December 8, 2014

Advice Letter 4378-E-A

Ms. Meredith Allen
Senior Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
San Francisco, CA 94177
Fax: 415-973-7226
Email: PGEMerchants@pge.com

Subject: Proposed Customer Data Access Program

Dear Ms. Allen:

Energy Division has determined that Advice Letter (AL) 4378-E-A, as filed on March 18, 2014, and as amended on August 15, 2014, is in compliance with Decision (D.) 13-09-025 (Decision) Ordering Paragraphs (OP) 18 and 19. The Advice Letter is approved as amended. This AL presents processes and procedures to implement the Customer Data Access program ordered in the Decision.

Background

On March 18, 2014, Pacific Gas & Electric (PG&E) filed a Tier 1 Advice Letter 4378-E (AL). The AL requested approval of its proposed Rule 25, with a requested effective date of April 17, 2014.

On April 7, 2014, protests to the subject Advice Letter were timely filed by EnerNOC, Inc. and Mission:Data, opposing PG&E’s proposed “Establishment of the Customer Data Access (CDA) Program for Release of Customer Interval Usage Data to Third Parties and the Associated Rule 25, Release of Customer Data to Third Parties.”

Energy Division suspended the AL effective April 17, 2014, to allow additional time for Energy Division to complete its review.

PG&E, along with SCE and PG&E, participated in several discussions with the Energy Division in an attempt to resolve the issues raised in the protests and additional issues raised by the Energy Division. This included review and discussion of multiple suggested revisions to address the issues in the protests. On August 15, 2014, PG&E filed an amendment to the original advice letter at the request of Energy Division.

Disposition

PG&E’s Advice Letter 4378-E-A, as amended, is acceptable to Energy Division and the protesters.
The Parties protests are denied and PG&E's Advice Letter 4378-E-A is in effect as originally filed, effective August 15, 2014.

Sincerely,

Edward Randolph, Director
Energy Division

Cc:
Michael E. Murray, Mission:Data, via email: michael@juciddg.com
Jim Hawley, Dewey Square Group, via email: jhawley@deweysquare.com
Sara Steck Myers, via email: ssmyers@att.net
Mona Tierney-Lloyd, EnerNOC, Inc., via email: mtierney-lloyd@enernoc.com
John David Erickson, CPUC Energy Division, via email: john.erickson@cpuc.ca.gov
August 14, 2014

Advice 4378-E-A
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Supplement: Establishment of the Customer Data Access Program for Release of Customer Interval Usage Data to Third Parties and the Associated Electric Rule 25, Release of Customer Data to Third Parties

Pacific Gas and Electric Company (PG&E) hereby submits for filing its amendments to advice letter 4378-E. Electric Rule 25, Release of Customer Data to Third Parties. The supplemental tariff sheets are listed on Attachment 1 and are attached hereto.

Purpose

The purpose of the original advice letter 4378-E was to comply with Decision (D.) 13-09-025, (Decision) which directed PG&E to establish a service offering to allow third parties access to PG&E customers’ interval usage data through the Customer Data Access (CDA) program consistent with PG&E’s Rule 27, Privacy and Security Protections for Energy Usage Data (Data Privacy Rule).

The purpose of this supplemental advice letter is to address Energy Division’s concerns that additional information is required to allow third parties to better understand and make use of the CDA data that they receive. Energy Division’s position is that PG&E’s original advice letter 4378-E, was not in compliance with D.13-09-025, Ordering Paragraph (OP) 19, which requires, among other things that:

“The utility providing the data access must, when requested by the third party, indicate whether the data is of “revenue quality.”

