

BEFORE THE MARYLAND PUBLIC SERVICE COMMISSION

CASE NO. 9207

IN THE MATTER OF

POTOMAC ELECTRIC POWER COMPANY AND

DELMARVA POWER AND LIGHT COMPANY

REQUEST FOR THE DEPLOYMENT OF

ADVANCED METER INFRASTRUCTURE

SUPPLEMENTAL DIRECT TESTIMONY OF J. RICHARD HORNBY

ON BEHALF OF THE

MARYLAND OFFICE OF PEOPLE'S COUNSEL

NOVEMBER 18, 2009

1 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND PRESENT POSITION.**

2 A. My name is James Richard Hornby. I am a Senior Consultant at Synapse Energy
3 Economics, Inc., 22 Pearl Street, Cambridge, MA 02139.

4 **Q. ARE YOU THE SAME J. RICHARD HORNBY WHO SUBMITTED PRE-FILED**
5 **DIRECT TESTIMONY IN THIS PROCEEDING?**

6 A. Yes.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?**

8 A. The U.S. Department of Energy has selected the proposed deployment of advanced
9 metering infrastructure (“AMI”) in Maryland by Potomac Electric Power Company
10 (“Pepco” or “the Company”) for a 50 percent funding grant under the American
11 Recovery and Reinvestment Act (“ARRA”). In the Reply Testimony filed by Company
12 Witness Janocha dated November 9, 2009 as well as in response to OPC DR 6-1, the
13 Company updated certain of its exhibits and data responses to reflect that grant. Due to
14 the limited time available to prepare Supplemental Testimony to reflect those updated
15 responses, it is limited to updating the section of my Direct Testimony which describes
16 the impact of the Company’s proposed charge for AMI deployment on the rates and bills
17 of its electricity customers in general, and its residential customers in particular.

18 **Q. DID THE COMPANY UPDATE ITS ESTIMATE OF THE GROSS COST OF**
19 **THEIR PROPOSAL AFTER ARRA FUNDING?**

20 A. Yes. In his Reply Testimony Company Witness Janocha provides an updated estimate of
21 the system-wide average operational costs per customer per month. He presents this in
22 Schedule JFJ R-1.

23 **Q. DID THE COMPANY UPDATE ITS ILLUSTRATION OF THE NET IMPACT**
24 **OF THEIR PROPOSAL ON SYSTEM WIDE AVERAGE BILLS?**

1 A. No. In his Direct Testimony Company Witness Gausman provides an illustration of the
2 net impact of their proposal on system-wide average bills (Gausman Direct, p. 15 and
3 Schedule WGC-3) which I re-created as Exhibit__(JRH-8). In his Reply Testimony
4 Company Witness Gausman does not provide an update of that illustration to reflect the
5 reduction in system-wide average operational costs per customer per month presented on
6 page 2 of Schedule JFJ R-1.

7 **Q. DID YOU UPDATE THE COMPANY’S ILLUSTRATION OF THE NET IMPACT**
8 **OF THEIR PROPOSAL ON SYSTEM WIDE AVERAGE BILLS?**

9 A. Yes. In Exhibit__(JRH-10) I provide an update of that net impact. With the reduction in
10 cost due to ARRA funding, customers who do not respond to Critical Peak Rebate
11 (“CPR”), Critical Peak Pricing (“CPP”) or feedback on their usage for whatever reason
12 will not see a material net increase in their monthly bills from AMI by Pepco. In
13 Exhibit__(JRH-10) that result is shown by the dashed line labeled “Total Operational +
14 Existing Meters and Price Mitigation Only.”

15 As noted in my Direct Testimony, the illustration prepared by the Company and re-
16 created in my Exhibits__(JRH-8) and (JRH-10) is misleading because it is calculated for
17 all customers on a system-wide basis. The illustration does not provide the cost and
18 benefit impacts of AMI by rate class. In addition, the illustration incorrectly implies that
19 all categories of benefits would be allocated among and within rate classes according to
20 the number of customers. In fact, energy supply saving benefits will not be allocated
21 among and within rate classes according to number of customers.

22 **Q. DID THE COMPANY PROVIDE ESTIMATES OF THE COSTS AND BENEFITS**
23 **OF THEIR PROPOSAL BY RATE CLASS?**

1 A. Yes. In his Reply Testimony Company Witness Janocha provides estimates of the costs
2 and benefits of their proposal by rate class in Schedules JFJ R-3 to JFJ R-19.

3 **Q. ARE THOSE ESTIMATES OF COSTS AND BENEFITS BY RATE CLASS**
4 **BASED UPON HIS ASSUMPTIONS AND PROPOSALS FOR ALLOCATING**
5 **THOSE COSTS AND SAVINGS AMONG RATE CLASSES, AND FOR**
6 **RECOVERING THEM VIA A CUSTOMER CHARGE?**

7 A. Yes. Company Witness Janocha has developed these estimates by allocating the costs
8 and benefits among rate classes according to a meter cost weighted customer allocation
9 factor. He indicates that the annual costs by rate class would be recovered via a charge
10 per customer per month.

11 My understanding when preparing my Direct Testimony was that approaches to cost
12 allocation and rate design were not being addressed in this proceeding, but instead would
13 be addressed when the Company filed its rate case to roll the regulatory asset into base
14 rates. The Company witnesses did not propose an approach to cost allocation or rate
15 design in their Direct Testimony. As a result I did not address those issues in my Direct
16 Testimony other than to note that both proposals should be guided by a cost-of-service
17 (“COS”) study and an analysis of bill impacts.

18 It is quite important to give careful consideration to the factor used to allocate AMI
19 project costs and benefits because different parties will have different views as to the
20 “cause” of those costs. For example, my view is that the primary factor causing the
21 Company to incur these costs is not the number of customers but instead is the goal of
22 reducing peak load, reducing annual electricity use and perhaps reducing distribution
23 service costs. Based on that view of cost causation one could argue that the costs should
24 be allocated using a composite allocation factor reflecting demand, energy and

1 distribution service costs. Similarly, the design of rates to recover those costs by rate
2 class requires careful consideration.

3 **Q. DO THOSE ESTIMATES OF COSTS AND BENEFITS BY RATE CLASS**
4 **ILLUSTRATE WHY COST ALLOCATION AND RATE DESIGN WARRANT**
5 **CAREFUL CONSIDERATION?**

6 A. Yes. According to the proposals for the residential class prepared by Company Witness
7 Janocha the AMI project would result in an explicit increase in the delivery service
8 component of bills as an increase in the customer charge.

9 **Q. WILL LOW USAGE RESIDENTIAL CUSTOMERS SEE HIGHER THAN**
10 **AVERAGE INCREASES IN THEIR BILLS UNDER THE COMPANY'S**
11 **PROPOSED APPROACH?**

12 A. Yes. Those increased customer charges would produce disproportionate increases in the
13 bills of low usage residential customers because the customer charge represents a
14 significant portion of their bills.

