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Honorable James McNulty
Secretary, Public Utility Commission
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RE: Petition of PPL Electric Utilities Corporation for
Approval of a Smart Meter Technology Procurement
and Installation Plan
PUC Docket No. M-2009-2123945

Dear Secretary McNulty:

Please find for electronic filing the Exceptions of the Commonwealth of Pennsylvania, Department of Environmental Protection to the Initial Decision issued on January 28, 2010 by the Honorable Wayne L. Weismandel in the above referenced matter. Copies have been served on all parties listed on the enclosed Certificate of Service.

Sincerely,

/s/ Kurt E. Klapkowski

Kurt E. Klapkowski
Assistant Counsel

cc: Service List

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities :
Corporation for Approval of a Smart : **Docket No. M-2009-2123945**
Meter Technology Procurement and :
Installation Plan :

**EXCEPTIONS OF THE
COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

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Dated: February 17, 2010

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I. INTRODUCTION

In response to the January 28, 2010 Initial Decision issued by Administrative Law Judge Wayne L. Weismandel (“ALJ”) and in accordance with 52 Pa.Code § 5.533 (relating to procedure to except to initial, tentative and recommended decisions), the Commonwealth of Pennsylvania, Department of Environmental Protection (“Department”) files these Exceptions to Initial Decision in the above captioned matter.

This proceeding arises under Act 129 of 2008 (“Act 129”). Act 129 requires certain electric distribution companies (“EDCs”) to develop smart meter technology procurement and installation plans, and further requires EDCs to furnish smart meters upon request from a customer, in new building construction, and in accordance with a distribution schedule not to exceed 15 years. 66 Pa.C.S. § 2807(f). Act 129 also specifies the functions smart meters must provide. In order to be considered a smart meter, the meter and supporting infrastructure must 1) be capable of bidirectional communication, 2) record electricity usage on at least an hourly basis, 3) provide customers with direct access to and use of price and consumption information, 4) directly provide customers with information on their hourly consumption, 5) enable time-of-use rates and real-time-price programs and 6) effectively support the automatic control of the customer’s electricity consumption by one of the following as selected by the customer: the customer, the EDC, or a third party engaged by the customer or the EDC. 66 Pa.C.S. § 2807(g).

Through its *Smart Meter Procurement and Installation Order* (“Implementation Order”) at Docket No. M-2009-2092655, the Pennsylvania Public Utility Commission (“Commission”) established the process by which the Smart Meter Plans will be approved, the schedule under which smart meters are to be deployed, the minimum functions the meters are to provide, and the method by which the EDC may recover its costs.

The Implementation Order established a 30 month network and installation grace period during which EDCs are not required to deploy smart meters. Implementation Order at 7. The

Implementation Order also required smart meters to provide nine additional functions unless the Commission determines that the function is not cost effective. Implementation Order, 30-31. Finally, the Implementation Order clarified that smart meters are to be deployed throughout the EDC's service territory in less than 15 years from the date the EDC's Smart Meter Plan is approved. Id. at 14-15.

The Department's primary interests in this matter relate to the timeframe in which the smart meter network will be developed, the timeframe in which smart meters will be deployed system-wide, and the functions the proposed smart meters and infrastructure will perform and support.

II. PROCEDURAL HISTORY

Pursuant to Act 129 and the Commission's Implementation Order, on August 14, 2009, PPL Electric Utilities Corporation ("PPL") filed its Petition for Approval of a Smart Meter Technology Procurement and Implementation Plan ("Smart Meter Plan").