Energy Division subsequently directed the utilities to file a supplement to their original advice letters, which addresses their perceived deficiencies. Although PG&E does not agree that its original advice letter was deficient, PG&E is filing this supplement to provide changes consistent with OP 19.
Advice 4378-E-A - 2 - August 14, 2014

Background

In D.11-07-056, rules were adopted to protect the privacy and security of customer usage data obtained by the California investor-owned electric utilities’ (IOUs) Advanced Metering Infrastructure (AMI) systems, as required by Senate Bill (SB) 1476 (Chapter 497). On March 5, 2012, in compliance with D.11-07-56, OP 8, PG&E filed Application 12-03-002 proposing a CDA Program that third parties could use, consistent with the Data Privacy Rules, to access PG&E customers’ interval usage data. As part of this Application, PG&E proposed a new Form 79-1147, Authorization or Revocation of Authorization to Receive Customer Usage Information, for use in this context. On September 19, 2013, D. 13-09-025 was issued establishing guidelines for adoption of the CDA program and ordered the IOUs to file this advice letter seeking approval of tariff offering customer data access services to third parties. The service offering and related tariff is discussed herein.


In an email sent on July 28, 2014, Energy Division directed PG&E, Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) to file an amendment to advice letter 4378-E to clarify certain aspects of its tariffs.

Discussion

In this supplemental advice letter, PG&E amends its Electric Rule 25 to clarify the service offering provided through the CDA program. Specifically, the following modifications have been made to PG&E’s original submittal.

1. Clarifies that when PG&E transmits its daily data to the authorized third party, it represents the best data that PG&E has available for the customer at that time.
2. Clarifies that PG&E will retransmit previously posted customer data to the authorized third party when it becomes available, along with the customer’s data from the previous day.
3. Clarifies that when a change in data results in a bill adjustment, that adjustment will be treated in accordance with applicable CPUC rules.
4. Indicates that PG&E will employ “Reading Quality” flags pursuant to Energy Service Provider Interface (ESPI) standards to indicate the quality of the meter data provided via the CDA platform.
5. Clarifies that, for interval billed customers, if CDA data is identical to revenue quality meter data that has been used for billing, it will be identified as “Revenue Quality Meter Data” (RQMD) via the appropriate ESPI flag. The billing date for such data will also be provided to the authorized third party.
6. Clarifies that anchor billed customers will be informed if their monthly data is identical to RQMD via the appropriate ESPI flag. The billing date will also be provided to the authorized third party.
In addition, PG&E is attaching a sample explanation for revenue quality meter data and the ESPI Reading Quality flags that may be made available online to customers and third parties for informational purposes. This sample explanation may change as ESPI further develops.

In order to properly implement this process, PG&E intends to file modifications to its Form 79-1147, “Authorization or Revocation of Authorization to Receive Customer Usage Information” and Form 79-1152, “Authorization or Revocation of Authorization to Disclose Customer Information to a Demand Response Provider Under Rule 24.” These forms are used by customers to sanction the on-going release of their data to third parties. The recommended changes to these forms will provide customers with a means to also release billing date information to 3rd parties, which is a key element used to designate when a customer’s data becomes revenue quality.

No cost information is required for this advice filing.

This advice filing will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than September 3, 2014, which is 20 days after the date of this filing. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:
Meredith Allen  
Senior Director, Regulatory Relations  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B10C  
P.O. Box 770000  
San Francisco, California  94177  

Facsimile: (415) 973-7226  
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 1 supplemental advice filing become effective upon date of filing, which is August 14, 2014.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service lists for A.12-03-002, R.08-12-009, and R.08-12-009 Phase 2. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission’s Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: http://www.pge.com/tariffs

Meredith Allen /KHC

Senior Director, Regulatory Relations

Attachments

cc: Service Lists A.12-03-002, R.08-12-009, and R.08-12-009 Phase 2
Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 E)**

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Advice Letter (AL) #: **4378-E-A**

Tier: 1

Subject of AL: **Supplement: Establishment of the Customer Data Access Program for Release of Customer Interval Usage Data to Third Parties and the Associated Electric Rule 25, Release of Customer Data to Third Parties**

Keywords (choose from CPUC listing): Compliance, Establish Service, Rules

AL filing type: ☑ Monthly  ☐ Quarterly  ☐ Annual  ☑ One-Time  ☐ Other _____________________________

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: **D.13-09-025**

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: ______________________

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: __________________________________________________________________________________________________

Resolution Required? ☑ Yes  ☐ No

Requested effective date: **August 14, 2014**

No. of tariff sheets: 7

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: **New Electric Rule 25 - Release Of Customer Data To Third Parties**

Service affected and changes proposed: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