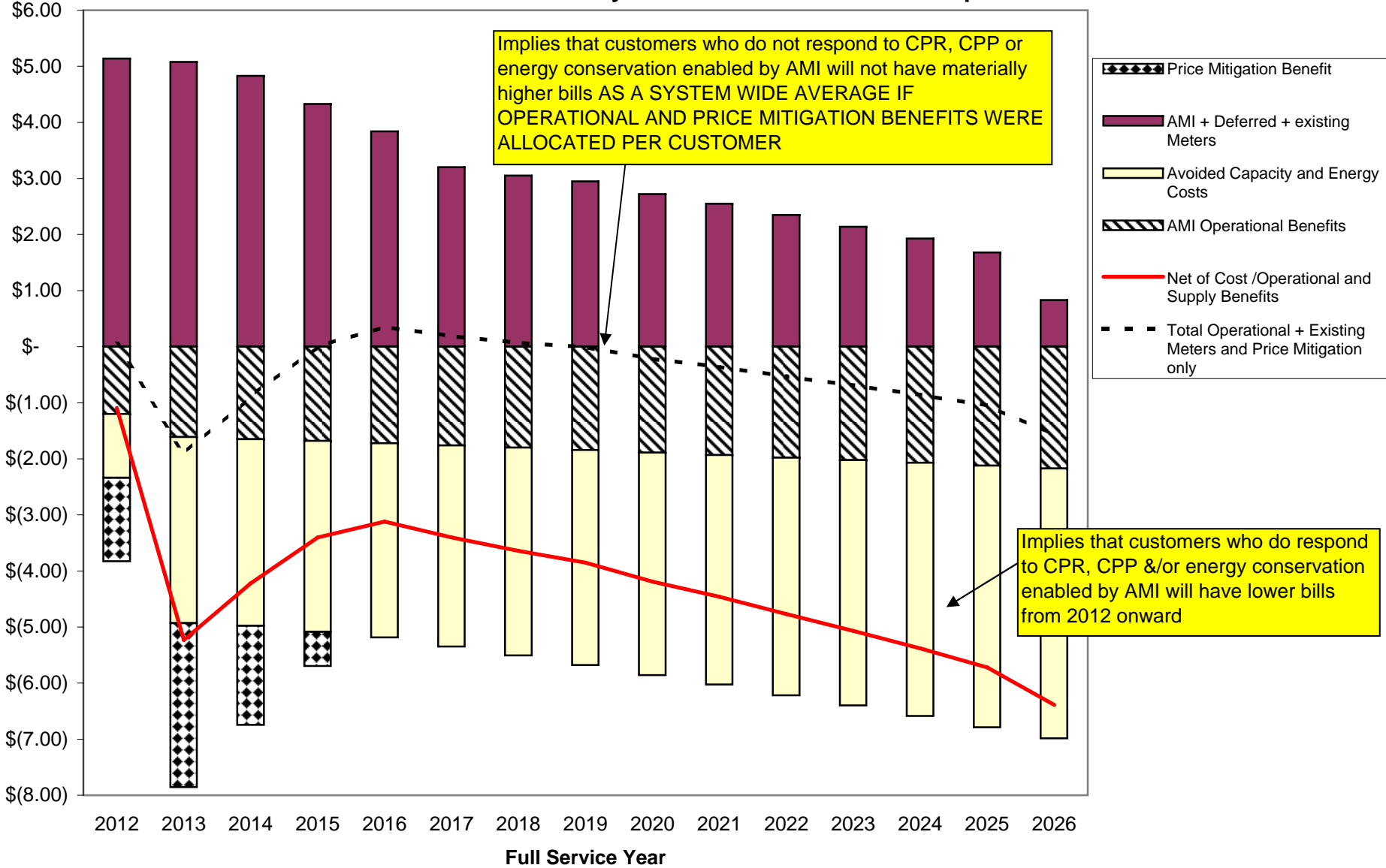
15 For example, the charge for residential electric customers is projected to be \$1.17 per
16 meter per month in 2012 if I understand Schedule JFJ R-4 correctly. That would be an
17 explicit increase in the annual bills for residential electric service of \$14. That amount
18 represents an explicit increase of less than 1% for an average customer using about 1,000
19 kWh per month but a 3% increase for a low usage customer using 220 kWh per month.

20 A customer that does not respond to the CPR, CPP or feedback would still benefit from
21 the price mitigation effect. However, that effect is implicit in the rate for supply service,
22 and contrary to Company Witness Janocha's estimates, that effect is a function of the
23 customer's kWh of electricity use. I show these explicit and implicit impacts on pages 1
24 and 2 of Exhibit___ (JRH-11).

