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PUBLIC SERVICE COMMISSION

February 9, 2018

David Collins, Executive Secretary
Maryland Public Service Commission
William Donald Schaefer Tower
6 St. Paul St., 16th Floor
Baltimore, MD 21202

RE: Public Conference 44 – Response to Commission's November 28, 2017 Order

Dear Mr. Collins:

The Rate Design workgroup co-leaders respectfully submit this workgroup report in response to the Commission's directive in its November 28, 2017 Order ("Interim Order"). We offer this report as a near-consensus document that represents our best attempt to reach an achievable and fair pilot design for Maryland ratepayers. The report articulates clear decision points for the Commission, along with a point-by-point analysis of the items for which the Commission requested the workgroup's input.

Background

On January 31, 2017 the Commission issued a Notice establishing PC44 which, *inter alia*, established the Rate Design workgroup ("workgroup").[1] That Notice directed the workgroup to "develop proposed pilot program(s) for time-varying rates for distribution service for Commission consideration, and also develop [a] plan for ensuring customer options for time-varying rates for generation service."[2] On August 23, 2017, the designated workgroup leaders filed a non-consensus report outlining progress on several issues and requesting that the Commission hold a public hearing. On September 22, 2017, the Commission held a public hearing to hear directly from stakeholders and discuss the workgroup leaders' report. On November 28, 2017, the Commission issued an Interim Order that provided general support for the pilot programs, included several decisions about the framework of the pilot programs, and sought additional information from the workgroup. Specifically, that Order directed the workgroup leaders to reconvene the workgroup, continue working toward "as much consensus as feasible", and file a report no later than January 31, 2018 that includes more detailed design proposals for two pilots: one for SOS customers and one for retail supply customers. The

[1] In the Matter of Transforming Maryland's Electric Distribution Systems To Ensure That Electric Service is Customer-Centered, Affordable, Reliable and Environmentally Sustainable in Maryland, Public Conference 44, January 31, 2017. The Notice designated David Littell and Jon Kucskar as Rate Design workgroup leaders. *Id.* at 7.
[2] *Id.* at 14.

workgroup worked beyond January 31, 2018 to ensure that it reached as much consensus as possible[3] and provided the Commission with the best information available.

The workgroup notes that although the Retail Energy Supply Association ("RESA") and individual retail suppliers participated throughout the first phase of workgroup discussions prior to the Commission's November 28, 2017 Order, the retail supplier stakeholders did not generally participate in this second phase of workgroup discussions. In written comments on a draft of this report, RESA stated its position that the dual-pilot program structure outlined in the Interim Order may not be feasible for RESA's members or other retail suppliers, that this workgroup report does not resolve those structural infirmities, and that retail supplier participation may depend on subsequent Commission Orders and market conditions.

The workgroup believes that this situation has presented challenges, as specified throughout the report, and is ultimately uncertain as to whether any retail supplier will bid on either of the retail supply pilot program offerings. As a result, this workgroup report focuses much of its attention on the SOS pilot and will specifically note where the discussion applies to the retail supply pilot.

[3] Pace Energy and Climate Center submitted a letter that "provide[d] their sign-on to the workgroup report, expressly subject" to a potential objection as discussed below. The Apartment and Office Building Association of Metropolitan Washington ("AOBA"), through counsel, informed the workgroup leaders that AOBA takes no position on the final workgroup report.

Commission Decision Points

To streamline the Commission's consideration, this report presents a list of Commission decision points that the workgroup believes are needed for the pilot programs to move forward. Below is a table summarizing those decision points, with further details provided in the subsequent paragraphs. The workgroup leaders believe that these action items are ready for Commission action based on the information contained herein.

Commission Decision Points	Workgroup Position
1. Approve Pilot Programs, subject to future filings. This includes:	
a. Separate statistically-significant sample for low- and moderate income ("LMI") customers	Consensus to recommend Option A, with Option B as alternate
b. Approve new ratio (cost-based; closer to 4:1 than 3:1)	Consensus to recommend Option A, with Option B as alternate
c. Approve workgroup's "LMI plus technology" recommendation	Consensus
d. Acknowledge the range of budget estimates provided by Joint Utilities[4]	Consensus to acknowledge budget estimates
e. Supplier RFP general principles and specific recommendations	Consensus[5]
2. Approve timeline	Consensus
3. Approve general customer acquisition ("marketing") approach for both pilots, including request for change from Commission's previous direction	Consensus
4. Approve approach to net metering ("NEM") customers to collect data to the extent they participate	Consensus
5. Approve approach to acquiring EM&V contractor	Non-consensus
6. Approve general plan regarding participating suppliers and program costs.	Consensus

[4] The Joint Utilities are BGE, Pepco and DPL.
[5] In its written comments, RESA expressed concerns with some elements of the supplier RFP.

1. Approve Pilot Programs, subject to future filings, including a statistical pilot sample and cost-based price ratio closer to 4:1

The workgroup requests Commission approval of the pilot programs with the specific features noted below. The workgroup recognizes that such approval will be subject to future filings but believes that the certainty provided by Commission approval is required for stakeholders, particularly the Joint Utilities, to feel comfortable proceeding in planning and beginning to implement the pilot programs. The workgroup is requesting approval for the utilities to proceed with the workgroup on the implementation plan, marketing/outreach plan and EM&V plan as outlined in the schedule below. The workgroup will request refined budget costs in the schedule below as well as EM&V costs. The final costs would be reviewed in the next rate case for each utility subject to prudence review, and the workgroup will report on costs as directed by the Commission.

a. Separate statistically-significant sample for LMI customers

The workgroup believes that evaluating the impact of TOU rates on low to moderate income ("LMI") customers is important and a key potential outcome of this pilot program. The workgroup defined LMI customers as households with an income of 80% or less than the area median income ("AMI").[6] This approach is consistent with the Commission's recent Community Solar Pilot.[7] Multiple stakeholders emphasized this objective as consistent with the Commission's January 31, 2017 PC44 Notice, and all stakeholders reached consensus on the value of evaluating this impact. The workgroup presents two options for your consideration:

Option A: each utility would recruit a separate LMI sample group of approximately 1,608 LMI customers,[8] which is large enough to produce statistically-significant results.[9] Because it is difficult to identify low and moderate income customers prior to customer recruitment,[10] each utility would have to recruit additional customers to the pilot to ensure a statistically significant sample size of LMI customers. The LMI populations in Option A would be embedded with the larger pilot populations. Based on data provided to the workgroup by the Joint Utilities and The

[6] This number is defined by the U.S. Department of Housing and Urban Development.
[7] *See* COMAR 20.62.01.02B(13) (For purposes of the Community Solar program, "'Moderate income' means a subscriber whose gross annual household income is at or below 80 percent of the median income for Maryland for the year of subscription")
[8] The 1,608 LMI customers for this option is at an approximate 4:1 on-peak/off-peak ratio. For a 3:1 on-peak/off-peak ratio, 2,858 LMI customers would be required to obtain a statistically significant sample for this option. See further explanation in Section 1.b.
[9] For purposes of obtaining a sample that combines low income *and* moderate income ratepayers, the workgroup assumed that 40% of residential customers fall into one of those two categories; this is a mathematical assumption.
[10] *See, e.g.,* the Maryland Department of Human Resources, Family Investment Administration's EUSP Proposed Operating Plan for Fiscal Year 2018, Case No. 8903, ML# 215607 (Based on the U.S. Department of Health and Human Services' Home Energy Notebook, the Office of Home Energy Programs notes that there are approximately 360,751 households in Maryland at or below 175% of the federal poverty level and eligible for EUSP. In 2016, however, only 102,947 households received billing payment assistance through EUSP). Furthermore, no stakeholder could identify another method to identify moderate income customers.

Brattle Group, this approach would require approximately 4,020[11] SOS pilot program participants per service territory.