**California Public Utilities Commission**

Energy Division

EDTariffUnit

505 Van Ness Ave., 4th Flr.

San Francisco, CA 94102

E-mail: EDTariffUnit@cpuc.ca.gov

**Pacific Gas and Electric Company**

Attn: Meredith Allen

Senior Director, Regulatory Relations

77 Beale Street, Mail Code B10C

P.O. Box 770000

San Francisco, CA 94177

E-mail: PGETariffs@pge.com
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I. APPLICABILITY

The following rules apply to PG&E’s automated, ongoing provisioning of electric SmartMeter™ interval usage data,1 henceforth referred to as “Customer Data,” to customer-authorized third-parties using an electronic platform known as the Customer Data Access (CDA) platform. The data available through this platform is specifically identified in PG&E’s customer release form (79-1147), titled “Authorization or Revocation of Authorization to Receive Customer Interval Usage Information” (CISR-CDA). This tariff rule governs PG&E and the following parties:

1. PG&E customers with open service accounts and where advanced metering is installed; and

2. Third parties authorized by PG&E customers in a customer information release form (as designated on Form 79-1147) to receive Customer Data provided that the third parties comply with PG&E’s Electric Rule 27 and are eligible pursuant to Section III below. A copy of Rule 27 may be found at PG&E.com.

II. CUSTOMER AUTHORIZATION/REVOCATION

A. Customer Authorization: Upon receipt of a completed, executed online customer information release form (Form 79-1147) and third party adherence to this Rule, PG&E shall make Customer Data available to eligible customer-authorized third parties within one to five days.

B. Customer-Initiated Revocation of Authorization: Customers may revoke a third party’s authorization to receive Customer Data at any time. Upon receiving the revocation request, PG&E shall cease transmission of the customer’s data and shall notify the third party via electronic notification provided by the Third Party within one business day of the customer’s revocation of authorization.

C. Other Means of Revocation of Authorization: Authorization for a third party to receive Customer Data may also be revoked automatically by the Commission pursuant to Section V below, or if a third party otherwise becomes ineligible for failure to meet the other requirements of Section V below.

1 Additional data types may be available through this platform in the future.
III. SERVICE OFFERING

A. Availability of Data: Customer-authorized third parties must retrieve the Customer Data for a given day five days of it being made available by the data custodian after which time that data may be removed. PG&E reserves the right to charge fees for re-transmission of data that third parties failed to retrieve in a timely manner.

B. Description of Data: At the customer’s election, authorized third parties meeting the eligibility criteria in Section IV below shall electronically receive Customer Data which shall at a minimum include, thirteen months of historical interval usage data, and, on an ongoing basis as needed, next-day, interval usage data, in a data format consistent with national standards codified by and maintained at the North American Energy Standards Board (NAESB) known as the NAESB Energy Service Provider Interface (ESPI) Standard. The applicable portion of the Customer Data governed by this Rule shall correspond to the interval usage data recorded by the customers’ meters. PG&E shall update the data format available through the CDA platform to the extent the NAESB ESPI standards are modified from time to time.

C. Data Updates: PG&E will transmit Customer Data once per day after it becomes available. Customer Data transmitted at the end of each day is the most current information at that time and includes any data updates throughout the day. Customer Data that is updated for any prior interval transmitted under this Rule will be provided to the third party subject to availability and consistent with PG&E’s requirements under Rules 17, 17.1, or 17.2 when the update is done as a result of a bill adjustment. Any updates of previously transmitted customer data that occurred in the previous 24 hours will be provided along with the usually provided previous day’s interval data. The “Reading Quality” flag as provided in the NAESB Energy Service Provider Interface (ESPI) Standard will be employed to indicate the quality of meter data provided through the CDA platform. 2 A Reading Quality flag will also be used to indicate when this data becomes “revenue quality.” 3 PG&E bears no obligation to transmit Customer Data once a customer’s authorization of the third party’s right to receive the data has expired or is otherwise terminated, as referenced in Section IV, below.

D. Cost: PG&E shall make Customer Data available through the CDA platform free of charge to customer-authorized third parties provided that the data is retrieved timely under Section III.A. above. Nothing in this Rule is intended to modify, directly or indirectly, service or data fees established in other applicable tariff rules or schedules.