On August 29, 2009 the Commission published a notice of PPL's petition in the *Pennsylvania Bulletin* that required Petitions to Intervene and comments to the Smart Meter Plan to be filed by September 25, 2009. 39 *Pa. Bulletin* 5219. The Department filed its petition to intervene on September 18, 2009. On September 25, 2009, and in compliance with the Commission's *Bulletin* notice, the Department filed comments to PPL's Smart Meter Plan. On September 29, 2009 a prehearing conference was held in this matter and the Department's petition to intervene was granted. The Department filed its Main Brief ("M.B.") on December 4, 2009. On January 28, 2010, ALJ Weisman del issued an Initial Decision recommending approval of PPL's Smart Meter Plan as modified in the Initial Decision

III. DESCRIPTION OF PPL'S SMART METER PLAN

PPL's Smart Meter Plan is premised on PPL's belief that its current Advanced Meter Infrastructure ("AMI") "meets or exceeds all of the minimum requirements for smart technology set forth in Act 129 and the Commission's Installation Order" and "meets many of the additional capabilities" listed in the Implementation Order. Smart Meter Plan at 1.

As such, PPL's Smart Meter Plan does not include a plan to deploy new smart meter infrastructure. Smart Meter Plan at 15. Instead, PPL's Smart Meter Plan describes the ways in which PPL believes its current AMI meets the functionality requirements of Act 129 and the Implementation Order and then describes various pilot programs PPL proposes to conduct in order to "further enhance" the system's ability to meet the functionality requirements of Act 129 and the Implementation Order. Smart Meter Plan at 12.

Included in the pilot programs are proposals to test functions not listed in the Act or Implementation Order. These functions include service limiting, prepay metering, momentary outage monitoring, and feeder meters. Smart Meter Plan pages 26-28. Attachment 1 to the Smart Meter Plan is the Smart Meter Milestone Plan describing the time frame over which the pilot programs will be evaluated and potentially implemented. Attachment 2 provides an annual budget for the pilot programs through 2014. Attachment 3 describes the pilot programs in greater detail.

IV. THE DEPARTMENT'S EXCEPTIONS TO THE INITIAL DECISION

A. DEP EXCEPTION NO. 1 **The ALJ Erred in Finding That PPL's Current Advanced Meter Infrastructure Meets the Definition of "Smart Meter Technology" in Act 129 and the Commission's Implementation Order.**
DEP M.B at 6-11, Initial Decision at 2 (Finding of Fact 2), 7 (Finding of fact 10), 12 (Finding of Fact 56), 13 (Findings of Fact 64, 69), 14 (Finding of Fact 70), 21, 31-33, 37 (Conclusion of Law 19).

1. PROVIDING CUSTOMERS WITH DIRECT ACCESS TO AND USE OF PRICE AND CONSUMPTION INFORMATION.

In order to meet the requirements of Act 129, the EDC's Smart Meter Plan must provide for the deployment of smart meters that meet the definition of "smart meter technology".

66 Pa. C.S. § 2807(g) defines "smart meter technology" as follows:

[T]echnology, including metering technology and network communications technology capable of bidirectional communication, that records electricity usage on at least an hourly basis, including related electric distribution system upgrades to enable the technology. The technology shall provide customers with direct access to and use of price and consumption information. The technology *shall* also:

- 1) Directly provide customers with information on their hourly consumption.
- 2) Enable time-of-use rates and real-time price programs.
- 3) Effectively support the automatic control of the customer's electricity consumption by one or more of the following *as selected by the customer*:
 - (i) the customer;
 - (ii) the customer's utility; or
 - (iii) or a third party engaged by the customer or the customer's utility.

(Emphasis added)

With regard to the enumerated functions mandated by Act 129, the critical element of the definition is allowing *the customer* to be in control of establishing the automatic control of their electricity consumption through the smart meter – whether it be on their own, through a conservation service provider, or through the EDC. Accord, 66 Pa.C.S. § 2807(g). The Implementation Order directly addresses these mandated functionalities as follows:

[T]he Commission will require EDC smart meters to have a capability to provide raw near real-time consumption data through a HAN or similarly capable method of open protocols. This delivery method should also be capable of providing pricing signals to support real-time and time-of use pricing programs, as well as energy efficiency and demand response programs. Smart meters should support EDC and EGS time-of-use and real-time-pricing programs. Similarly, smart meters should support EDC, EGS and CSP energy efficiency and demand response programs.

