PUGET SOUND ENERGY

Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
PSE.com

March 8, 2018

Filed Via Web Portal

Steven V. King, Executive Director and Secretary
Washington Utilities and Transportation Commission
P.O. Box 47250
1300 S. Evergreen Park Drive S.W.
Olympia, Washington 98504-7250

Re: **Docket U-180117: Comments of Puget Sound Energy on Commission Policy on Customer Choice for Smart Meter Installation**

Dear Mr. King:

Puget Sound Energy ("PSE") appreciates the opportunity to respond to the questions proposed in this docket and submits the following comments in response to the request in the Washington Utilities and Transportation Commission's ("Commission") Notice of Opportunity to Submit Written Comments issued in Docket U-180117 ("Notice").

PSE intends to exchange its aging AMR (automated meter reading) electric meters and natural gas AMR modules for smart meters and modules. This AMI (Advanced Metering Infrastructure) project mitigates the risk of aging metering infrastructure and provides the foundation for PSE to pursue operational efficiency and enhanced customer service. AMI capabilities and benefits require the near full-deployment of smart metering infrastructure.

PSE approaches these smart metering installation customer choice issues identified in the Notice with the aim of leveraging technology to improve customer service and satisfaction and to enhance system reliability while balancing the up-front and on-going costs associated with the AMI project. With these goals in mind, the following statements summarize PSE's position regarding smart metering installation customer choice program:

- While PSE prefers there is no smart metering installation opt-out or opt-in program, PSE would support a smart metering installation opt-out program, but not an opt-in program. Many US utilities that have smart metering and an opt-out program have seen participation levels around or below 1%. Because of fixed up-front costs required to

develop and implement a program, the cost-per-customer of opt-out programs can be quite high.

- PSE is open to a smart metering installation opt-out option for electric and gas residential customers, but not commercial, industrial, or net metering customers.
- Smart metering installation opt-out eligibility would be tied to the account holder who is responsible for the energy service or services from PSE, and not determined by property ownership status.
- The opt-out meter solution would be a digital non-communicating AMI meter.
- A customer who opts out of a smart metering installation would pay a one-time fee for the meter installation costs and a recurring fee for manually reading a non-communicating meter.

As described in PSE's responses below, the implementation of a smart metering installation opt-out program will incur additional AMI costs while limiting overall benefits at both the customer level and the utility operational level.

Smart Meter Installation Opt-In/Opt-Out

1. Should companies be required to offer customers the choice to opt-out of smart meter installation at their premises? Alternatively, should customers affirmatively opt-in?

PSE Response:

In order to provide consistency across PSE's service area where PSE provides electric or natural gas service or combined utility services, PSE supports the Commission setting common foundations for smart metering installation customer choice policy. If the Commission is going to require utilities to offer customers the choice to opt-out or opt-in of smart metering installation, in addition to such requirement, it would be beneficial if the Commission also provides the guidelines on the implementation of the customer choice and the costs recovery associated with the initial implement and the on-going processes. Many of the issues associated with either the opt-out or opt-in choice have been identified in the March 15, 2018 workshop questions. As highlighted in these questions, the choice to and the scope of opt-out or opt-in of smart metering installation would determine customer experiences, delivery of smart meter benefits, and customer and utility costs.

If a meter installation customer choice is required by the Commission, PSE supports offering an opt-out choice to natural gas and electric residential customers in the form of a non-communicating digital AMI meter. The opt-out customers should be charged at least the incremental costs associated with the accommodating the opt-out choice. PSE believes this combination balances the concerns regarding customer choice, smart meter benefit, and customer and utility costs.

PSE does not support an opt-in customer choice program because this approach will result in higher costs and greater inefficiencies for any wireless metering solution. Eugene Water & Electric Board ("EWEB") provided a recent example of attempting an opt-in customer choice smart metering installation program. EWEB needed to communicate to each customer and gain their acceptance of the smart metering installation. EWEB experienced a slow and expensive communication and acceptance of AMI, which resulted in a program that did not meet the basic business case requirements to improve outage performance and lower overall utility operation costs. In early 2018, their opt-in policy has been reversed and EWEB was instructed to implement their AMI rollout as an opt-out program. [1]

2. Should companies be required to offer all customer classes the choice to opt-out or opt-in for smart meter installation?

PSE Response:

PSE does not support offering opt-out across every customer class for technical and reliability reasons. Specifically, PSE does not support an opt-out option for commercial, industrial, and net metering customers. With non-communicating meters, PSE and the customers will not able to monitor and manage energy usage and flow in a timely manner.