3 “Revenue quality” meter data is defined as usage data that has passed validation, estimating and editing processes in accordance with the Direct Access Standards for Metering and Meter Data (DASMMED) as described in Electric Rule 22 and is acceptable for billing purposes. A more detailed explanation of quality of meter read data can be found at PG&E’s website.
IV. THIRD-PARTY ELIGIBILITY REQUIREMENTS

Third Parties are subject to the following conditions in order to obtain and maintain access to Customer Data.

1. **Provide and Update Contact Information:** Third parties must input basic contact information at PG&E’s CDA Third Party Registration Web Page, including company/entity’s name, federal tax identification number, mailing address, and the names, telephone numbers, mailing addresses, and email addresses for any key business and technical contacts at the company/entity. Third parties are solely responsible for making timely updates to that information, as may be required from time to time.

2. **Technical Eligibility:** Third parties must demonstrate connectivity aptitude through the machine-to-machine verification of the third parties' technical feasibility to receive customer data securely from PG&E, to be described in more detail at PG&E’s CDA Third Party Registration Web Page. PG&E shall work in good faith to resolve technical issues that may arise with third parties seeking technical eligibility. Such work will be limited to connectivity to the CDA platform and PG&E will put forth a reasonable effort to resolve technical issues regarding such connectivity. PG&E will not provide technical consulting to resolve any connectivity issues on the side of the third party. Technical eligibility criteria may change, from time to time, consistent with the NAESB ESPI Standard.

3. **Acknowledge Receipt of Applicable Tariff:** Upon determining that a third party is technically eligible to receive Customer Data as provided in Section IV.2, above, the third party must acknowledge receipt of and has read and understands the terms and conditions of PG&E’s Rule 27 and this Rule.

4. **Transparency:** Third parties shall continue to provide customers with clear notice regarding their accessing, collection, storage, use, and disclosure of Customer Data.

5. **Identifier:** Third party shall provide PG&E with a Federal Tax ID number which can be used to track its registration in CDA across the state utilities.

Currently authorized third party agents can be found at PG&E’s website.
V. THIRD PARTY INELIGIBILITY BY ORDER OF THE COMMISSION

A. **Commission’s List of Prohibited Third Parties:** Pursuant to D.13-09-025, the Commission may create and maintain a list of third parties whom the Commission has determined are not eligible to receive customer usage data, even when authorized by the customer, under the CDA platform. The list shall be posted on the Commission’s website at [www.cpuc.ca.gov](http://www.cpuc.ca.gov). Should a third party be included on this list, PG&E will deem the list to be an order by the Commission declaring the party ineligible to participate on the CDA platform unless and until either (a) the party’s name is lifted from the Commission’s list of entities prohibited from receiving customer usage data; or (b) the Commission’s order has been stayed or enjoined by the appropriate court or agency. The Commission will also provide direct notification to the PG&E regarding any changes to the list. PG&E is not responsible for creating maintaining or continuously monitoring the Commission’s list.

B. **PG&E’s Actions With Respect To Commission List:** Customers will have access to a “potential violation” form on PG&E’s website which they can electronically submit to PG&E if they suspect third party mishandling of data or non-compliance with this Rule or Rule 27. Customers may also call PG&E Call Center Line to report these suspicious activities. After reviewing case, and in the event that PG&E reasonably suspects that a third party has violated state law or the Commissions’ privacy rules, it shall serve the third party and the Commission’s Energy Division with a notice of the suspected tariff violation along with any information regarding possible wrongdoing. PG&E shall seek to resolve the suspected tariff violations with the third party during a 21-day resolution period, during which time PG&E will continue transmission of data unless otherwise requested by the customer. At its discretion, the Energy Division staff may facilitate resolution of the issues between PG&E and the third party, and may grant an additional 21-day period for resolving the issue. If the matter is not resolved during the period set for resolution, PG&E shall file a Tier 2 advice letter seeking to move the third party to the list of entities ineligible to receive customer data via the CDA platform. PG&E shall provide notice of this filing to all customers who have selected that third party to receive their Customer Data. Until Commission action resolves the matter, PG&E will continue to transmit data, unless otherwise requested by the customer.