Implementation Order at 23.

As made clear by the Implementation Order, the purpose of these functions is to effectively enable customers to control their energy consumption by responding to price signals sent directly to them through the meter system. PPL's Smart Meter Plan states that its current AMI provides these

mandated functions. Smart Meter Plan at 1. In the Initial Decision, the ALJ agreed with PPL's assertion that the current AMI, when coupled with PPL's pilot programs, meets the definition of "smart meter technology" under Act 129 and the Implementation Order. Initial Decision at 31-33. For the reasons set forth below, the Department disagrees with this conclusion and requests that the Commission conclude that PPL's AMI does not meet the definition of "smart meter technology" under Act 129.

As the Department argued in its Main Brief, PPL's Smart Meter Plan purports to provide customers with direct access to and use of price information by making this information available through its website. Smart Meter Plan at 7. Accessing this information requires 1) owning a computer, 2) turning it on, 3) accessing the internet, 4) navigating to PPL's website, 5) logging on to the customer's account, 6) viewing price data, and 7) viewing consumption data that is 48 hours old. See, PPL Statement No. 1-R, page 13 line 8 (regarding 48 hour time lag).

This is in contrast to the HAN or similarly capable method with open protocols that constantly receives realtime price data from the EDC, provides near real-time consumption data, and supports energy efficiency and demand response programs. Accord, Implementation Order at 23. By comparison, PPL's website is an indirect method of conveying information that does not provide the functions of the HAN or similarly capable method with open protocols required by the Commission. Because PPL's AMI does not enable a HAN and the PPL website is not a similarly capable method of delivering information, PPL's current AMI cannot be considered "smart meter technology".

Providing customers with direct access to and use of price and consumption information is required by Act 129 in order for an EDC's meters to be considered "smart meter technology". Although the ALJ noted that PPL is proposing several "pilot programs" to meet this requirement, a pilot program does not represent system-side installation of smart meter technology and should not be permitted to serve as a substitute for meeting the requirements of Act 129. Initial Decision at 12

(Finding of Fact 56), 31. The Department urges the Commission to find that the current PPL AMI does not meet this requirement.

2. EFFECTIVE SUPPORT FOR AUTOMATIC CONTROL OF THE CUSTOMER'S ELECTRICITY CONSUMPTION.

The Department also argued that the current PPL AMI did not meet the definition of “smart meter technology” under Act 129 because the AMI did not effectively support the automatic control of the customer’s electricity consumption by either the customer, the customer’s utility, or a third party engaged by the customer *as selected by the customer*. Accord, 66 Pa.C.S. § 2807(g). The Department believes that this functionality is critical because puts the customer in complete control over their electricity consumption in response to fluctuating prices. DEP M.B. at 9-11. The ALJ did not agree with the Department, again finding that PPL’s proposed pilot programs would fill the functionality gap between the company’s current AMI and the requirements of Act 129. Initial Decision at 13 (Findings of Fact 64, 69) 14 (Finding of Fact 70), 32.

Aside from the problem identified above concerning meeting mandatory requirements for “smart meter technology” through the use of pilot programs that may or may not be part of the system-wide installation of smart meters, PPL claims that its current AMI provides this function through direct load control and load curtailment programs provided by conservation service providers (“CSP”) as part of PPL’s Energy Efficiency and Conservation Plan. Smart Meter Plan at 8. Importantly, these CSP load control programs “employ technology and communications capabilities that are *not* part of the Company’s advanced meter infrastructure.” PPL Statement 1-R, page 5 lines 4-5 (emphasis added). As a matter of law, load control programs offered by a CSP independently of the utility’s metering infrastructure fundamentally fail to meet this smart meter functionality requirement.

