

PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA  
1333 H STREET, N. W., WASHINGTON, D.C. 20005

ORDER

January 12, 2007

FORMAL CASE NO. 1002, IN THE MATTER OF THE JOINT APPLICATION OF  
PEPCO AND THE NEW RC, INC. FOR AUTHORIZATION AND APPROVAL OF  
MERGER TRANSACTION, Order No. 14166

**I. INTRODUCTION**

1. By this Order, the Public Service Commission of the District of Columbia ("Commission") approves the Potomac Electric Power Company ("Pepco" or "Company") and/or the District of Columbia Smart Meter Pilot Program, Inc. ("SMPPI") tariff application implementing a smart meter pilot program in the District of Columbia.

**II. BACKGROUND**

2. On June 1, 2006, Pepco filed a Tariff Application<sup>1</sup> on behalf of SMPPI<sup>2</sup> requesting approval to implement a smart meter pilot program in the District of Columbia.<sup>3</sup> Pepco states that SMPPI has designed its program, entitled SmartPowerDC, to be a 2-year pilot program whereby selected District of Columbia residents in all eight wards will be provided with an opportunity to receive time differentiated pricing signals and demand response enabling technology.<sup>4</sup> According to Pepco, customers participating in the project will have the ability to have greater control over their electricity consumption and an opportunity to control their consumption and reduce their monthly electricity costs.<sup>5</sup> Pepco avers that participation in the program will be voluntary and limited to approximately 2250 customers (including control group customers).<sup>6</sup>

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<sup>1</sup> *Formal Case No. 1002, In the Matter of the Joint Application of Pepco and the New RC, Inc. for Authorization and Approval of Merger Transactions ("F.C. 1002")*, Letter to Dorothy Wideman, Commission Secretary, from Anthony C. Wilson, on behalf of the Smart Meter Pilot Program Inc., filed June 1, 2006 ("Tariff Application").

<sup>2</sup> SMPPI is comprised of the following entities: Pepco; District of Columbia Office of the People's Counsel ("OPC"); District of Columbia Consumer Utility Board ("CUB"); International Brotherhood of Electrical Workers Local 1900 ("IBEW"); and the Commission.

<sup>3</sup> *F.C. 1002*, Tariff Application at 1.

<sup>4</sup> *Id.* at 2.

<sup>5</sup> *Id.*

<sup>6</sup> *Id.* at 3.

3. Pepco states that participants in SmartPowerDC will be billed under one of three pricing options: Hourly Pricing (“HP”), Critical Peak Pricing (“CPP”), or Critical Peak Rebate (“CPR”).<sup>7</sup> Under HP, electricity prices will vary hourly.<sup>8</sup> According to Pepco, the prices are set the day ahead, based on the prices in the “day-ahead” wholesale market, which is our regional power market operated by the PJM Interconnection.<sup>9</sup> Pepco states that prices will be posted on the project website, [www.SmartPowerDC.org](http://www.SmartPowerDC.org), for access by HP participants and will also be available by calling a toll free number.<sup>10</sup> Pepco maintains that based on recent wholesale market trends, HP prices are expected to exceed conventional “SOS” prices only about one-third of the time within a year, with lower prices the remainder of the time.<sup>11</sup>

4. Pepco asserts that under the CPP, customers will face two prices: (1) critical peak prices, and (2) prices for all other hours.<sup>12</sup> The Company states that critical peak prices will be in effect for four hours on critical peak days, of which there are 15 each year.<sup>13</sup> During the summer (June 1 to October 31), there will be 12 critical peak days, and during the winter (November 1 to May 31) there will be 3 critical peak days.<sup>14</sup> Critical peak hours will occur between 2 p.m. to 6 p.m. in the summer and between 6 a.m. to 8 a.m. and between 6 p.m. to 8 p.m. during the winter.<sup>15</sup> According to the Company, critical peak events are called by the project implementation contractor when wholesale prices in the day-ahead market exceed a threshold approved by the SMPPI Board of Directors.<sup>16</sup> Pepco states that customers are notified of these events the day before, by 5 p.m., via their choice of an automated phone call, email, text page, or smart thermostat notification.<sup>17</sup> Pepco asserts that prices during the 60 critical peak hours each year will be substantially higher than conventional SOS rates but will be offset by lower prices during the remaining 8,700 hours of the year.<sup>18</sup>