C. **Commission Authority and Discretion:** The Commission has authority to reduce or eliminate the 21-day resolution period referenced in the immediately preceding subsection. The Commission also has the authority to address the advice letter referenced in Section V.B above in an expedited manner, the authority to investigate the issue on its own motion, the authority to address a complaint filed at the Commission by the customer concerning the rules and obligations under this tariff or Rule 27, and the authority to determine the appropriate remedy, if necessary, for any tariff violation.

D. **Customer Authorization:** Successful and valid “registration” with PG&E, pursuant to Sections II.A through V.C above, are necessary but not sufficient conditions before a third party can receive interval usage data under this Rule. Valid and current customer authorization pursuant to Section II is required for data release under this tariff.
VI. LIMITATIONS OF LIABILITY

A. PG&E shall not be deemed to have transmitted Customer Data recklessly provided that it follows the requirements of D.13-09-025 as incorporated in this Rule and Rule 27.

B. The limitation of liability included in Section 9.f. of Rule 27 is incorporated herein as follows: “PG&E shall not be liable for any claims, demands, causes of actions, damages, or expenses arising from or resulting from any release of Covered Information or other confidential customer information pursuant to a customer’s written authorization, legal process or the Commission’s order; the unauthorized use of Covered Information or other confidential customer information by a third party receiving such information from PG&E pursuant to a customer’s written authorization, legal process or the Commission’s order; or any actions taken by a customer-authorized third party. After PG&E makes a secure and authorized transfer of Covered Information to a third party pursuant to customer authorization or Commission order, PG&E shall not be responsible for the security of the Covered Information or data or its use or misuse by a third party.”

C. The CDA platform is designed primarily to provide next-day interval Customer Data from the PG&E’s back office systems. That data may not be complete or accurate, and may be updated before and after bills are issued to customers. The data on the CDA platform is transmitted on an “as is” and “as available” basis. PG&E shall not be liable for the inability of customers or their authorized third parties to access the CDA platform, or for PG&E’s delay in updating or failure to update any information, for whatever reason.

D. PG&E does not warrant that the CDA platform will be timely, secure, uninterrupted, or error-free, or that defects in the CDA platform, as may exist from time to time, will be corrected. PG&E will not be responsible for errors, omissions, interruptions, deletions, defects or delays in the operation of or transmission of data through the CDA platform, including those due to communication line failures, or computer viruses associated with the operation of PG&E’s website or platform.

E. PG&E, its affiliates or subsidiaries, and their officers, directors, employees, agents, successors, or assigns, will not be liable to customers or any third party for any indirect, consequential, incidental, exemplary, special or punitive damages resulting from lost data or lost profits arising out of or in connection with the CDA platform.

F. PG&E does not warrant the immediate revocation of a third party’s authorization status without direct notice from the Commission on its change of status to a prohibited party.

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## RULES

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Attachment 2

Sample Explanation for Revenue Quality Meter Data and the ESPI Reading Quality Flags
“QUALITY OF READ” FLAGS AND REVENUE QUALITY METER DATA

Usage data is considered “Revenue Quality” when it is either used or acceptable for billing purposes, which does not occur until the meter data has been validated, edited, and estimated in accordance with the Direct Access Standards for Metering and Meter Data (DASMMD) as described in Electric Rule 22. Consequently, only usage data that is requested after a customer has been billed can be considered Revenue Quality. PG&E communicates when CDA data becomes Revenue Quality through the following two mechanisms, both of which leverage the Quality Of Reading (QOR) Flag provided by the ESPI standard. The QOR flag captures different possible quality values for usage data, including an explicit value for “Revenue Quality Meter Data” or “RQMD”, as expressed by a QOR value of 19. This flag designates that the CDA data is “valid and acceptable for billing purposes”. PG&E will use this flag in its data transmittals in two different ways.

1. PG&E includes an “ElectricPowerUsageSummary” function block in its CDA files. This block will identify precisely the dates for which an account is billed, the billed usage amount, and the quality of the billed usage. The ElectricPowerUsageSummary will be populated once the bill is available for the requested data. