BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Docket UE-220701
Puget Sound Energy
Coyote Creek Homeowners v. Puget Sound Energy

<u>**COYOTE CREEK HOMEOWNERS DATA REQUEST NO. 005:**</u>

Please provide Documentation on relationships between the "raw" data tables (data coming from the smart meters) and "Meter Read Summary" table, and programmed settings, formulas, mathematical rules, and scripts if/when applicable.

<u>**Response:**</u>

The overall read process is described below:

1. Daily cumulative reads and other related data from an advanced metering infrastructure ("AMI") meter are captured at midnight for each installed meter by a Landis+Gyr Command Center™ system, which is Puget Sound Energy's ("PSE") AMI communication and network management system. The Landis+Gyr[1] Command Center™ ("Command Center") also provides communication and network management of PSE's automated meter reading meters.

2. The Command Center collects the reads and related data into files that are sent to PSE and loaded into the PSE's Meter Data Management System ("MDMS"), which is a Landis+Gyr Gridstream® ("Gridstream") meter data management system. Both the Command Center and Gridstream MDMS are proprietary Landis+Gyr software applications, the design and programming specification of which are proprietary to Landis+Gyr. Programming code is often protected to preserve intellectual property or trade secrets, and to prevent an attacker from reverse engineering a proprietary software program.

3. The reads are reviewed by PSE's MDMS and if reads are missing, the MDMS will attempt estimations based upon rules specified by PSE. The MDMS will attempt to improve the estimations as additional read information is received from the meters. Estimations and validations are identified by the assignment of estimation rule codes. Reads without any validation or estimation codes in the MDMS are considered good reads.

4. Before billing a customer, PSE's billing system, SAP, sends a request to the MDMS, which is interconnected to SAP. The request includes a list of meter ID, applicable read dates, and the read type (aka channel or unit of measure). The MDMS responds with the corresponding read data, as they are available.

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[1] https://www.landisgyr.com/

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Person who Prepared the Response: Allison Sains
Witness Knowledgeable About the Response: Stacey Halsen

For illustration purposes, Attachment A to PSE's Response to Coyote Creek Homeowners Data Request No. 005 shows reads that are as stored in the MDMS for three meters in Coyote Creek. Contract account, device location, meter serial number, and billing rate are data from SAP to the MDMS. The data that were loaded into the MDMS from the Comment Center begins with column E (MDVC_ID) and continues to the end of the file with the exception of the following columns that are added in Attachment A to PSE's Response to Coyote Creek Homeowners Data Request No. 005 for plain language explanations of the related codes:

- Column I : "Gateway description"
- Column S: "Estimation rule explanation"
- Column AC: "Estimation rule dem explanation"

The cumulated read data in column L, "CUM_READ" is used by SAP to calculate the usage for a meter.

For illustration purposes, Attachment B to PSE's Response to Coyote Creek Homeowners Data Request No. 005 shows reads as sent from the MDMS to SAP for billing for six meters in Coyote Creek. All of the columns are from the MDMS except for two columns that are added in Attachment B to PSE's Response to Coyote Creek Homeowners Data Request No. 005 for plain language explanation of the related codes:

- Column I : "Read code explanation"
- Column AE: "Reason explanation"

Shaded information is designated as CONFIDENTIAL per WAC 480-07-160 in Docket UE-220701 as marked in Puget Sound Energy's Response to Coyote Creek Homeowners Data Request No. 005 Attachments A and B.

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