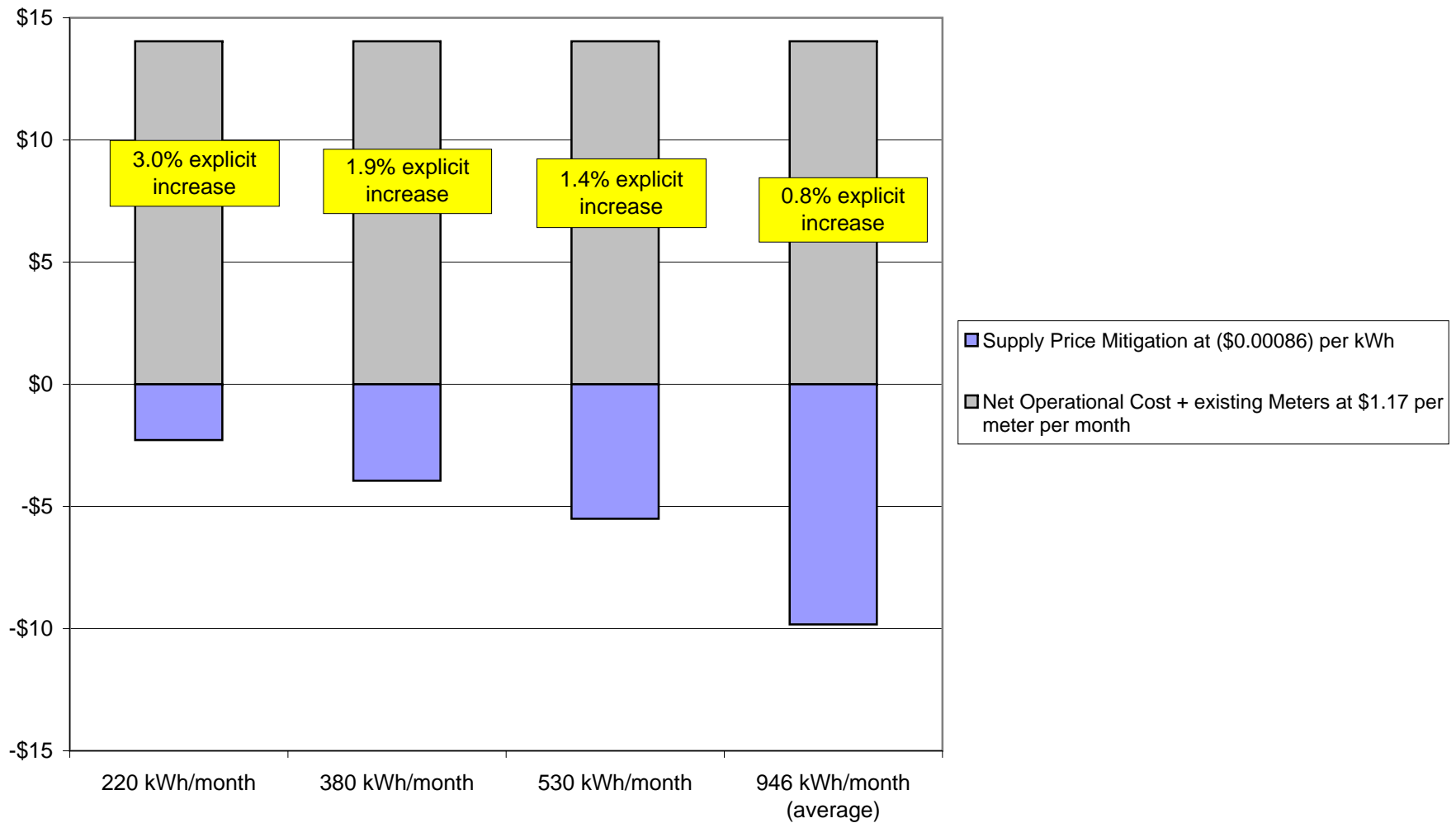
1 Q. **DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

2 A. Yes.

Potomac Electric Power Company - Maryland AMI Implementation WITH ARRA Funding Estimated Trend of Monthly Incremental Customer Bill Impacts



**Impact after ARRA Smart Grid Investment Grant -
Change in Residential Annual Bills in 2012 from PEPCO MDProposed Smart Grid Charge
before any offsetting savings from participation in PTR or Energy Conservation**



Impact after ARRA Smart Grid Investment Grant							
Change in Residential Annual Bills in 2012 from PEPCO MD Proposed Smart Grid Charge before any offsetting savings from participation in PTR or Energy Conservation enabled by Initiative (Schedule JFJ R-4, Page 6)							
Annual Bills of Residential Customers in 2012	Annual Bill at Existing rates	Net Operational Cost + existing Meters at \$1.17 per meter per month		Supply Price Mitigation at (\$0.00086) per kWh		NET IMPACT	
	\$/year	\$/year	%	\$/year	%	\$/year	%
Residential Electric							
220 kWh/month	\$466.09	\$14.04	3.0%	-2.29	-0.49%	\$11.75	2.5%
380 kWh/month	\$743.79	\$14.04	1.9%	-3.95	-0.53%	\$10.09	1.4%
530 kWh/month	\$1,004.15	\$14.04	1.4%	-5.51	-0.55%	\$8.53	0.8%
946 kWh/month (average)	\$1,721.56	\$14.04	0.8%	-9.83	-0.57%	\$4.21	0.2%
Source - Revised Workbook to Exhibit___(JRH-11)							