The advantage of this approach is that it will produce utility-specific data and statistically-significant program impact data for the general SOS population as well as LMI customers. It also has a bigger pool of overall customers, which would provide more data across certain subcategories of participants. The disadvantage is that it requires more pilot program participants and requires identifying more LMI customers in the general population, which would increase recruitment, education and other costs.[12]

Option B: each utility would recruit a sample group that will produce statistically-significant results for the general population, but not for LMI customers in that specific utility territory. However, data from LMI customers from each of the three service territories would be aggregated. Per the Joint Utilities' calculations, this approach would result in one combined statistically-significant sample group of LMI customers across the service territories. This approach would require approximately 2,377 SOS pilot program participants per service territory plus approximately 536 LMI customers for a total of 2,913 sample size per utility.[13] The workgroup recommends sample sizes of roughly 2,913 under this Option.[14]

The advantage of this approach is that it could limit pilot program size and costs, due to the lower number of pilot customers per service territory. The disadvantage of this approach is that it would result in less-than-ideal results for LMI customers because differences in the characteristics of the service territories would not be controlled for in the review.

[11] This sample size is for a 4:1 price ratio, as recommended below in Section 1.b. For a 3:1 price ratio, the sample sizes would be significantly larger at 7,144 to maintain the same level of statistical confidence.
[12] The Joint Utilities note that IT costs for the pilot program will remain constant regardless of the number of pilot program participants. EM&V costs are more a function of program design and should not be significantly impacted by the number of pilot program participants.
[13] The 536 LMI customers for this option is at an approximate 4:1 on-peak/off- peak price ratio. For a 3:1 on-peak/off-peak ratio, roughly 953 LMI customers would be required to obtain a statistically significant sample.
[14] It is important to note that that even if no separate LMI analysis is conducted, the workgroup recommends that each utility recruit approximately 2,200 per service territory. Per the Joint Utilities, this sample size will achieve statistically-valid results at the 95% confidence interval.

Option A: Separate SOS TOU Pilots for Each Utility with Embedded LMI Populations
Option B: Separate SOS TOU Pilots for Each Utility and a Joint LMI Customer Pilot

Summary of Required Sample Sizes for the Three Sample Design Options

	3:1 Ratio			**4: 1 Ratio**[15]		
	General SOS	LMI	Total	General SOS	LMI	Total
Option A	7,144	2,858	7,144	4,020	1,608	4,020
Option B (*)	4,225	953	5,178	2,377	536	2,913(*)

(*) Total sample size for Option B is likely going to be lower as the LMI customers recruited as part of the general SOS TOU recruitment can also count towards the LMI sample, reducing the LMI sample size requirement

Because the costs of increasing the sample sizes is marginal[16] compared to IT costs, EM&V and marketing (recruitment) plans that will be incurred irrespective of the sampling group sizes and approach, the workgroup expresses a preference for Option A. Nonetheless, the workgroup endeavors to present options with low sample sizes in light of the guidance the Commission provided the Interim Order. Therefore, the workgroup presents both options for your consideration and requests your guidance as to how to proceed.

b. Approve new ratio (cost-based; closer to 4:1 than 3:1)

The workgroup noted that, for the SOS TOU pilot program, setting a precise 3:1 on-peak/off-peak ratio would require that the SOS TOU supply rate be forced to undergo a significant administrative adjustment to meet this price ratio. If the pilot program were to be authorized as a permanent tariff offering or a similar SOS TOU considered following these pilots, this administrative rate setting process could raise concerns as not being cost-based.

To address this concern and implement a cost-based time-of-use SOS tariff rate that is consistent with pilot program goals and long-term Commission goals, the workgroup recommends setting the SOS supply rate by including all capacity and transmission costs in the on-peak period – similar to the methodology used by BGE and Pepco in their permanent electric vehicle tariffs.[17] Setting the TOU SOS supply rates based on this same methodology would

[15] Because of larger expected customer response to a higher price ratio, the number of customers needed to ensure a statistically valid response is reduced.
[16] *See* Footnote 24 and chart in Section 1.d below.
[17] Regional capacity and transmission costs are allocated to utility service territories on a partial or full peak-related basis, particularly capacity costs. For this reason, the workgroup agrees there is a cost-basis for allocating these PJM regional costs to the TOU peak-periods that is consistent with the existing EV tariffs.

allow the Commission to evaluate such rates during the pilot program and provide a potential principled basis for setting TOU supply rates based on cost-based principles in the future.[18]

Under this methodology, the resulting price ratios are:

BGE: SOS supply ratio: 4.0/1;[19] Distribution ratio: 5.2/1; Overall price ratio: 4.3/1[20]

Pepco: SOS supply ratio: 2.7/1; Distribution ratio: 8.1/1; Overall price ratio: 3.9/1

Delmarva: SOS supply ratio: 2.6/1 Distribution ratio: 8.6/1; Overall price ratio: 4.2/1

Under current utility rates and current SOS pricing, this recommended pricing would be:

BGE	Current (Flat)	On-Peak	Off-Peak	Ratio
Delivery Service Charges	$ 0.03147	$ 0.10571	$ 0.02051	5.2
Supply Charges	$ 0.08255	$ 0.23874	$ 0.05948	4.0
Total	**$ 0.11402**	**$ 0.34445**	**$ 0.07999**	**4.3**

Pepco	Current (Flat)	On-Peak	Off-Peak	Ratio
Delivery Service Charges	$ 0.04051	$ 0.16165	$ 0.01989	8.1
Supply Charges	$ 0.08258	$ 0.17706	$ 0.06650	2.7
Total	**$ 0.12309**	**$ 0.33871**	**$ 0.08639**	**3.9**

Delmarva	Current (Flat)	On-Peak	Off-Peak	Ratio
Delivery Service Charges	$ 0.05402	$ 0.20785	$ 0.02404	8.6
Supply Charges	$ 0.08143	$ 0.16669	$ 0.06481	2.6
Total	**$ 0.13545**	**$ 0.37454**	**$ 0.08885**	**4.2**

The discussion above in Section 1.a. presents an additional choice for the Commission on this issue. Under Option A (larger sample size per service territory), the differences in price ratios across the Joint Utilities would allow comparative statistical analysis of price responses to determine if ratepayer response to a 4.3/1 ratio is more pronounced than a 3.9/1 ratio. Thus, if the Commission selects Option A, the workgroup recommends that each utility implement the overall price ratios as stated in the previous paragraph.

[18] This approach may need to be revisited after the pilot based on changes to the PJM rules for the capacity market, including setting of the capacity obligations.

[19] The workgroup proposes that the SOS supply ratio adjusts seasonally, just as the current SOS rates adjust per the results of quarterly auctions. If there are base rate cases during the pilot, the utilities may seek approvals for changes to distribution rate determinants in these TOU rates following the EV rate methodology recommended in this report. Thus, the price ratios presented here are approximate and could change slightly throughout the course of the pilot program.

[20] See Attachment B, which compiles results of several TOU pricing studies and demonstrates that a 4:1 ratio generally results in larger peak period load reductions.

However, in Option B, the Commission would be choosing to narrow the sample sizes of the pilot programs and elect to study the pilot program's effects on LMI customers jointly across the three utilities. If the Commission selects Option B above, the workgroup recommends that the overall price ratio be evened out to 4.0/1 across the three utilities so that LMI customers from each utility can be jointly evaluated while facing a more uniform price ratio to achieve a single LMI sample that is statistically valid.[21]

Therefore, the workgroup presents these alternative options adopted by consensus for the Commission's consideration and requests your guidance as to how to proceed.

c. The workgroup recommends *not* forming a separate "LMI plus technology" pilot

After extensive discussion around the types of technology that can be provided at low or no costs, EM&V costs and cost of piloting an "LMI plus technology" program, the workgroup does not recommend this option. The workgroup believes that many LMI customers can receive low- or no-cost technology through existing utility smart thermostat offerings. The workgroup discussed pilot programs that could take advantage of the existing utility offerings and collect and analyze data regarding all pilot participants' use of such technology.

In reaching the conclusion to not recommend an LMI pilot with technology, the workgroup realized conducting a full statistically-valid analysis of LMI pilot participants using technology, such as smart thermostats, would require a statistically-valid treatment group. Assembling this group would add approximately 900 additional pilot program participants[22] per service territory and would increase pilot program costs. In addition, this pilot must be paired with Option A to isolate the impact of the enabling technology on the LMI population separate from the impact of the TOU rate alone.

The workgroup does not recommend this approach in light of the Commission's Interim Order emphasis on limiting the size of the sampling groups and cost of the pilot.[23] Further, the

[21] The workgroup recognizes that requiring a uniform 4.0/1 overall price ratio would require minor administrative adjustments to the SOS price, both initially and throughout the course of the pilot program to account for changing SOS auction prices. However, the workgroup believes that the benefits of being able to evaluate the LMI customer responses to the pilot program across the three utilities outweigh the downside of making a small administrative adjustment to the SOS supply price, particularly because the Joint Utilities' current price ratios would need only a minor adjustment – less than a third of a percentage point. The 4.0/1 overall ratio is closer to cost-based than a 3:0/1 ratio in any case.

[22] The 900 additional pilot program participants would be needed under either of the options presented in Section 1a of this report.

[23] The workgroup also briefly discussed LMI enabling technology options additional to smart thermostats, including electric hot water heater timers and simple signaling devices (prominently displayed in participants' homes) which would illuminate during on-peak periods. However, supporting deployment of these options at no or minimal cost to LMI participants would require new programs and additional pilot costs. The decision was made not to recommend deployment programs for these options for this pilot, but to await analysis of the overall LMI sample after this pilot to ascertain LMI customer response and the extent of technology barriers. It could then be decided if the engagement and technology costs of specific new LMI technology enabling programs would be warranted in any subsequent TOU rate scale up.

time necessary to coordinate with the smart thermostat offerings and develop customer communications related to the smart thermostat could further delay pilot implementation. The workgroup would place an emphasis in the pilot on the more effective analysis of all LMI customers, not an additional "LMI plus technology" subgroup. The workgroup recommends the post-pilot participant survey collect information on which participants use technology including smart thermostats. Nonetheless, the workgroup identifies this option, per the Commission's Interim Order, for your consideration. The workgroup would detail the option of a technology-enabled LMI customer pilot further if directed by the Commission.

d. Budget estimates provided by Joint Utilities, to be refined further as EM&V and Marketing/Outreach Plans are finalized and approved

The workgroup reviewed budget estimates provided by the Joint Utilities for pilot program costs. Those budget estimates are included in this report below:

	BGE	Pepco	DPL
Base IT costs	$700,000-$900,000	$250,000	$250,000
To Add Net Metering	$100,000	Included in base cost	Included in base cost
To Add Net Metering Aggregation customers to the TOU pilots	$50,000	Included in base cost	Included in base cost
To Add Community Solar Pilot customers to the TOU pilots	$50,000	Included in base cost	Included in base cost
Marketing, Research, and Customer Education costs	$900,000 - $1.0M[24]	$1.2M – $1.5M	$1.1M – $1.4M

The workgroup members do not specifically endorse each of these costs.

The workgroup leaders acknowledge the range of budget estimates provided by the Joint Utilities and believe that they fall into an acceptable range for the type of pilot programs being offered and will provide a reasonable "bang for the buck" given the valuable information that will result from the pilot programs. The workgroup's proposed timeline includes the Joint Utilities filing more detailed budget information 20 calendar days after a Commission Order. These budget estimates will include more details based upon the EM&V and Marketing and Outreach plans submitted for the Commission's approval at that time. The workgroup plans to scrutinize these future budget filings and report to the Commission as the Commission deems appropriate.

[24] BGE noted that the high end of this range roughly corresponds to Option A and the low end of this range roughly corresponds to Option B. The incentive costs recommended to ensure customer responses to data-collecting surveys are one of the cost categories on which this has the largest impact within this range.

The Commission indicated that the Joint Utilities should eventually file pilot program implementation plans that would include options for cost recovery.[25] The proposed timeline on page 12 proposes that the utility submit its implementation plan no later than 20 calendar days after the next Commission Order. The workgroup looks forward to reviewing those plans as directed by the Commission.

The workgroup reached consensus that any over/under recovery of SOS supply costs would be included in the respective utility's existing SOS supply true-up. Consistency with existing SOS processes, as well as the small number of pilot program participants compared to the overall number of SOS customers in each service territory, were the overriding factors in deciding to incorporate any such costs among all residential SOS ratepayers.

e. Supplier RFP general principles and specific recommendations

Workgroup participants reached consensus on general principles and specific recommendations for the RFP for the retail supplier pilots. In sum, a supplier RFP would be issued based on Attachment A that is consistent with the guidance the Commission provided in its Interim Order. Because suppliers did not substantively participate in the workgroup discussions following the Interim Order, the workgroup cannot be confident that the supplier RFP will attract participating suppliers or that the resulting pilots run by suppliers will produce statistically significant results. The workgroup, therefore, has made its best efforts to ensure that the pilots run by the Joint Utilities will produce statistically significant results to inform the Commission in designing future TOU rates and assessing ratepayer interest and response. The workgroup also endeavored to ensure that any pilot run by a supplier would gather at least some additional information that may be helpful to the Commission and utilities when considering future TOU offerings.

The workgroup has developed an outline of principles and details for a supplier RFP consistent with the Commission's Interim Order. For each utility service territory, the RFP would solicit (1) one TOU proposal as described in the Interim Order, with a 3 to 5 hour on-peak period during the summer and an optional peak during the winter; and (2) per the Commission's direction to allow suppliers to offer innovative rate options, one TOU proposal that would request a different TOU rate option. The RFP provides that the primary evaluation criterion for both offerings would be a load-weighted average price, and that the utility would provide a list of bids ranked in that order. The utilities would perform this ranking as provided for in Section 8.4 of the supplier RFP. Per the Commission's direction, the RFP also requires that bidders submit objective information, particularly regarding the supplier's record in other states and experience with TOU rates. These factors are deemed secondary criteria.

The RFP also includes a series of other details, including consumer protections, a security deposit, a requirement to support the pilot program's EM&V effort, and other bid requirements suggested by stakeholders. See Attachment A for full details.

[25] At no point during the workgroup's discussion on cost recovery options did any stakeholder raise the concept of a bill surcharge.

The workgroup requests your approval of these principles and recommendations. If the Commission intends that the RFP for a supplier option is to be issued, the workgroup recommends it be issued as soon as possible following Commission approval.

2. Approve timeline

The Commission asked the workgroup to submit a detailed proposed timeline for filing of: (a) implementation plans, including options for cost recovery; (b) marketing and outreach plans; (c) EM&V plans; and (d) budget and cost estimates. The workgroup will continue to meet to work on marketing/outreach plans and the EM&V plans so the workgroup is familiar with those plans prior to filing. Here is that proposed timeline:

Timing of Pilot Programs – Key Dates[26]

Proposed Action Item	Proposed Date
Workgroup files final report	February 9, 2018
Commission provides additional guidance	March 15, 2018 or as soon as feasible[27]
Utilities submit Implementation Plan with the Commission ("PSC") and to Stakeholders	20 calendar days after Commission Order on this workgroup filing
Utilities submit updated Budget and Cost Estimates to PSC and Stakeholders	20 calendar days after Commission Order on this workgroup filing
Utilities submit draft Marketing & Outreach Plan with the PSC and to Stakeholders	No later than April 17, 2018[28]
Utilities submit draft EM&V plan with the PSC and to Stakeholders	No later than April 17, 2018
Stakeholder comments and requested additions, revisions submitted to the stakeholder group and PSC on Marketing & Outreach Plans	April 27, 2018
Stakeholders comment submitted to the stakeholder group and PSC on the EM&V plan	April 27, 2018
Workgroup leaders convene rate design workgroup to resolve any remaining issues on the EM&V plan and Marketing and Outreach plans	Week of April 30, workgroup to submit any unresolved issues to be decided by the PSC by May 12
Tariff Approval	Summer 2018
Enrollment process begins	Summer 2018, target July 1
Start of exposure to pilot program rates	~November 1, 2018
Draft report and data based on EM&V plan submitted to workgroup and the PSC	Fall 2019
Interim review by Commission of report and data	Winter 2019/2020
End of Pilot Program data collection	Fall 2020 (2 years after pilot start date)
Full evaluation based on EM&V plan	Winter 2020/2021 & Spring 2021
Final Commission review	Spring 2021 – decision requested no later than 9 months after the end of Pilot Program year #2.
End of exposure to pilot rates (i.e. customers can remain on rates after end of data collection pending final Commission decision)	Fall 2021 (3 years after pilot start date)

[26] Because supplier participation is unclear, the timing of these key dates may need to revisited if the Commission proceeds with a supplier pilot and suppliers respond to the RFP.
[27] Each subsequent date in this chart is based on a Commission decision issued no later than March 15, 2018. If a Commission Order is issued after March 15th, subsequent dates would be shifted correspondingly.
[28] Pace Energy and Climate Center specifically notes that there should be robust requirements for marketing and outreach materials so that prospective participants have adequate knowledge of the potential risks and rewards of pilot participation. *See* Attachment C.

3. Approve general customer acquisition ("marketing") approach for both pilots

The workgroup reached consensus on the most feasible customer acquisition approach. In light of the Commission's desire for small sample groups, the workgroup does not view general "marketing" to all customers, or even to all current SOS TOU ratepayers, to be feasible because that would require both upfront marketing expense and then likely informing some ratepayers responding to such marketing they will not be included in the pilot. Given the Interim Order's emphasis on smaller sampling groups, the workgroup focused on ensuring each pilot program achieve a representative sample of pilot participants so that pilot program results are statistically valid to have sufficient confidence in evaluating those pilot program results to make future policy decisions. To achieve a representative sample, the workgroup believes that a targeted acquisition approach, whereby the Joint Utilities would select a sample recruitment pool that mirrors a utility's overall customer base, is most appropriate.

Because of the uncertainty regarding retail suppliers' response to the RFP, the workgroup recommends ensuring that the SOS pilot program acquires customers in the manner described above to achieve statistically valid results. This approach will ensure that the Commission will obtain statistically valid pilot program results from this TOU pilot for ratepayers as a whole and for LMI ratepayers as a subgroup. Doing so requires that customer acquisition from the SOS pilot be separate from customer acquisition for the retail supply pilot so as not to affect the statistical validity of the customer acquisition process for the SOS pilot. This will ensure the SOS TOU pilot results provide valuable information regardless of participation or success of the retail supplier TOU pilots.

With the sampling approach stated above, the workgroup reached consensus to request permission to deviate from one portion of the Commission's Interim Order. That Order stated that the SOS pilot "shall be marketed initially to SOS TOU customers." Unfortunately, when attempting to implement this direction, the workgroup found that current TOU customers are very *non*-representative of each utility's customer base.[29] Specifically, current TOU customers live in larger-than-average homes, consume higher-than-average amounts of electricity per month, live in largely-similar neighborhoods (with a particular lack of urban customers), and consist of a lower-than-average percentage of low-income customers.[30] In addition, in Delmarva's service territory, less than 50 customers are currently on a TOU rate so that approach simply does not work for Delmarva.

Therefore, the workgroup respectfully recommends and requests that the Commission allow the Joint Utilities to select a representative sample of customers for the SOS pilot program, rather than first attempting to recruit customers from current TOU customers.

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[29] Much of this incongruity results from the rollout of current TOU rates, which were a default rate for new BGE and Pepco customers during a select time window when certain types of new housing were being constructed.
[30] For example, BGE stated that approximately 6% of its residential customers receive EUSP benefits, but less than 1% of its current TOU customers receive EUSP benefits.

4. Approve approach to NEM customers to collect data to the extent they participate

The Joint Utilities provided cost information for IT-related expenses to allow net metering customers to participate in the pilot programs, per the Commission's Interim Order mandating that net metering ("NEM") customers be allowed to participate. The workgroup recommends that each net metered customer is eligible for pilot programs as the Commission ordered, with two exceptions: virtual net metering customers and community solar pilot program participants would not be eligible. For virtual net metering customers, the workgroup recommends against including them as eligible pilot program participants because of the IT-related cost for doing so, and particularly because the cost-per-customer of incorporating them would be high given the small number of residential virtual net metering customers. For community solar customers, the workgroup recommends against including them for the same cost-based reasons as for virtual net metering customers, and for the additional reason that allowing customers to participate in two separate pilot programs simultaneously (given the simultaneous community solar pilot program) could complicate the analysis of the effects of both pilot programs.

The workgroup does not recommend a separate statistically-valid treatment group for NEM customers because of the difficulty of acquiring enough NEM customers to obtain a statistically-valid sample group and the upcoming design of Pilot 3,[31] which will focus on NEM customers. In addition, the Commission's Interim Order provides that NEM customers are limited to 10% of overall pilot program participants; thus, requiring a statistically-valid sample of NEM customers would multiply the number of overall pilot program participants by several times. The workgroup envisions that the EM&V plan will evaluate data from participating NEM customers to the extent such data allows for quantitative or qualitative evaluation.

The workgroup reached consensus on the method by which to calculate a NEM customer's bill amount in the pilot programs. Each customer's on-peak and off-peak consumption and production would be tracked separately. At the end of each month, a customer would receive a bill with "on-peak" and "off-peak" kWh that will show any net kWh produced, which will be carried over, as well as the cumulative total carried over for the period. Any amount due as a result of net consumption within either category must be paid at that time. At the annual April true-up, any remaining net kWh produced in either category would be paid to the customer at the non-time of use "supply-only" level that is paid to a NEM customer under current rules. That is, a customer would not receive a separate "on-peak" credit payment and an "off-peak" credit payment; rather, the customer's payment for over-production would be provided on a time-neutral basis as if the time-of-use rates were not in effect. For purposes of the pilot programs, the workgroup believes that this method is fair for all customers (pilot program participants and non-participants) and is feasible for utilities to implement.

[31] The January 31, 2017 PC44 Notice instructs the workgroup to develop a TOU rate pilot specifically for solar customers after the completion of the Commission's study on the benefits and costs of distributed solar.

5. Approve approach to acquiring EM&V contractor

The workgroup did not reach consensus on the EM&V evaluation contractor selection. The workgroup disagreed on the necessity of an open RFP process for selecting an EM&V contractor. The group considered two options: 1) the utilities proceeding with selecting their own contractor to provide EM&V services; or 2) engaging in an RFP process to award the contract for EM&V services.

The Office of People's Counsel ("OPC") believes that an RFP is the best method to identify both the best prices and the best services available. Based on current developments in the EM&V space and the wealth of data available through the utilities' AMI infrastructure, OPC believes there is value in issuing an RFP and selecting from a variety of EM&V approaches and prices.

The Joint Utilities believe continuity among the design, implementation and evaluation phases of the pilot will help to ensure the most productive pilot results. Furthermore, the Joint Utilities believe that attempting to conduct an RFP at this time would certainly delay the pilot implementation.

The workgroup leaders recommend that the Joint Utilities select an EM&V evaluation contractor, subject to ordinary prudence review, for several reasons. First, a bid for EM&V services without knowing the size, scope, features or companies involved in the retail supply pilot presents too much uncertainty for an RFP process because the precise EM&V parameters on the supplier pilots, potentially two in each service territory, are indeterminate. Second, the EM&V process is closely integrated with the design and implementation of the pilot programs, so having an EM&V expert on board throughout the pilot programs design planning process is very helpful to all stakeholders. Holding an RFP would impede that pilot design and planning and would likely impact the pilot time frame. Third, other utility pilot program costs are subject to a prudency review, and the burden will be on the Joint Utilities to demonstrate that costs for an EM&V contractor acquired outside of an RFP process are prudent.

We recommend the Commission restate in its subsequent Order its approval of Appendix A to the workgroup leaders report (dated August 23, 2017) stated in the Interim Order. Although restating the approval from the Interim Order is not strictly necessary, it will be important that any EM&V plan address those goals and ensure data to measure the metrics and evaluate the goals stated in that Appendix is addressed in the EM&V plan and implemented. Further, the workgroup is prepared and, barring contrary indications from the Commission, intends to continue planning and preparing for the TOU pilots as the Commission considers these recommendations.

In addition, the workgroup leaders recommend that the Joint Utilities jointly contract for EM&V services. We believe that the EM&V process is one specific area in which the Joint Utilities can achieve programmatic synergies and cost savings. This will be particularly

important if Commission approves the workgroup's Option B, which involves a joint LMI pilot that will be undertaken by the three Joint Utilities.

Regarding EM&V costs for the supplier pilot programs, the workgroup recommends that an EM&V plan be developed with the workgroup and implemented by all pilot programs participants. To the extent that suppliers conduct EM&V that is required by the EM&V plan approved by the Commission, those EM&V costs for the pilot should be borne by ratepayers and not by the participating retail suppliers. The EM&V data from any supplier pilots approved by the Commission would be provided as specified in the supplier RFP. Because the EM&V process for the retail supplier pilot programs will result in publicly-available data and analysis for the benefit of the Commission, stakeholders, and ultimately Maryland ratepayers, having the retained EM&V evaluator for the entire set of pilots access and be able to evaluate that data is critical to a successful pilot. The EM&V contractor retained by the utilities would be paid as with other pilot expenses. Any additional EM&V of the suppliers' data above and beyond that approved by the Commission would be performed by the suppliers and shared with the Commission and workgroup. However, the costs of such additional EM&V beyond that deemed necessary for the pilot evaluation should be shouldered by the participating retail supplier.

6. Approve general plan to allocate specified costs to participating suppliers

Each participating retail supplier will incur costs for participating in the pilot program. Each supplier is free to recruit and retain its own TOU pilot customers and bear the resulting cost of those activities. Each supplier is responsible for the costs to ensure that its internal IT systems can effectively serve customers on a TOU rate and that it can otherwise operate the program. The Joint Utilities indicate that they can provide current Electronic Data Interface (EDI) transaction data, in the same way that they currently do for retail suppliers, for no cost.[32] In addition, we note that to the extent the EM&V costs are uncertain, that uncertainty could limit the number of suppliers interested in participating, so the workgroup has endeavored to have the information specified in the EM&V plan paid as with other pilot expenses.

Conclusion

The workgroup is asking for Commission approval to proceed with the rate design pilots, including preparation of implementation, marketing/outreach and EM&V plans. The workgroup will monitor costs as directed by the Commission and those costs, currently estimated, would be subject to review in each utility's next rate case.

[32] The Joint Utilities note that they provide hourly data to retail suppliers for their customers sufficient for retail suppliers to calculate the charges for TOU customers. However, any change from the current EDI transactions that a retail supplier desired in regards to formatting or other wishes will require a new EDI transaction, which would result in additional costs, resources and time for the utility.

We thank workgroup members for their active participation in workgroup discussions and efforts in gathering relevant data so that the workgroup could attempt to reach an optimal outcome. We appreciate each member's substantial contributions to this report.

Sincerely,

/s/

David Littell & Jon Kucskar
PC44 Rate Design Workgroup Co-Chairs

CC: Commissioners
PC44 Rate Design workgroup email distribution list

Additional Items in Commission's November 28, 2017 Interim Order Requiring Workgroup Follow-Up

1. Recommendations on practicality and costs of:

    a. Understandability of marketing and outreach materials;

    ANSWER: Marketing and outreach materials will be created by the Joint Utilities, for a statistically-derived random sample, as they have done for some other pilot programs. There will be no marketing or outreach materials directed at the general public. The workgroup proposes to review any materials sent to customers to ensure they are understandable.

    b. Requiring utilities to develop free bill analysis tools before enrollment;

    ANSWER: BGE will have a free bill analysis tool with estimated availability in November 2018[33] – with costs not assigned to this pilot program.

    PHI believes that it is impracticable to develop a free bill analysis tool within the next several months. PHI plans to roll out a bill analysis tool to all customers in the future.

    c. Requiring outreach materials to go to customer aggregators like neighborhood clubs and renter associations.

    ANSWER: For Pilot #1, because the Joint Utilities will recruit customers through a statistically-derived sample, outreach to customer aggregators is unnecessary and could skew the selected sample. For Pilot #2, the workgroup encourages all participating retail suppliers to market to customer aggregators; however, the workgroup does not recommend *requiring* that participating retail suppliers provide outreach materials through those types of organizations.

2. Rationale, costs and options for allowing ratepayer funds to go toward developing utility tools and apps.

    ANSWER: The workgroup's view is that the tools and apps to be deployed by the utilities are being developed for reasons unrelated to the rate design pilots. The pilot offers an opportunity to use these tools and apps to assess whether and how they may enhance customers understanding, response, choice, savings, and/or control.

[33] This timeline reflects a change from the workgroup's prior understanding that the bill comparison tool would be available during the pilot enrollment period.

3. Work to allow utilities to integrate uniform or similar SOS pilot program designs across the joint utilities.

   ANSWER: The workgroup has encouraged, and indeed recommends, that the Joint Utilities design similar pilot programs. Although specific on-peak/off-peak ratios may vary slightly (if the Commission approves cost-based ratios), the pilot programs are otherwise identical. The workgroup expects that EM&V will be conducted uniformly across the three service territories, although data from each service territory will be analyzed separately. In addition, the workgroup leaders recommend that the Joint Utilities jointly contract for EM&V services.

4. Ensure that each pilot addresses evaluation criteria listed in Order 88438.

   ANSWER: The workgroup believes that each rate design pilot program meets the evaluation criteria listed in Order 88438. Specifically, here is our analysis:

- Clear goal(s) established at the beginning of pilot program development
  - Yes. The workgroup leaders' August 23, 2017 Report, Appendix A, lists three primary goals and two secondary goals:
  - Primary Goals:
    - 1. Reduce customer bill amount, especially for LMI customers
    - 2. Provide customers with choices & control
    - 3. Send appropriate price signals to all market participants
  - Secondary Goals:
    - 4. Potential to reduce long-term system costs, through:
      - 4A. Reducing Peak Load; and
      - 4B. Improving System Efficiency
    - 5. Enhance retail supply market

- Evaluation metrics linked to those goal(s) that will inform whether the goal(s) are achieved
  - Yes. The workgroup leaders' August 23, 2017 Report, Appendix A, lists numerous metrics by which the pilot programs will be measured and will inform the Commission and stakeholders whether the goals have been achieved. The Commission's Interim Order approved Appendix A as consistent with other terms in the Interim Order. The workgroup leaders recommend the Commission require that the Appendix A evaluation metrics be implemented in the EM&V Plan(s) to be submitted by the Utilities to the workgroup and the Commission.

- An evaluation plan developed before final pilot approval
  - Yes. The workgroup's project schedule, included in this report on page 12, provides that the Joint Utilities submit a draft EM&V plan to the rate design workgroup and the Commission no later than April 17, 2018. Following

stakeholder input to the workgroup, the workgroup leaders will submit any unresolved issues to the Commission by May 12, 2018 to allow for Commission determinations consistent with pilot implementation.

- An estimate of pilot program implementation costs
  - The Joint Utilities have provided initial cost estimates for pilot program implementation. Those costs are listed above on page 9.
  - The workgroup schedule indicates that the Joint Utilities will file refined budget and cost estimates no later than 20 days after they receive feedback from the Commission regarding this workgroup report.

- Public sharing of key pilot program data after pilot is complete, and at regular intervals during the pilot if appropriate
  - The workgroup anticipates that the Joint Utilities and all participating retail suppliers will supply key pilot program data (in aggregated form by ratepayer class and by circuit where called for in Appendix A – but not for individual customers or in an form that allows for identification of individual ratepayers) during the full evaluation process and also during the Commission's interim review after one year. These data will be filed publicly. The supplier RFP will contain specific language outlining these requirements for all participating suppliers.

- Public review of pilot results by the Commission
  - Yes. The workgroup proposes that the Commission review pilot program results. The EM&V plan will set forth the evaluation metrics for the utility reports so that plan will be critical for specifying the data and analysis to be submitted to the Commission for pilot program evaluation.

- A clear transition plan for current customers (e.g. customers could remain on the pilot tariff until the Commission evaluates the results and reaches a decision, but enrolling new customers is prohibited)
  - Yes. The Commission indicated that pilot program customers be permitted to stay on the pilot tariff during the evaluation period. The workgroup proposes that period last for no more than one year after the pilot program is complete. If the pilot program is not extended beyond the end of that one-year period and the rate structure is neither extended nor adopted beyond the end of the one-year period, which is three years after the pilot program began, the customer must transition to another tariff. Pilot #1 customers will transition to a traditional SOS tariff unless they elect to move to another rate or a competitive supplier. Pilot #2 customers will be given a significant opportunity to choose a retail supplier, but ultimately will be shifted to a traditional SOS tariff if the customer does not affirmatively choose a retail supply option.

- A firm sunset date – any extension, amendment or permanent authorization must be affirmatively approved by the Commission. We envision a pilot program proposal setting a firm post-pilot timeline that outlines milestones for stakeholders to: conduct an evaluation of pilot results; present those results to the Commission; and account for a Commission determination how to proceed – leaving time for a smooth transition if pilot enrollees must move to another tariff.
    - Yes. See the schedule above on page 12.

Below is a revised summary chart of the outlined pilot programs, as instructed in the Commission's Interim Order and further recommended in this report:

Summary of Pilot Programs – as Directed by Commission (11/28/2017 Order)

	Pilot #1 (SOS option)	**Pilot #2 (Retail Supplier option)**
Pilot Period	24 months, starting on/after November 2018	24 months, starting on/after November 2018
Participating utilities	BGE, Pepco, Delmarva	BGE, Pepco, Delmarva
Customer Availability	Opt-in for residential customers (net metering customers eligible up to 10% of total participants)	Opt-in for residential customers (net metering customers eligible up to 10% of total participants)
Supply Type	Standard Offer Service	Retail supplier – two per territory
Peak Period: Distribution	5 hour afternoon peak in non-winter (June-Sept.) 3 hour peak morning in winter (Oct.-May)	**#2A and #2B**: 5 hour afternoon peak in non-winter (June-Sept.) 3 hour peak morning in winter (Oct.-May)
Peak Period: Supply	Same as Distribution Peak Periods	**#2A**: 3-5 hour afternoon peak in non-winter (June-Sept.) Optional 3 hour peak morning in winter (Oct.-May) **#2B**: *Additional innovations required*
Overall on-peak/off-peak price ratio	3:1 to 4:1 – two options: (a) exactly 3:1 (set administratively) (b) cost-based method closer to 4:1 (see Section 1b).	**#2A**: unknown **#2B**: unknown
---*Supply component*	See Section 1b.	Suppliers selected via competitive RFP
---*Distribution component*	~5:1 to 9:1 ratio (Primary Demand into peak): BGE: 5.2 to 1 Pepco: 8.1 to 1 Delmarva: 8.6 to 1	~5:1 to 9:1 ratio (Primary Demand into peak): BGE: 5.2 to 1 Pepco: 8.1 to 1 Delmarva: 8.6 to 1

Attachment A: Detailed RFP Requirements for Supplier Pilot Programs

1. **Rate Design**

1.1. Pilot A:

1.1.1. Distribution peak times: Summer (June-September) from 2pm-7pm, Non-summer (October-May) from 6am-9am

1.1.2. Supply peak times: Summer – 3 to 5 hour peak sometime between 2pm-7pm; Non-summer – peak pricing is optional

1.1.3. Supply pricing: must be the same for all 24 months.

1.1.4. Each supplier may submit only one bid for Pilot A.

1.2. Pilot B ("Innovative" Option):

1.2.1. Distribution peak times: Summer (June-September) from 2pm-7pm, Non-summer (October-May) from 6am-9am

1.2.2. Supply peak times: The rate structure must be a time-varying rate structure that provides a different price in hourly or period (i.e. multi-hour) increments for each of the following day types: weekdays, weekends and holidays. Every price that is presented in the rate structure must be either negative (bill credit), zero (free), or positive (bill charge). Any flat charges or other charges must also be identified. The rate structure must have at least one difference that would distinguish it from a rate structure that is eligible for Pilot A.

1.2.3. Supply pricing: must be the same for all 24 months.

1.2.4. Each supplier may submit only one bid for Pilot B.

2. **Enabling Information or Control Technology**

2.1. Pilot A

2.1.1. Bidder shall provide details about any enabling information or control technology that is to be included in the pilot, including the following: specific technology (e.g., Wi-Fi enabled programmable communicating thermostat), eligibility criteria for the technology (e.g., central air conditioning and Wi-Fi), how it will be offered (e.g., everyone, LMI only).

2.2. Pilot B

2.2.1. Bidder shall provide details about any enabling information or control technology that is to be included in the pilot, including the following: specific technology (e.g., Wi-Fi enabled programmable communicating thermostat), eligibility criteria for the technology (e.g., central air conditioning and Wi-Fi), how it will be offered (e.g., everyone, LMI only).

2.3. For both Pilot A and Pilot B, the degree to which enabling information or control technology is proposed is NOT a bid evaluation factor.

3. Pilot Enrollment & Retention

3.1. Bidder shall be responsible for developing its own market research, marketing and enrollment material, customer recruitment, enrollment process and tracking participants throughout the entirety of the pilot.

3.1.1. Per Section 7, bidder's marketing materials are subject to workgroup review.

3.2. Bidder shall identify any forms of direct or indirect compensation to be made to pilot participants including but not limited to: enrollment incentives, survey response incentives, pilot completion incentives, best-bill guarantee, etc. This shall NOT be used as a criterion for bid evaluation.

3.3. Bidder shall identify a minimum and maximum initially enrolled participant threshold they commit to targeting. The minimum target number shall be no less than 1,000. The maximum number of participants may be no greater than 5,000. This may NOT be used as a criterion for bid evaluation.

3.3.1. The consequence of not meeting the minimum participant target shall be forfeiture of a portion of the security deposit, subject to the Commission's discretion. Such forfeiture may not be more than the amount of $30 multiplied by the number of customers by which the supplier missed its specified minimum target.

3.3.2. If the minimum threshold is not met, the supplier must nonetheless agree to maintain the pilot program rate for any enrolled customer for the entire 24 month pilot period.

3.3.3. The supplier may not enroll customers once the maximum threshold is reached.

3.4. Bidder may not include a fee for a customer that exits the pilot and may not include cancellation limitations (e.g. 30 day notice).

3.5. Bidder shall identify what rate offering (though not necessarily the precise pricing) a participant will be transitioned to at the end of the pilot.

4. Pilot Overview Plan

4.1. The Bidder shall commit to delivering, within 30 calendar days of award, a document that comprehensively summarizes all major aspects of the pilot and provides a roadmap for all interested parties to see how the pilot will be designed and implemented.

4.1.1. This plan shall include all information required under Sections 2 and 3 of this document.

4.2. Bidder commits to following the Commission's approved timeline for implementing the pilot program.

4.3. Bidder commits to updating the Commission, through its designated workgroup, if it makes changes to its overview plan before, during or after pilot program implementation.

5. Evaluation, Measurement and Verification (EM&V) Plan

5.1. Bidder shall commit to providing the chosen EM&V contractor with all reasonably requested data as well as internal resources to address issues, concerns, or questions that will arise during the evaluation process.

5.2. Failure to adequately support the evaluation contractor and the evaluation effort more broadly may result in loss of all or a portion of Bidder's security deposit, per the Commission's discretion.

5.3. Bidder must contact its customers and encourage them to complete a survey at the end of the pilot. If a survey participation bonus is paid as part of the EM&V plan, the supplier is NOT responsible for the payment of such funds.

6. Supplier Record

6.1. Bidder record in other states: (a) supplier must be licensed by the Maryland Public Service Commission and in other states; (b) the supplier's license may not have been suspended/revoked in Maryland or any other state in the past 5 years; and (c) supplier shall provide the number of complaints filed against it in Maryland and any other state in which it is licensed for each of the following years: 2015, 2016 and 2017. The Commission may consider this information as well as a "complaints per customer" ratio under Section 8.3 of this document.

6.2. Experience with TOU rates: Bidder shall state any experience that it has subscribing customers to a TOU rate in another state prior to date of the Commission's Interim Order (November 28, 2017). Specifically, Bidder shall individually list each of its previous or current TOU offerings, the length of time that offering was in effect, and the maximum number of customers subscribing to that rate at any one time.

6.3. Ability to implement TOU pricing: Bidder must attest that it can implement the TOU rate structure that it has offered. Bidder's security deposit might not be returned if, per the Commission's discretion, Bidder wins bid but is unable to implement the pilot program.

6.3.1. The participating utilities note that a supplier that is able to operate the TOU program using existing EDI transactions will not incur costs to do so. However, to the extent a supplier would like to receive customer usage data in a different format, programming and testing would be required by the utility and the supplier, the costs of which would be borne by the supplier.

7. Consumer Protections

7.1. Bidder must specify a customer's on- and off-peak usage and rates on a customer's monthly bill.[34]

[34] We note that the Commission, in Case No. 9461, is considering the issue of Supplier Consolidated Billing. The workgroup will monitor any impacts of that case on this pilot program.

7.2. In addition to complying with all Maryland Statutes and regulations, the Bidder must satisfy the following requirements throughout the pilot:

7.2.1. Before a customer enrolls in the pilot, the supplier must provide the customer with a complete copy of the supply contract and reasonable time to review the document before requesting or acquiring the customer's consent to the supply contract. A customer's consent must be evidenced by a signature on the supply contract document. These requirements will apply to all marketing channels used by the supplier.

7.2.2. All unique versions of the supplier's marketing materials, supply contract documents and contract summary required under COMAR 20.53.07.08B will be submitted to the workgroup for review at least 30 days before they are made available to the public .

7.2.3. The supplier must acquire affirmative consent from the customer to a new contract with the supplier between 75 and 45 days prior to completion of the pilot. If a customer does not affirmatively consent to remain with the supplier, the customer will be returned to SOS or the supplier of their choice following the final meter reading of the pilot period. Affirmative consent will require the same contracting practices as the initial enrollment described in 7.2.1 of this section.

8. Bid Evaluation Criteria

8.1. Pilot A and Pilot B will be evaluated separately under the criteria listed below.

8.2. Annual Load-Weighted Average Supply Price:

8.2.1. Price is the primary evaluation factor and will be given the highest weight.

8.2.2. Method: Each utility will provide an hourly load shape (as included by each utility in the RFP publication). Bidder will provide a price for each hour and day-type (i.e., weekday, weekend, holiday) corresponding to the hourly load shape, and use a calculation spreadsheet provided by the utility to submit a load-weighted average price (LWAP) for its bid. The utility shall verify that the submitted LWAP is properly calculated.

8.2.3. Each utility shall rank each bid in order of its LWAP, with the lowest LWAP receiving the best ranking.

8.3. Other evaluation criteria

8.3.1. Items in Sections 6.1 and 6.2 are secondary evaluation factors and shall receive less weight than price. The Commission may consider a “complaints per customer” ratio as derived from the information provided by the offeror and Commission data about the number of customers that a supplier has in Maryland.

8.3.2. Each utility shall compile the information provided by the bidder in Sections 6.1 and 6.2.

8.4. Evaluation process

8.4.1. After completing steps in Sections 8.2 and 8.3, each utility shall provide a chart to the Commission Staff or other designated individual or entity (“Staff or designated

entity"). The chart should list all bids for each pilot program ranked by the LWAP and include information required by Section 8.3. A full copy of each bid shall be provided to the Staff or designated entity.

8.4.2. In submitting this information to the Staff or Designated Entity, each utility shall specifically note which bid provided the lowest LWAP and mark that entity as the proposed bid winner based on LWAP.

8.4.3. The Commission retains the authority to approve the proposed bid winner based on lowest LWAP or select another bidder based on a combined evaluation of the LWAP and other evaluation criteria listed above.

9. Bid Submittal Process

9.1. Each utility shall issue an RFP for Pilot A and Pilot B and allow a 30 calendar day bidding period.

9.1.1. Each utility shall provide the information required by Section 8 to the Staff or Designated Entity no later than 10 calendar days after the bid window closes.

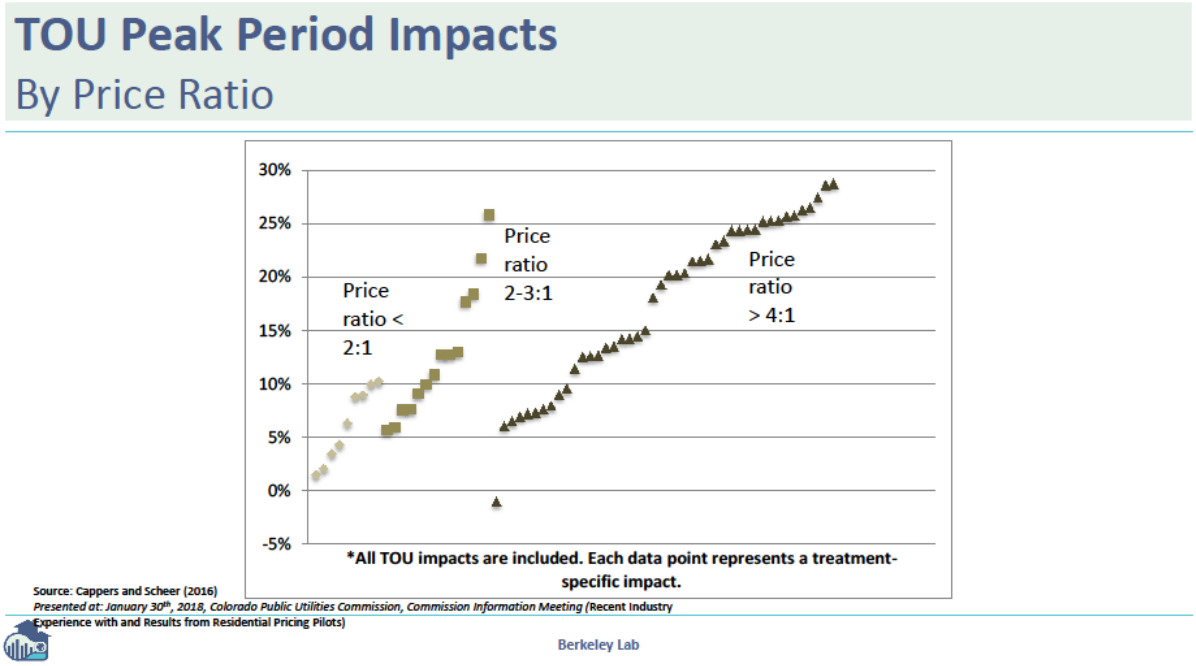
9.2. Security Deposit

9.2.1. Bidder shall provide a security deposit of $15 times the maximum initially enrolled participant target proposed in its bid.

9.2.2. The security deposit may be provided by bond or another generally acceptable form of security or payment

9.3. Information about non-winning bids is confidential. Each utility and any other participant in the RFP evaluation process shall pledge to keep information about non-winning bids confidential

Attachment B: Review of Studies of Different Price Ratios



Note: the Y-axis represents the % Average Customer Peak Period load reduction (kWh/hour)

Attachment C: Comment Letter

Pace Energy and Climate Center, Chesapeake Climate Action Network, Fuel Fund of Maryland, Institute for Energy and Environmental Research, Marylanders for Energy Democracy and Affordability, Nuclear Information and Resource Service, and Solar United Neighbors of Maryland

Comments on Rate Design Workgroup Report

February 8, 2018

Pace Energy and Climate Center ("Pace"), on behalf of Chesapeake Climate Action Network, Fuel Fund of Maryland, Institute for Energy and Environmental Research, Marylanders for Energy Democracy and Affordability, Nuclear Information and Resource Service, and Solar United Neighbors of Maryland (the "Joint Commenters"), appreciates the opportunity to contribute to the PC44 Rate Design Working Group pilot proposals report. The workgroup co-leaders and the other workgroup members all contributed valuable time, insights, and efforts to the design of the two proposed rate design pilots. The rate pilots, as currently proposed, will provide useful insight for the development of time-varying rates in the future to the benefit of most customers. Joint Commenters offer these comments in the spirit of maximizing the positive outcomes and minimizing negative outcomes associated with the pilots.

The Joint Commenters are concerned that the pilots do not include a requirement for mechanisms or tools to provide customers with the ability to calculate the risks and rewards of signing up for the new rates, such as bill calculator tools. Such tools, as well as coaching from customer service personnel, should be available to all of the participating utilities' customers at the time of enrollment. Low- and middle-income (LMI) customers, who tend to have the least ability to absorb fluctuations in monthly electricity bills, may not have the resources to invest in the types of enabling technologies that would permit them to effectively respond to price signals. The proposed pilot programs do not include any provision for enabling technology resources beyond those available through the existing EmPower Maryland program. While there are resources available through EmPower Maryland, they may not be available or applicable to LMI customers who seek to shift their load in response to the pilot rates.

The Joint Commenters provide their sign-on to the workgroup report, expressly subject to an objection to the recruitment of a specific LMI treatment group unless clear and robust requirements for marketing and outreach materials are an element of the program plans and report. We proposed that marketing and outreach materials must be designed to ensure that prospective participants have full knowledge of the potential risks (and rewards) for successful pilot participation. As an alternative to calculators for each participating utility at the start of the programs, or bill protections for potentially vulnerable customers, Pace proposed two safeguards: (1) A list of several critical elements that must be included in the utilities' marketing and outreach programs, and (2) A high-bill alert mechanism to alert participants if they are projected, in any program participation month, to have a bill that is higher than that customer's bill for the same month in the last year. These marketing and billing messaging requirements are essential for ensuring customers can make appropriate decisions with regard to enrolling in, participating in, or withdrawing from pilot rate programs. However, these recommendations were not adopted.

The Joint Commenters reiterate their concerns regarding potential bill impacts on participating LMI customers and propose two safeguards below.

Marketing and Outreach Plan Development

In the current workgroup document, the opportunity for workgroup members to submit input on marketing and outreach material occurs after the utilities have already begun developing them. This creates a potential barrier to incorporating stakeholders' recommendations in the marketing materials if they are substantially different than the materials that are being developed by the utilities. To avoid this problem, Pace provides several recommendations below that the utilities should be required to integrate into their marketing and outreach plans, prior to releasing them for stakeholder feedback.

As an initial threshold matter, the method by which the utilities will determine what constitutes a representative sample should also be clearly determined before development begins. Which metrics are deemed significant, such as age, income, geography, annual kWh usage, etc., will greatly impact which customers are targeted for pilot participation.

Marketing and Outreach Content

Marketing and outreach materials must contain a clear, prominent, unambiguous description of the risks of the pilot rates, in sentences that do not equivocate. The materials must inform customers that there is a serious risk that their electric bill will be much higher, particularly in the summer and the winter. The materials must also inform customers that they have the right to quit the pilot program at any time for any reason. The disclosure materials should also include checkboxes and a signature line to confirm customer acknowledgement of the provided information.

Marketing and outreach materials must also make clear that low- and moderate-income customers should only consider enrolling in the pilot if:

- They have the ability to substantially reduce their electricity use during peak afternoon and early evening hours, by turning off or not using appliances like air conditioners, electric heaters, and electric water heaters.
- They are the kind of person who can and will make changes in their lifestyle when it comes to using electricity.
- They are confident that everyone in their household will also take care in the way that they use electricity.
- Their household budget will allow them to pay a large and unexpected electric bill, especially in the winter and summer.
- Their household budget will allow them to manage bills that change significantly from month to month.

The desire to recruit a statistically significant sample of LMI customers should not influence the information provided on the potential risks of the pilot rates. While the Joint Commenters generally support that ultimate goal of recruiting a statistically significant sample of LMI customers in rate pilots, LMI customers could potentially be exposed to unforeseen and unavoidable bill impacts under the current program design—the pilot should not pursue sample recruitment at the expense of customers' best interests. The workgroup report should clearly state

that customers on budget-billing and other forms of assistance are excluded from participation in the pilot.

In addition to preparing customer-facing marketing and outreach materials, the utilities must prepare information and training for their employees, including creating scripts for customer service representatives. The utilities must broadly communicate the risks throughout their staff and management so that word-of-mouth communications about the program consistently represent the potential risks of unforeseen and unavoidable bill impacts described above. The utilities must commit that they will make customer service representatives available to explain the pilot, and its risks, at customer group gatherings hosted by community-based organizations.

The Commission should also aggressively communicate the risks inherent in the pilot rates through official public communications channels of all kinds. For consistency and clarity, the communications from the Commission should parallel those used by the utilities.

Marketing and outreach materials should also be coordinated with other important resources for pilot participants. Information on EmPower Maryland products and services available to participants should be included with all marketing and outreach materials. Marketing and resources for other technologies (*e.g.*, smart A/C controllers, water heaters, battery storage, fuel switching) should be provided. Supplemental information should be developed to inform customers which EmPower Maryland products will be most useful to customers enrolled in the rate pilots. Third-party resource providers should also be given access to the pilot participants list in order to be able to provide additional technology and resource information. The inclusion of third-party providers, especially, is consistent with the spirit of the Commission's goal in PC44 to enable market development.

In-pilot cost notifications

The utilities must implement a customer alert feature in which customers are advised when any one month's electric bill is 5% or more higher than the bill for the same month in the last year. This alert should trigger affirmative communication, according to the customer's preferred method of communications, of the high bill and the fact that the customer may terminate their participation in the pilot. Pilot participants are especially likely to incur unexpectedly high bills with the rate starting in the fall/winter, leading to unforeseen rate spikes in the summer. This could lead to arrearages for some customers even if they can leave the rate at-will.

Conclusion

The workgroup report provides resolution of many of the items listed in the Commission's order, and ensures the gathering of valuable information for Maryland's grid modernization effort. However, the report currently lacks mechanisms for all customers to calculate in advance the impact that the rate may have on their bills, as well as support for those customers who may be less able to absorb price fluctuations or respond to the pilot's price signals. The Joint Commenters appreciate the opportunity to provide these recommendations, and look forward to continuing our collaborative work with the Rate Design Workgroup co-chairs and stakeholders.