issues an order that: (1) opens a docket for reviewing the annual SOS rate application; and (2) permits SOS rates, as filed, to go into effect subject to refund within 60 days.²¹
- c. The proposed SOS rates go into effect 60 days after the filing, subject to refund.
- d. Staff and DPA conduct an audit of the annual SOS filing. The audit includes meetings with employees of Delmarva’s Compliance Pricing group, who

¹⁷ See, footnote 4.

¹⁸ 29 Del.C. § 8059 (h) (1) e. provides: “...the Commission shall approve the recovery of appropriate costs incurred by Commission-regulated affected energy providers . . . in the *same manner as other supply resources*...”

¹⁹ The SOS rate is the kWh rate charged for electricity supply for customers who do not chose to obtain their electricity supply from one of numerous Commission approved competitive retail electric suppliers. Although exact percentages vary by customer type, roughly 90% of Delmarva Power Residential customers are SOS supply customers.

²⁰ See, 26 Del.C. §§ 304 (a) and 306 (c).

²¹ The phrase “subject to refund” means that a refund may be issued in the event that, after review, the Commission determines that the proposed rate that went into effect 60 days after filing was too high.

FOR DISCUSSION PURPOSES

calculated the proposed SOS rates. During those meetings, Delmarva “walks” Staff and DPA through the rate calculations, responds to questions, and generally provides any information requested by Staff and DPA. Written discovery may be conducted as well. In the event that Staff or DPA discover any errors during the audit process, SOS rates will be adjusted for the remainder of the annual SOS rate period to account for the error.²²

- e. At the conclusion of the audit, Staff provides a report to the Commission that contains Staff’s findings and a recommendation on Delmarva’s SOS rate application.
- f. Thereafter, at a regularly scheduled Commission meeting, the Commission hears testimony and issues its final ruling on Delmarva’s annual SOS rate application. In the majority of cases, the Commission issues a final order making SOS rates final, “as filed.”²³

Delmarva Power recommends that the EEAC recommend an annual Commission procedure for establishing the annual EE Rate that mirrors the procedure used for the annual SOS rate proceeding. The recommended procedure would comply with the provisions of the EE Amendments, which require a procedure that provides for “efficient and timely recovery on an annual basis . . . *in the same manner as other supply resources*....”²⁴

E. **HOW THE EE CHARGE SHOULD APPEAR ON CUSTOMER BILLS**

The EE Rate and total monthly EE charge should be identified as a separate line item on bills of regulated utilities, rather than being bundled as part of other rates. There are at least two primary justifications for this recommendation.

First, as addressed above, the EE Rate will be adjusted annually. The bundled distribution base rate, on the other hand, is only adjusted as a result of base rate cases, which take place, on average, several years apart. If the EE Rate is bundled with the distribution base rate (*meaning that it is not separately identified on the bill*), then when the EE Rate is adjusted annually, the bundled distribution base rate will also need to be changed. That situation would

²² In the event an error is discovered that is so small that correcting it would have a de minimis effect upon SOS rates, Staff, DPA and Delmarva may agree to ask the Commission to allow the rates as filed to remain in effect for the annual period and wait until the subsequent annual SOS period to adjust the next year’s rates to true up for the de minimis error from the prior year.

²³ As mentioned above, if an error was found during the audit process, rates are adjusted.

²⁴ 29 Del.C. § 8059 (h) (1) e.

FOR DISCUSSION PURPOSES

be confusing to customers and would make it appear as though distribution base rates had changed, which would not be the case.

Second, failing to identify the EE Rate and monthly EE charge as a separate item on the bill would be inconsistent with recent action by the Commission to reasonably identify on Delmarva Power's bills the amounts that customers are paying for compliance with legislatively mandated programs. Pursuant to PSC Docket No. 13-250, (the "Billing Transparency Docket"), involving the Commission's review of the level of detail to be contained in Delmarva's monthly billing statements, specifically as it relates to legislatively mandated initiatives, the Commission adopted Order No. 8556 (April 29, 2014), which resulted in the following statutory programs being identified as independent line items on Delmarva bills: Green Energy Fund, Low Income Charge, and the Renewable Compliance Charge.²⁵ Delmarva Power supports the policy of identifying legislatively mandated charges on its bills that make bills easier to understand and more informative for its customers in general, without making bills confusing or unreasonably increasing costs of the billing process. Identifying the EE Rate and the total monthly EE charge on bills would be consistent with that Commission precedent.

²⁵ The Green Energy Fund line item represents the cost Delmarva Power incurs in complying with the statutory requirement to collect \$0.000356 per kilowatt-hour from customers and forward these amounts to the State Energy Office to fund environmental incentive programs for conservation and energy efficiency in the State. The Low Income Charge line item represents the cost Delmarva Power incurs in complying with the statutory requirement to collect \$0.000095 per kilowatt-hour from customers and forward these amounts to the Delaware Department of Health and Social Services to be used to fund low-income fuel assistance and weatherization programs within Delmarva's service territory. The Renewable Compliance Charge line item represents the cost Delmarva Power incurs in meeting the requirements of the Renewable Energy Portfolio Standards Act (or "REPSA"). This charge includes costs of solar renewable energy credits, general renewable energy credits, and the Delaware Qualified Fuel Cell program.

Table 10: kWh Savings by Measure Type

Efficient Measure	Annual kWh Savings
Standard ENERGY STAR LEDs	23.9
Specialty ENERGY STAR LEDs	26.6
Motion Sensors	217.0
Ceiling Fans	88.1
Clothes Washers Tier 1	102.2
Clothes Washers Tier 2	145.4
Clothes Washers Tier 3	160.9
Refrigerator Tier 1	157.1
Refrigerator Tier 2	215.9
Refrigerator Tier 3	274.7
Dryer	83.0
Room AC	37.0
Dehumidifier	183.0
Heat Pump Water Heater	1,513.2
Refrigerator Recycling	1,061.0
Freezer Recycling	849.0
Room AC Recycling	145.0
Dehumidifier Recycling	417.0
Home Energy Report (per Participant) PY1	66.7
Home Energy Report (per Participant) PY2	102.2
Home Energy Report (per Participant) PY3	122.2