BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-190529 & UG-190530
Puget Sound Energy
2019 General Rate Case

THE ENERGY PROJECT DATA REQUEST NO. 014:

Please provide a copy of any study, report, memorandum, recommendation, presentation or analysis of any kind performed by or for PSE regarding remote disconnection.

Response:

Please see the Prefiled Direct Testimony of Catherine A. Koch, Exh. CAK-4, Appendix A, in which Puget Sound Energy ("PSE") provided the Advanced Metering Infrastructure business case outlining the reasons for adding the remote disconnect/reconnect feature.

Please also see Attachment A to PSE's Response to The Energy Project Data Request No. 014 for the detailed Corporate Spending Authorization request to implement remote disconnect/reconnect and the associated benefits.

ATTACHMENT A to PSE's Response to The Energy Project Data Request No. 014

GtZ – BPCC- Meter Upgrade Enhancements
Corporate Spending Authorization (CSA)
Application Request

Date Submitted:	5/17/2019
Officer Sponsor:	Carol Wallace
Completed By:	Theresa Burch, Paula Russell
Phase Gate:	**Initiate and Planning**

I. Project Overview	
Problem Statement:	Consumer's behaviors are driving change. With the rapid evolution of digital customer engagement, customers are demanding information on their energy usage, payment history and service options; and they want the ability to interact with their utility 24/7, on their own terms, and via the communication channel(s) they prefer. Those channels can include online, mobile, interactive voice response systems, or simply a telephone call to an agent at the call center. Regardless of the channel, PSE customers expect to have the same (consistent) information available to easily transact business with us. There is also a strong emphasis on automation to drive improvements in the customer-touching areas of data analytics, work planning, scheduling and dispatch. To support the changing customer landscape, PSE has recently launched an initiative to install "smart meters" for electric and gas customers to build an Advanced Metering Infrastructure (AMI). These new meters are "smart" in that they are connected devices, through an upgraded meter network, rather than a passive device waiting for an energy usage read. As a result, new AMI meters can: • receive and respond to commands, including the ability for remote connect and disconnect (RCD) of electric service to the customer • provide customers information during the month to help them manage their bills and budget The ability to send data/commands bi-directionality supports services and functionality that our customers are coming to expect. As the implementation of the new AMI meters achieves broad coverage, PSE must make changes to its systems and processes to extend these new capabilities to meet our customers' demands. **Challenges with PSE's current Disconnect/Reconnect capabilities:** Today the field work for disconnecting and reconnecting customers for any reason is a manual process. There are multiple reasons that PSE might disconnect a customer including: • Customer requested disconnect • Customer request for construction work • Credit & Collections (Dunning) • Unauthorized Energy Use • Dangerous event/safety issue

	Challenges with the customer's experience using the current processes: 1. Customers requesting a disconnect (for construction or because they are moving) have to wait for the work to be scheduled, which can be a poor customer experience and potentially not align with their needs. 2. For credit disconnects, PSE staff cannot get all of the active disconnects completed in the ten days that we are allotted to do so. In 2017 PSE experienced 138,000 expired orders, along with 165,000 expired orders in 2018. In those cases the order expires and the process starts over, which increases the customers balance upon disconnect and overall is not a good experience (i.e. we don't necessarily disconnect them when we told them they would be disconnected). This significantly increases the bad debt (APUA) for the year. In recent history bad debt (APUA) has hovered around $20+ million dollars annually or roughly $350 per disconnected account. 3. When customers are disconnected due to dunning they receive a 24 hour reconnection guarantee. PSE strives to get reconnects done as quickly as possible, however depending upon when the customer is able to pay and get the reconnect ordered, they can sometimes be without power overnight. 4. PSE currently does not disconnect power when a customer moves out, which can result in a UEU (unauthorized energy use) if a new customer moves in and does not contact PSE. This can result in lost revenue, and require PSE to dispatch a service truck once it is identified. 5. Requests to disconnect for emergency or safety reasons are sometimes affected by the time it takes to assign the disconnection and dispatch a truck to perform the work. **Usage Alerts:** Today the only type of usage alert we send to PSE customers is an Unusual Usage Alert (UUA). It is based on a customer's historical usage and will tell them if their prior month's usage was much larger that their usage in that same period in the prior year. Without data about usage in the current cycle, the customer can't adjust their consumption to minimize their bill. Alerts based on prior month's consumption creates confusion for the customer rather than enabling them to control their costs.
Future Vision	PSE is embarking on a project to enhance our customer's experience by adding functionality that will leverage capabilities provided by the new AMI meters. **Enhanced remote connect/disconnect capabilities:** • Automatically respond to requests to discontinue service. • Support quicker turn around on customer construction requests. • Enhance credit/collections capabilities. • Prevent unauthorized energy usage through timely disconnects.

- Quickly respond to dangerous events or safety issues.

Examples of how new remote reconnect/disconnect functionality will improve the customer's experience:

1. Automated response to customers requesting a disconnect will reduce the wait for the work to be scheduled, improving their experience and better aligning with their needs.
2. Remote disconnects for credit reasons will more easily be completed within the required ten days, preventing the order from expiring and the process being restarted. This will avoid unnecessary increases in the customers balance and provide a more consistent and reliable experience.
3. For customers who are disconnected due to dunning, remote reconnect will better facilitate and quickly preform the reconnection without dispatching a truck to perform the work.
4. The ability to perform remote disconnects will avoid Unauthorized Energy usage, avoiding lost revenue, and reduce the number of times PSE will have to dispatch a truck to the customer's location.
5. In some cases, disconnections for emergency or safety reasons can be completed more expeditiously.

New Usage Alert capabilities:

Leveraging the two-way communications capabilities will expand the customer's access to their current energy usage data and enhance their ability to manage their bills and budget through more efficient energy usage.

Utilizing the new capabilities, PSE will introduce the ability to sign up for usage alerts that will:

- Enable customers to make adjustments to their energy consumption in the current billing cycle, by setting a usage alert that is triggered when usage reaches pre-set budget threshold.
- Receive alerts that indicate existing account status and usage trends.
- Offer customer options to take actions to reduce consumption.
- Allow customers to enroll/un-enroll in customer programs.

Proposed Solution:

Project description:

Meter Upgrade Enhancements project will implement the development and deployment of remote connect/disconnect (RCD) capabilities, and usage alerts for customers with AMI meters.

1) Evaluate, Design, Develop and Deploy comprehensive process and technology to support remote disconnect/reconnect.
   - Integrate Landis+Gyr (L+G) headend, Meter Data Management System (MDMS) and SAP AMI backend.

Remote Connect/Disconnect

- Remote Connect
- Remote Disconnect
- Unauthorized Energy Usage
- Storm/Dangerous Event
- Consumption Dunning
- Consumption Reconnect

2) Develop usage alerts and usage data to PSE customers to better understand current consumption, status, trends and recommendations for reducing consumption.

Usage Alerts

- Trigger Usage Alert
- Usage Alert Enrollment
- Usage Alert Unenrollment
- Change Usage Alerts
- Send Usage Alert Notifications
- Usage Status – Digital Channels

Residential Only

Functionality	Electric Customers	Gas customers
1) Remote meter connect and disconnect (RCD)	YES	NO
2) Usage Alerts	YES	YES

The proposed solution consists of the following identified change elements:

	PSE Asset	Description of Changes
1	Changes to meters	• None required for AMI meters
2	Changes to meter network	• None required for AMI meters

	3	Changes to MDMS/adaptor	• As required to facilitate RCD commands
	4	Addition of web services	• To facilitate Command Center/SAP/MDMS interface
	5	Changes to L+G Command Center	• None
	6	Changes to SAP	• Major functionality added to customer billing/BPCC • Update the SAP capability group for AMI meters already installed and adjust the setting for all future installs
	7	Changes to PSE web	• Preference center will be updated to accommodate new usage alerts
	8	Internal Processes	• Customer Service (including dunning) • Electric Operations • Gas Operations

Alternatives Evaluated:	The primary alternatives for providing these new customer functions are: A – Base case/current state -- PSE considered undertaking efforts to optimize the current practices; however, retaining manual processes will not achieve the same measure of quality and speed and does not address our changing customer preferences. Making changes to the existing alert system doesn't address the customer's desire for access to the current period's consumption. B – Leverage newly installed smart meter technology to improve customer experience
Primary ISP Alignment:	**Customer**
Type of Project:	**Cost Benefit**
OCM Considerations:	Impacted Users (Internal): ☐< 100 ☒< 500 ☐> 500 Impacted Customers (External): ☐None ☐< 100K Electric or < 1K Gas ☒> 100K Electric or >1K Gas Internal Organizational Impact: ☐1 Dept or less ☒2-5 Dept ☐> 5 Dept / Business Platform / Enterprise

Project Complexity & Duration:	☐Straightforward, well understood ☒Complex and well understood ☐Complex and not well articulated	☐ < 6 months ☒< 12 months ☐> 12 months

II. Phase Gate Change Summary

Scope:	N/A – this is Initiate/Planning phase document
Budget:	N/A – this is Initiate/Planning phase document
Schedule:	N/A – this is Initiate/Planning phase document
Risk Profile:	N/A – this is Initiate/Planning phase document

III. Key Schedule and Financial Information

Proposed Budget Year(s):	2019
Expected In-Service Date:	10/31/2019
Initial Estimate:	(BTS March 2019) Capital: $8,857,671 O&M*: $0.0 For Years 2-5 1 FTE for CIS and .5 FTE for MDMS the projection is $298,485 per year or $1,193,940

* O&M will be adjusted if/when we change the SMS vendor

Cost Estimate Maturity Score:

Score: **Class 3 - Baseline Budget Ready**

Cost Estimation Classification Document: Link

Updated Estimate for Total Project Cost:

Phase Name:	Planning	Contingency %: 18%		
	Capital	OMRC	Opex	Total
Cost (without contingency)	$ 7,278,082			$ 7,278,082
Contingency *	$ 1,579,589			$ 1,579,589
Total	**$ 8,857,671**			**$ 8,857,671**
TOTAL ANNUAL CASH BENEFITS**	**$ $3,526,092**	**[$3,941,868 benefits - $415,776 O&M = $3,526,092]**		
PAYBACK IN YEARS	**2.5 years**			

* Using contingency determined during BTS estimation activities.

** When all AMI meters are installed and Benefits reach their full potential

Estimated Six Year Allocation:

Category:	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024*	6 YEAR TOTAL
Capital (incl. contingency)	$ 8,857,671	$ -	$ -	$ -	$ -	$ -	$8,857,671
OMRC	$ -	$ -	$ -	$ -	$ -	$ -	$0
Ongoing O&M	$ 11,500	$ 376,672	$ 386,089	$ 395,741	$ 405,635	$ 415,776	$1,991,412
Cash O&M Benefits	$ (82,122)	$ (1,300,816)	$ (1,970,934)	$ (2,641,051)	$ (3,271,750)	$ (3,941,868)	$ (13,208,542)
Net of Cash O&M Benefits & Ongoing O&M	$ (70,622)	$ (924,144)	$ (1,584,845)	$ (2,245,310)	$ (2,866,116)	$ (3,526,092)	$ (11,217,130)

* Cash Benefits will be further refined during the design phase.

Cash Benefits by Department:

Department Name	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	6 Year Total
Labor cost reduction in Bothell Call Center	$960	$15,210	$23,046	$30,881	$38,256	$46,092	$154,445
Labor cost reduction in Back Office (CBL)	$1,162	$18,409	$27,893	$37,376	$46,302	$55,785	$186,926
Labor cost reduction for MNS - Reconnects*	-$2,288	-$36,244	-$54,915	-$73,586	-$91,159	-$109,830	-$368,021
Labor cost reduction for MNS - Disconnects	$30,402	$481,574	$729,658	$977,741	$1,211,232	$1,459,315	$4,889,922
Unauthorized Energy Usage	$2,584	$40,938	$62,028	$83,117	$102,966	$124,055	$415,688
Bad Debt Reduction - GTZ	$49,301	$780,929	$1,183,226	$1,585,522	$1,964,154	$2,366,451	$7,929,583
TOTAL CASH BENEFITS	$82,122	$1,300,816	$1,970,934	$2,641,051	$3,271,750	$3,941,868	$13,208,542

Assumptions:

- Assumes the AMI Meter Upgrade stays on track with its 5 year plan as follows: 33% by YE 2019, 50% by YE 2010, 67% by YE, 2021, 83% by YE 2020, 100% by YE 2023.
- Assumes Electric Residential customers are in scope.
- Assumes a remote command success rate of 90% or more.
- Assumes dunning customers will not be eligible for remote commands until March 2019.
- *Assumes our $37 reconnect fee will no longer apply to remote reconnects.

Ongoing Annual O&M by Department:

Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	6 Year Total
MDMS	$ -	$ 101,982	$ 104,532	$ 107,145	$ 109,824	$ 112,569	$ 536,053
CIS	$ -	$ 203,965	$ 209,064	$ 214,290	$ 219,648	$ 225,139	$ 1,072,106
MDMS/CIS	$ 11,500	$ 70,725	$ 72,493	$ 74,305	$ 76,163	$ 78,067	$ 383,254
Total O&M Labor - Internal Services	$ 11,500	$ 376,672	$ 386,089	$ 395,741	$ 405,635	$ 415,776	$ 1,991,412

* 1 new FTE for IT/CIS and .5 new FTE for IT MDMS Team. These amounts reflect fully burdened resources

Non-Cash Benefits / Future Cost Avoidance: The indirect soft benefits from this project are outlined below:

Value	Benefit from Project
Financial	Reducing expired disconnects in the dunning process will help reduce "prior obligation" balances. Reduced backlogs and efficient processes will reduce work backlogs and reduce pressure on overtime and backfill following attrition.
Customer	Improved customer experience during meter connect and disconnect – (faster service, more consistent and reliable) Enables the customer to monitor and proactively adjust their energy usage.
Internal Processes	Leverages installed smart meter capabilities will streamline and reduce rework on several internal processes – reducing steps to accomplish tasks, greater efficiency and reliability.
People/PSE Employees	Reduces mundane routine work by adding technology elements - reducing backlogs and stress, improving job satisfaction. Reducing unpleasant calls to the call center by unhappy customers improves job satisfaction.

Cash on Cash Single Payback: **40%**

IV. Project Description and Objectives

Project Description: Meter Upgrade Enhancements: Develop and deploy remote reconnect/disconnect (RCD) functionality, and usage alerts for customers with AMI meters.

Objectives include:

- Faster reconnection process and improved customer experience for reconnections.
- More timely disconnection processes.
- Proactive communication, through usage alerts, regarding over threshold usage.

ISP Alignment:

ISP Objectives, Mandatory and/or Corporate Risk	Strategy *Abbreviated ISP strategy descriptions*	Benefit Description *Benefit, measurement and/or scorecard affected*
Financial	☐ Five-Year Strategic Plan ☒ Maximize long-term value ☐ Grow core business ☐ Grow new business	Reduce costs for Meter Connect and Disconnect
Customer	☒ Execute the Customer Experience Intent Statement ☐ Recognition of PSE role in community ☐ Customer preparedness & safety ☐ Ideal customer behaviors ☐ Listen & dialogue with customers	Improve customer experience during meter connect and disconnect
Process and Tools	☐ Streamline processes to drive effectiveness and efficiency ☐ System reliability and integrity ☐ Safety and security of systems, information and assets ☒ Extract and leverage value from existing technology and assets ☐ Optimize product/service portfolio consistent with long-term strategy	Project leverages installed smart meter capabilities
People	☐ Develop/Retain best employees ☒ Ownership, innovation and continuous improvement	Reduces routine manual processes and adds new technology-centric functions
Safety	☐ Educate and train employees on effective safety and wellness strategies	

Project Objectives and Deliverables:

Objective	Outcomes / Deliverables	KPIs – Describe; Indicated Leading/Lagging	KPI Data Sources
Remote Reconnect	Faster reconnection process Improved Customer experience		
Remote Disconnect	Timely disconnection process	Reduction is bad debt, reduction in expiring disconnect orders	Vendor Collections
Usage Alerts	Proactive communication to identify when usage increases	Possible usage decrease	

Project Alternatives Assessment:

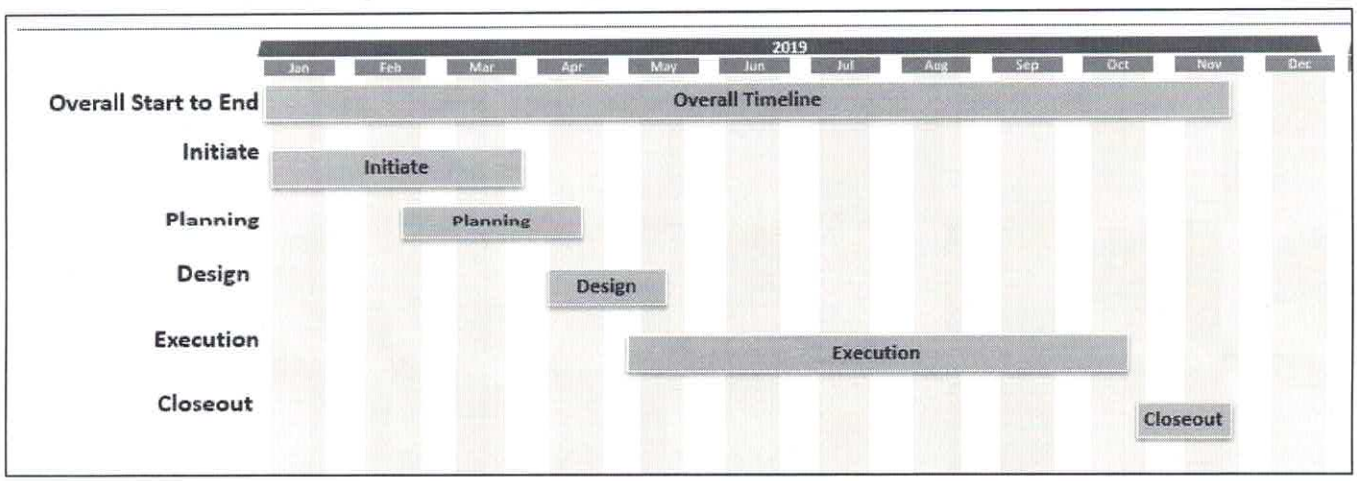
Alternative	Pros	Cons	Cost	Duration
Current State – not doing the project	No additional capital investment	1. New technology not used 2. No improvement in customer experience 3. No financial benefits	$0	N/A
Implementing Meter Enhancements	Leverages installed smart meter technology to add new enhancements to process efficiency, customer experience and long term financial success	Requires capital investment	$8.8m	Less than 1 year

V. Risk Management

Risk	Likelihood	Impact of Occurrence	How Monitored	Mitigation
Regulatory ruling	High	Medium	The WUTC has U-180525 open for ruling on remote connect/disconnect in Washington state.	Project is making variables configurable, such as time of day to execute and volume per day to execute, in the hopes to accommodate whatever the ruling states

Risk Register: Risk Log

VI. High Level Schedule



VII. Supporting Documentation

Cost Estimating and Budget:	2019 Meter Enhancement Estimation (Note: if you get access denied click okay and then cancel)
Business Needs and Alternatives:	See simple Alternatives listed in Section IV above
Benefits Realization Plan:	2019 Meter Enhancement Benefits
Project Audit Checklist:	IT Project Review MUE Planning Worksheet
OCM Sizing Worksheet:	2019 Meter Enhancements OCM

VIII. Original CSA Approvals:

Prepared By	Title	Role	Date	Signature
Theresa Burch	Mgr. Customer Solutions	Customer Solutions Product Owner	5/29/19	Approve Meter Upgrade Enhancemer

Approved By	Title	Role	Date	Signature
Carol Wallace	Director of Customer Solutions	GTZ Sub-program Director Sponsor	5/22/19	Approve Meter Upgrade Enhancemer
Josh Jacobs	Director Business Integration	GTZ Program Director Sponsor	5/22/19	Approve Meter Upgrade Enhancemer
Andy Wappler	VP Customer Operations & Communications	GTZ Sub-program Executive Sponsor	5/17/19	Fwd EA & MUE CSA's .msg
Margaret Hopkins	VP & Chief Information Officer	GTZ Program Executive Sponsor	6/3/19	Fwd Meter Upgrade Enhancement Design
Brian Fellon	Dir IT Applications	GTZ Steering Committee		
Grant Ringel	Dir Corp. Communications	GTZ Steering Committee		
Robert Stolarski	Dir Customer Energy Management	GTZ Steering Committee	5/21/19	Approve Meter Upgrade Enhancemer
William Einstein	Dir Product Dev. & Growth	GTZ Steering Committee		

Acknowledgements	Title	Role	Date	Signature
Greg Zeller	Direct Customer Care	Steering Committee & Benefit Owner*	5/20/19	Approve Meter Upgrade Enhancemer

*Benefit Owners must be added to the Approved By section during Execution Phase/Gate.