For example, most of the electric commercial and industrial customers are billed a demand charge, which records the maximum time interval of usage for a meter to determine the billing demand quantity. With non-communicating meters, there is no function to indicate whether there is any equipment or read recording issue with the meter without physically visiting the meter by a utility representative. This limitation means that the utility may not be able to remedy any issue before a bill is required to be distributed to the customer.

Net metering customers use electricity from the grid, and also generate their own electricity that can be fed back to the grid. For safety and reliability reasons, a utility needs to know how much and in what direction this electricity is flowing. A communicating meter, including a smart meter, is essential to monitor this flow of electricity. Customers who push too much electricity back onto the grid can lead to overload on parts of the grid. Safety issues can occur when a net metering customer is sending electricity back onto a part of the grid when it is being worked on by utility workers. A utility can mitigate these risks by ensuring these customers' meters are communicating the direction of their electricity flow.

Finally, PSE recommends that only the current account holder would be eligible to opt out, and that a customer should have a meter installation setup and meter location that conforms with PSE's standards in order to be eligible. The setup standards established by utilities for each customer type are designed so meters can be safely and easily accessed, read, and maintained.

[1] Eugene Water and Electric Board Memo, "Advanced Metering Benefits and Implementation Options." January 31, 2018. http://www.eweb.org/Documents/board-meetings/2018/02-06-18/m8-advanced-metering-benefits-and-implementation-options%20V2.pdf

3. What company estimates, if any, have already been developed for how many customers would choose to opt-out or opt-in for smart meter installation?

PSE Response:

PSE's internal research of customers across PSE's service area in late 2017 showed that approximately four to eight percent of the customers expressed opposition to or concern about smart metering. A 2015 West Monroe Partners' white paper found that several utilities estimate that less than one percent of their customers will opt out of an AMI meter.[2] PSE believes the number of customers who elect to opt out will depend upon the structure and costs of an opt-out program and customers' understanding of the benefits of smart metering. PSE has found that customers who are more favorable of smart metering have better understanding of AMI benefits.

Smart Meter Benefits

4. What challenges do the companies face based on different levels of opt-in and opt-out (e.g., 1 percent, 5 percent, 25 percent) and what smart grid benefits are either reduced or eliminated at these levels?

PSE Response:

PSE understands that most utility business cases for AMI are built around the reduction in meter reading costs associated with manual reads. For companies who have had AMR meters and no opt-out option for nearly 20 years, any opt-out rate would result in a net increase in meter reading costs and workforce requirements, infrastructure costs, and information system configuration costs.

Several AMI benefits are based on full, or near full, installation of smart meters across a utility's service territory. A full smart meter deployment will deliver the following benefits:

- Boosting AMI network performance: The AMI solution that PSE is deploying uses an RF (radio frequency) mesh communication technology. This technology provides communications from one smart meter to another to allow each smart meter to establish the best path for messages to follow. As each smart meter is removed from the population, the RF mesh is weakened and the alternative paths for communications of the remaining smart meters are reduced. These holes must be filled by installing more pole-top network devices. These pole-top devices are an additional expense to install and maintain, and result in more required dollars to support a smaller percentage of our customer's reads.

[2] "AMI Opt-Out: Policies, Programs and Impacts on Business Cases." West Monroe Partners, 2015. https://www.westmonroepartners.com/~/media/Files/White-Papers/West-Monroe-Partners-AMI-Opt-Out-White-Paper-62012.pdf

- Improving Outage Management: Improvement on outage detection and restoration management is based on the assumption that communicating meters are able to send a notice when energy service is lost and restored. Today, PSE's outage prediction is largely driven by customer calls. PSE believes these calls can become less relevant to outage operations as we approach a smart grid. Specifically, smart meters provide significant improvements over AMR to the power out and power on notifications from meters. Due to the varied nature of our urban and rural service territory, however, even a small percentage of opt-out customers could result in slower outage identification and restoration. A nested outage, or an outage located within another outage, is often not visible to a utility without real-time or near real-time data reads from the field. Smart meters can provide this data, are a powerful input to determine whether restoration efforts were successful for customers, and allow utilities to more effectively prioritize restoration efforts. Additionally, as described above, PSE uses an RF Mesh AMI technology and each smart meter removed from the population reduces the performance of the other smart meters to report their outage as they have a reduced number of paths for communications.
- Enhancing Electric Grid Management: There are several benefits that smart metering provides for grid management including line loss monitoring and reduction, CVR (conservation voltage reduction), engineering planning, etc. As discussed above, these benefits rely on complete, or almost complete, adoption of smart metering to achieve the maximum benefit. Smart meters make meter data and status available quickly and provide more robust diagnostic information. An electric utility can know about more about potential issues, such as voltage changes or a neighbor who installed a solar power array without being a utility net metering customer, which could impact power quality and safety. Without an almost full deployment of smart metering, a utility would not be as capable of managing voltage levels, transformer loading, and power quality, which is becoming much more important with the increasing prevalence of technologies such as solar and electric vehicle charging.
- Modernizing Meter Management: Smart meters let the utility know when they have been moved or tampered with. Non-communicating meters cannot notify the utility of these problems. If not caught, these problems can be a safety concern for customers and utility employees. In addition, undetected tamper and theft can result in a cost to all customers if not found. With a smart meter, PSE is able to track the meter activity in the field in near real time, which includes the location of the meter, the current energy consumption, and if the meter has been tampered with.