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<sup>7</sup> F.C. 1002, Tariff Application, Attachment A at 3.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.* at 3.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

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

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

5. The Company maintains that under CPR, customers continue to pay the same generation charges as Standard Offer Service.<sup>19</sup> Pepco states that during critical peak events, CPR customers can earn rebates by reducing their consumption below what they would normally have used during those times.<sup>20</sup> The rebates will be calculated by multiplying the reduced consumption, measured in kilowatt-hours, by the rebate amount per kilowatt-hour.<sup>21</sup> Pepco submits that customer consumption reduction will be calculated using the following method: consumption during the critical peak event will be subtracted from the customer's baseline consumption; the difference will be the consumption reduction.<sup>22</sup> Pepco maintains that the baseline consumption will be the average of the customer's use during the similar critical peak hours for the three days with the highest use during that time in that billing month.<sup>23</sup> The Company states that weekends, holidays and critical peak days are not included in this calculation and that the critical peak days, times, and notification means are the same for CPR customers as for CPP customers.<sup>24</sup>

6. Pepco maintains that all pricing options are designed to be revenue neutral, assuming that no customer changes consumption in response to price.<sup>25</sup> According to Pepco, under all three options, the generation charge on the customer's bill is calculated using time-varying prices, and all other components of the bill, including the transmission and distribution charges, are calculated using existing rates for those components.<sup>26</sup>

7. On June 30, 2006, a Notice of Proposed Rulemaking ("NOPR") was published in the D.C. Register inviting the public to comment on Pepco's Tariff Application.<sup>27</sup> The NOPR stated that all comments and reply comments must be received within 30 and 45 days, respectively, of the date of publication of the NOPR.<sup>28</sup> No comments were received.

### III. DISCUSSION

8. After initially reviewing the Application, the Commission directed Pepco/SMPPI to respond to four issues: (1) addressing customer education and staff training; (2) the impact of

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<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> 53 D.C. Reg. 5275-5276.

<sup>28</sup> *Id.* at 5276.

price volatility on consumer bills; (3) the implementation of parallel billing as a means to mitigating adverse bill impacts; and (4) an option that would automatically determine a customer's response during critical peak conditions.<sup>29</sup> On September 21, 2006, Pepco/SMPPI filed its comments in response to the Commission's questions.<sup>30</sup>

9. First, with respect to customer education, Pepco/SMPPI was directed to provide additional information on how consumer education and other guidance to participants in selecting a schedule (e.g. through workshops or website material/presentations), as well as training, will be addressed in the pilot program. In response, SMPPI states that as part of an initial mailing, participants will receive a general overview of the project and other information to enable customers to make an informed decision regarding their willingness to participate<sup>31</sup>. According to SMPPI, the initial informational materials including cover letter, project fact sheet, and a sample monthly energy use statement which was tested through two residential focus groups conducted on March 30, 2006.<sup>32</sup> SMPPI asserts that the fact sheet provides details about the project, as well as information about the smart meter and smart thermostat, specific program features including the method by which consumers will be notified of critical peak events and suggestions for reducing or shifting energy use during times of higher prices.<sup>33</sup> Also, SMPPI states that additional customer educational materials will be available to consumers through a SmartPowerDC project website, as well as information available through a toll free telephone line and an electronic mail customer response service.<sup>34</sup> SMPPI adds that the project website will contain examples of methods customers can use to reduce their electricity consumption, during high price periods or critical peak rebate periods, by various amounts ranging from 10 to 40 percent.<sup>35</sup> In addition, SMPPI maintains that customers who receive a smart thermostat will be educated on the use of the thermostat at the time of its installation.<sup>36</sup> According to SMPPI, participants who do not receive a smart thermostat will be provided with messaging through their choice of electronic mail, paging, or telephone calls informing them of periods of high price or critical peak rebate.<sup>37</sup>

10. With respect to staff training, SMPPI comments that project personnel who interact with participants will be trained by the management contractor on handling customer

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<sup>29</sup> *F.C. 1002*, Order No. 14045, rel. September 11, 2006.

<sup>30</sup> *F.C. 1002*, Response of Smart Meter Pilot Program, Inc. to the Issues Raised by the District of Columbia Public Service Commission in Order No. 14045, filed September 21, 2001 ("Pepco/SMPPI Response").

<sup>31</sup> *F.C. 1002*, Pepco/SMPPI Response at 2.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.* at 3.

<sup>35</sup> *Id.*

<sup>36</sup> *Id.* at 4.

<sup>37</sup> *Id.*

inquiries.<sup>38</sup> SMPPI states that Pepco's call center personnel will also receive general training and will be advised about when to transfer customers to the project specific information line.<sup>39</sup>

11. Along with our concern over adequate consumer education, we also asked SMPPI to indicate whether customer bills or notifications should include information as to what a similar load would cost under the relevant SOS rate. In response, SMPPI reports that customers will be provided with a general price comparison at the time of recruitment.<sup>40</sup> SMPPI states that it is strongly opposed to providing similar information on a monthly basis because it may adversely impact the statistical validity of the results of the project and is very likely to create significant participant confusion.<sup>41</sup> SMPPI indicates that it plans to perform an overall pricing comparison when the project evaluation is conducted and will share this information with the Commission and other regional stakeholders.<sup>42</sup>

12. Second, SMPPI was asked to advise us as to whether an alternative price schedule should be available to consumers, particular HP participants, as a means of avoiding adverse impacts. For example, customers could temporarily be billed under the CPP schedule for certain events. We also asked SMPPI to indicate if any adjustments should be made to the critical peak price/rebate schedules, if appropriate. In response, SMPPI asserts that it is addressing these concerns by doing the following: (1) allowing participation in the project to be voluntary; (2) permitting customers to cease participation at any time and revert to Pepco's SOS rates for future billing periods; (3) designing the price schedules to be revenue neutral; (4) anticipating that the vast majority of participants may have annual electricity bills within 10% of what they would have been under Pepco's SOS rates; (5) evaluating the rate schedules annually to verify that electricity is priced in a revenue neutral manner; (6) permitting low-income customers to participate only in the CPR program, in order to avoid the possibility of higher electricity bills; (7) presenting educational materials to customers informing them of various techniques to better control their electricity bills under the projects rate schedules; (8) providing up to half of all participants with smart thermostats that can automatically reduce energy consumption during high priced periods; (9) providing customers with information concerning high prices or periods of rebate opportunity, through a communication method of their choosing; (10) providing detailed monthly electricity consumption information; and (11) providing a toll free customer telephone information center and an electronic mail center to be maintained through out the project's duration, in order to assist customers in responding appropriately to price signals.<sup>43</sup> In addition, SMPPI recommended that the Commission should not lessen the proposed variation in electricity prices because the project has been designed specifically to create more volatile electricity prices that reflect the actual regional market cost of electricity at any point in time.<sup>44</sup>

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<sup>38</sup> *Id.* at 3.

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* at 5.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at 6.

<sup>44</sup> *Id.* at 8.

Since the primary purpose of the project is to determine how District residential customers will respond to changes in electricity prices, SMPPI is concerned that reducing the movement in price signals could undermine the effectiveness of the pilot program.<sup>45</sup>

13. Third, to the extent that the HP schedule may be a difficult adjustment for customers, the Commission asked whether Pepco/SMPPI should also consider implementing a parallel billing scheme to help mitigate any adverse bill impacts. Thus, the Commission requested that Pepco/SMPPI comment on whether participants should be allowed to pay the lesser of the SOS bill or the HP bill during the first year of the pilot program. In response, SMPPI indicates that it considered the concept of parallel billing during discussions throughout the project design phase.<sup>46</sup> However, SMPPI maintains that parallel billing should not be used because of the following reasons: (1) participants will focus on the differences between the two monthly bills rather than developing techniques to respond to the more volatile price signals; (2) participants will have minimal incentive to respond to the new hourly price signals; (3) parallel billing will cause significant confusion for customers regarding electricity prices; (4) parallel billing is likely to create customer anger, as customers who would pay less under SOS rates are likely to be dissatisfied with the Project and those who would pay less under the HP rate are likely to complain about its unavailability to all residential customers; (5) customers who are informed that they would pay more during the first twelve months of the project will drop out of the project; and (6) from an overall statistical impact evaluation standpoint, it will distort customer behavior and significantly lessen the value of the Project and preclude the collection of reliable data during 2007.<sup>47</sup>

14. Finally, the Commission asked Pepco/SMPPI if participants should be given the option to create a predetermined default position that goes into effect automatically when critical peak conditions arise. Also, to enhance consumer education and awareness, the Commission inquired if model tracks should be developed that would illustrate to consumers the impact that these predetermined energy usage decisions would have on their energy expenses under peak conditions. In SMPPI's response there was no specific discussion of creating predetermined positions that would take effect automatically during critical peak conditions. However, SMPPI did assert that approximately half of the project participants will receive smart thermostats that will permit automatic adjustments in central air conditioning load during periods of high electricity prices.<sup>48</sup> Also, SMPPI states that participants with smart thermostats will also have the capability of programming their cooling and heating levels to change automatically throughout the week.<sup>49</sup> Regarding model tracks, SMPPI indicates that the educational materials provided to participants will contain specific examples that will suggest methods to reduce

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<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.* at 8-9.

<sup>48</sup> *Id.* at 9.

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

consumption by 10 to 40 percent.<sup>50</sup> SMPPI states that it does not support referring to a 100% reduction, noting that the savings should be limited to realistic levels.<sup>51</sup>

**IV. DECISION**

15. The SMPPI program will measure the following five primary items for selected District of Columbia residents in all eight wards: (1) customer reduction in electricity consumption during peak times; (2) customer changes in overall consumption; (3) customer satisfaction with different pricing options and technologies; (4) usefulness of the selected technologies; and (5) value of presenting additional pricing information to customers.<sup>52</sup> This program is designed to provide a segment of District of Columbia residential customers with information on how electricity is priced and the types of energy reducing or energy shifting activities they can undertake in response to periods of high pricing in order to save money on their electricity bills. This program will also provide statistically valid results that we can use to assess the cost-effectiveness of these residential pricing and technology options for all District of Columbia residential customers as well. SMPPI has made a convincing case that the SmartPowerDC pilot program should proceed without parallel billing, and it has adequately responded to our concerns about program design. Accordingly, we approve Pepco's Tariff Application as proposed.<sup>53</sup>

**THEREFORE, IT IS ORDERED THAT:**

16. The Potomac Electric Power Company, P.S.C. of D.C. No.1, 29<sup>th</sup> Revised Page No. R-1, 29<sup>th</sup> Revised Page No. R-2, 22<sup>nd</sup> Revised Page No. R-2.1, Original Page No. R-43, Original Page No. R-43.1, Original Page No. R- 43.2, Original Page No. R-43.3, and Original Page No. R-43.4 are **APPROVED**;

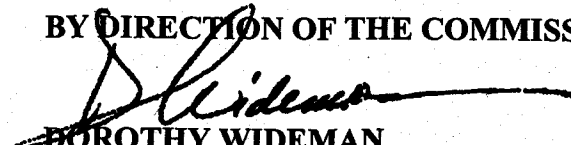
17. The Commission Secretary shall cause a Notice of Final Rulemaking to be published in the *D.C. Register*; and

18. The Tariff Application shall become effective upon the date of publication of the Notice of Final Rulemaking in the *D.C. Register*.

**A TRUE COPY:**

**BY DIRECTION OF THE COMMISSION:**

**CHIEF CLERK**

  
**DOROTHY WIDEMAN**  
**COMMISSION SECRETARY**

<sup>50</sup> *Id.*

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

<sup>52</sup> *F.C. 1002, Tariff Application, Attachment A at 2.*

<sup>53</sup> On November 7, 2006, OPC filed a motion requesting an expedited approval of the Tariff Application. In that we are now approving the Tariff Application, OPC's motion is deemed moot.