Act 129 requires that an EDC’s metering infrastructure provide the functions required of smart meter technology. 66 Pa.C.S. § 2807(f). Because PPL’s current AMI does not provide this

function, it does not meet the definition of “smart meter technology”. Even if both the CSP and the EDC provide direct load control functions through the EDC’s metering system, this still does not satisfy Act 129 because neither option allows the customer to automatically control their electric consumption as required by 66 Pa.C.S. § 2807(g).

Again, the Department argues that only a HAN or a similarly capable method with open protocols can support the customer’s ability to choose the price points at which their smart appliances respond to price signals provided by the utility. We believe that was why the Commission required that HANs (or similarly capable devices) be provided with each smart meter, required smart meters to include “open standards and protocols that comply with nationally recognized non-proprietary standards, such as IEEE 802.15.4” and required smart meters to provide “the ability to upgrade these minimum capabilities as technology advances and becomes economically feasible”. Implementation Order at 16 and 23. Indeed, even PPL acknowledges this. As stated in its Smart Meter Plan when discussing the deployment of open standard HANs through a pilot program:

The expected high level benefits are that the pilot will (1) contribute to the reduction of energy consumption through “smart” automated home controls, (2) provide the basic hardware foundation for special rate initiatives such as critical peak pricing, and (3) enable the customer to understand and control their consumption. Smart Meter Plan at 24.

CSP load control programs that operate independently of the EDC metering infrastructure and pilot programs that may or may not be implemented system-wide are not an effective substitute for a HAN or a similarly capable method with open protocols and do not satisfy the requirements of Act 129 and the Implementation Order. The Commission should reject the findings of fact of the ALJ that the current PPL AMI and various pilot programs meet the definition of “smart meter technology” under Act 129 and the Implementation Order, and require PPL to submit a Smart Meter Plan that meets those mandatory requirements.

B. DEP EXCEPTION NO. 2 **The ALJ Erred in Finding that PPL Met its Burden of Proof to Demonstrate that AMI is “Capable” of Providing**

the Functions Required by Act 129 and the Implementation Order.

DEP M.B. at 11-12; Initial Decision at 6 (Finding of Fact 2), 13 (Finding of Fact 69), 14 (Finding of Fact 70).

Despite the fact that PPL's AMI does not actually provide all the functions required by Act 129 and the Implementation Order, PPL stated that its AMI meets the definition of "smart meter technology" because it is "capable" of providing those functions. See, Hearing Transcript page 93 lines 19-23. This argument fails for two reasons. First, Act 129 and the Implementation Order require smart meters to actually provide the above-discussed functions. Second, PPL's AMI is not capable of providing the functions because it requires hardware and software upgrades to do so.

Section 2807(g) does define "smart meter technology" as technology that is "capable" of bidirectional communication. However, with respect to the functions discussed above, section 2807(g) states that the technology *shall* provide those functions. 66 Pa. C.S. § 2807 (g). This is a mandatory requirement that is not couched with the word "capable". Even if the word "capable" could somehow be read into that part of the smart meter technology definition, the Implementation Order makes clear that smart meters must actually provide the listed functions. As stated on page 16 of the Order, "a covered EDC's smart meter technology *must* support the following capabilities." Implementation Order at 16 (emphasis added).

Even if metering technology that is merely capable of providing the mandated functions satisfies Act 129 and the Implementation Order, PPL's current AMI would not meet that standard. As the pilot programs demonstrate, in order to provide customers with direct access to and use of price and consumption information, directly provide customers with information on their hourly consumption, enable time-of-use rates and real-time price programs and effectively support the automatic control of the customer's electricity consumption by the customer, the EDC, or a third party engaged by the customer or the EDC as selected by the customer, PPL must first upgrade the hardware and software of its system. See, Smart Meter Plan Attachment 3, page 3-1, 3-2, 3-6, 3-10.