5. For those customers who select to opt-out of, or decline to opt-in to, smart meter installation, what types of services or benefits would they be forgoing?

PSE Response:

Customers opting out of a smart metering installation would not be able to receive the following typical AMI smart metering services:

- Outage detection: Smart meters provide more granular and definitive information on outages. Without a smart meter, a utility may not be able to confirm an outage until a customer calls in to report their outage.
- Detailed meter read data: Customers without a smart metering installation will not have the same access to detailed hourly or daily meter reading data which enables a utility to provide services such as high bill notification, outage and restoration notification, or customer self-service of move-in/move-out at PSE.com.
- Prepayment: Prepayment is a popular service associated with high customer satisfaction levels. Prepayment allows customers to add credit to their account in a variety of ways, and recharge their account as they use electricity.
- Time-based rate programs: Programs such as time of use rates use both the time and amount of electricity a customer uses to lower customer energy costs by better match it to the actual cost that electricity cost a utility to procure. AMI with smart metering installation enhances demand response or critical peak pricing programs are other pricing methods that can allow a utility to send price signals to customers on when it is the most expensive to purchase or generate energy. Electricity can have different purchase prices for utilities at different times of day or year. These types of signals can be used to avoid extreme cost spikes in power purchases that raise the average cost per kilowatt hour, and give customers discounts for using energy at different times of day. Opt-out customers are severely limited for participation in any time-based rate programs or discounts that require smart metering for detailed meter measurement.

Costs

6. What types of costs are associated with offering an analog/existing meter opt-out option?

PSE Response:

An opt-out option will have up-front infrastructure and information system costs, ongoing program administration costs, one-time costs associated with each customer who elects to opt out, and ongoing manual meter reading costs. In terms of up-front costs, the utility would need to test, approve, procure, and maintain inventory of additional meter types. A utility would also need to incur information system development and configuration costs to allow for the optional opt-out service. It would involve substantial changes to billing software and processes for any recurring opt-out fees and other specific billing and metering requirements pertaining to this small group of opt-out customers.

An opt-out program would require administrative resources to oversee and additional workforce to manually read the non-communicating meters. The workforce will require additional trucks and tools to travel between customer sites to periodically record their usage. These trucks will incur a CO2 emission cost for driving between customers for reads that would otherwise be read remotely, as well as two additional truck rolls – one to replace the

customer's existing meter, and one to remove the non-communicating meter should the opt-out customer move out.

In addition to these up-front and ongoing costs, engineering work would be required to remedy network communication holes that develop as the result of the opt-out program by relocating existing network devices or purchasing additional network.

7. Are costs a function of the number of customers choosing to opt-in or opt-out?

PSE Response:

The ongoing costs associated with meter reading will differ in wide range based upon the number of customers choosing to opt-in or opt-out. Given that PSE's electric, natural gas, and combined fuel service area encompasses 6,000 square miles in ten counties, the number and distribution of the opt-out customers are the key elements in determining how the meter reads can be attained in an efficient and economical way. The number of customers choosing to opt-in or opt-out also constrains the smart meter and smart grid benefits for a utility and its customers.

8. Should all costs associated with the opt-out choice be paid by the individual customer making that election or should some portion of those costs be allocated to all ratepayers and/or to company shareholders?

PSE Response:

PSE proposes that the incremental meter costs and the costs to support non-communicating meter reading be paid by the individual opt-out customer. PSE also proposes that the initial costs associated with the design and configuration of the metering, information, and billing systems, as well as the ongoing overall program administration costs are allocated to all customers.

Fees

9. What fees (one-time/recurring) should be assessed to customers who elect to opt-out and should the fees be assessed on a per-meter or per-location basis?

PSE Response:

PSE envisions that there would be an up-front cost to cover the installation and eventual removal of the non-communicating meter, as well as a monthly fee to cover the cost of manually reading the meter.

While it would be possible to assess a fee on a per-location basis, PSE supports categorizing the one-time and recurring fees on a per-meter basis. All customers are assessed basic service charges on a per-meter basis based upon the energy service they receive from PSE. While

there are instances of blended rates applying, a per-location rate that is blended or otherwise discounted for a program introduces further complexity in rate making.

10. If a monthly fee component is included, should there be a limited duration for companies to recover the incremental costs associated with the customer's choice to retain an analog/existing meter?

PSE Response:

The monthly fee would only cover the cost of reading the meter, not the meter installation setup costs. Because the meter will continue to be read, this ongoing monthly fee should not be limited in duration.

11. If a one-time or up-front fee is required, should the companies be required to offer a payment plan?

PSE Response:

PSE currently would support treating the one-time or up-front fee as any other one-time charge. PSE does not have a tariff schedule that provides an installation payment plan for one-time charge. PSE believes it is reasonable to collect the up-front costs before installing or deploying of any optional services or equipment.

12. If recurring opt-out fees are assessed with each meter reading, should alternative meter reading schedules be adopted to reduce the opt-out fees paid by the customer (e.g., bi-monthly, quarterly, or annually with budget billing)?

PSE Response:

Currently, at PSE, there is both monthly and bi-monthly billing for electric customers per electric Schedule 80, which is consistent with WAC 480-100-178(1)(a) that a utility will issue customer bills not to exceed two one-month billing cycles. Furthermore, PSE includes all recurring charges in the annual balance that determines a customer's monthly budget billing amount. That is, the balance would also include the on-going monthly fee associated with the smart metering installation opt-out customer option.

However, PSE does not advocate quarterly or annually metering reading schedule as the prolonged billing cycles may have an impact on accounting reporting for issues such as revenue recognition. Notwithstanding these concerns, it would be possible for PSE to adopt alternative reading schedules for opt-out customers that are in line with the billing and metering reading options available to all PSE smart metering installation opt-out customers.

13. Should fees differ based on whether the customer is selecting to opt-out of a smart meter for a single service (e.g., electric or natural gas) or both services?

PSE Response:

The fees could be assessed for a single location or individual service or a single meter depending on the determination of a utility or the Commission. However, the introduction of blended or discounted rates would increase complex for customer billing and tariff adjustments and create cross subsidization among customers and energy services.

14. Should there be a fee imposed on customers who elect to opt-out and later desire to have a smart meter installed?

PSE Response:

Yes. This fee would be covered in the charge associated with the smart metering installation so that the costs associated the installation are borne by the customer who requests the installation rather than all customers.

15. Should opt-out fees be a separate line item on a customer's bill?

PSE Response:

Yes, the opt-out option would be an optional utility service that the customers choose to have, therefore it is essential to indicate the fees on a customer's bill. For example, if a customer elects to participate in PSE's Green Power program (under electric Schedule 135, Green Energy Option Purchase Rider), a line item on their bill reflects this as a line titled "Green Power Purchase".

Options

16. Should more than one opt-out option be offered to customers who do not wish to have a wireless smart meter (e.g., a digital non-communicating meter)? If so, should the cost differ based on the type of meter selected?

PSE Response:

PSE proposes only one opt-out meter option of a digital non-communicating AMI meter.

17. Should customers with smart meters be offered the opportunity to relocate the smart meter to another location on their premises? Is so, should the customer pay the cost of relocation?

PSE Response:

PSE currently provides customers who wish to have PSE facilities modified to meet their individual need with this service under the terms and conditions set forth in PSE's WN U-60, Tariff G for electric service and PSE's WN U-2, Tariff for natural gas service, and under the line extension policies outlined in the electric Schedule 85, Line Extensions & Service Lines, and natural gas Rule No. 6, Extension of Distribution Facilities.

Customer Communication

18. What form(s) of communication should the companies employ to advise customers of their smart meter installation options, and what type of information should be communicated?

PSE Response:

Prior to the smart metering installations, PSE will have information available on its website about its AMI meter project and its deployment schedule. If there is an opt-out smart metering customer choice program, PSE would include information on how to apply and all the customer costs would be for customers choose the optional smart meter op out service. In addition, PSE would train its customer service personnel to assist customers in understanding and applying for the opt-out program. For customers who refuse an AMI meter at the time of a planned installation, PSE would provide information to them on how to obtain more information on the costs and application steps for any available opt-out program.

PSE appreciates the opportunity to provide responses to the questions identified in the Commission's Notice of Opportunity to File Written Comments. Please contact Mei Cass at 425-462-3800 or Spencer Jones at 425-457-5382 for additional information about this filing. If you have any other questions please contact me at (425) 456-2110.

Sincerely,

/s/ Kenneth S. Johnson

Ken Johnson
Vice President, Regulatory and Government Affairs
Puget Sound Energy
PO Box 97034, PSE-08N
Bellevue, WA 98009-9734
425-456-2110
ken.s.johnson@pse.com