Indeed, in order to provide meters that enable a HAN, PPL must actually provide the customer with an entirely new meter. *Id.* The Department submits that a system that lacks the necessary hardware and software to provide the functions mandated by Act 129 is simply not capable of providing those functions. Therefore, the Commission should reject the ALJ's Findings of Fact that PPL's current AMI consists of "smart meters" (Finding of Fact 2) and that PPL may choose not to implement all required capabilities if the pilot programs do not show cost effectiveness (Findings of Fact 69 and 70).

DEP Exception No. 3

The ALJ Erred in Finding that PPL’s Smart Meter Plan Provides “Smart Meter Technology” After the 30 month Grace Period, to All Customers Upon Request, in All New Building Construction, and Throughout its Service Territory Within 15 years of the Date of Plan.
DEP M.B. at 12-13; Initial Decision at 33.

PPL’s Smart Meter Plan proposes several pilot programs to “enhance” the AMI’s current capabilities. Smart Meter Plan at 12. Relevant to this Exception, PPL proposes to evaluate the ability of its current AMI to support a HAN that meets nationally recognized open standards. Smart Meter Plan Attachment 3 at 3-1, 3-3 and 3-10. PPL does not commit to deploying meters that provide the “enhanced” capabilities after the 30 month grace period, to all customers upon request, in all new building construction, and throughout its service territory within 15 years of the date of Plan approval. Smart Meter Plan at 14-15. While a pilot program may help shape the eventual form that a required functionality may take, it cannot be used to determine whether or not a required functionality is included in an EDC’s Smart Meter Program. Implementation Order at 30.

Indeed even if the pilot program supports deployment of HAN-enabled meters, PPL would only provide such a meter to customers who request it. Hearing Transcript at 128 Lines 21-22 (“It would not automatically be deployed in new construction”) and Pages 97-98 (“We are not committing ourselves to that. We’re committing to making them available to customers requesting them.” page 98 lines 12-14). Even then, a requesting customer may not be provided with such a meter. See Smart Meter Plan at 14 (PPL will provide HAN enabled meters to customers through the pilot program “subject to the constraints of timing and availability of equipment that provides the required functions.”).

The ALJ concluded that as a matter of law that neither Act 129 nor the Implementation Order required that HANs (or, presumably, similarly capable method with open protocols) be provided for all an EDC’s customers. Initial Decision at 31 and 37, Conclusion of Law 19. The Department disagrees with this conclusion and urges the Commission to follow the clear requirements of Act 129

and the Commission's Implementation Order. A meter that does not provide all the mandated functions is not a smart meter. 66 Pa. C.S. § 2807(g). Smart meters must be deployed after the 30 month grace period to all customers who request them (and agree to pay the incremental cost) and on all new construction. 66 Pa. C.S § 2807(f)(2)(i),(ii), Implementation Order 9-13. Finally, smart meters must be deployed throughout the EDC's service territory within 15 years of the date of plan approval 66 Pa. C.S § 2807(f)(2)(iii), Implementation Order 14-15. PPL's Smart Meter Plan fails to meet all of these basic requirements and the Commission should adopt such a finding and order the company to submit an amended Smart Meter Plan that meets the requirements of Act 129 and the Implementation Order.

VII. Conclusion

For foregoing reasons, the Department respectfully requests that the Commission require modifications of PPL's Petition for Approval of its Smart Meter Technology Procurement and Implementation Plan to comply with the required provision of Act 129, as expressed in the Implementation Order.

Respectfully Submitted,

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Corporation for Approval of a Smart : **Docket No. M-2009-2123945**
Meter Technology Procurement and :
Installation Plan :

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing documents, the Exceptions of the Commonwealth of Pennsylvania, Department of Environmental Protection, to the Initial Decision issued on January 28, 2010 by the Honorable Wayne L. Weismandel upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code Section 1.54 (relating to service by a participant), in the manner indicated upon the persons listed below:

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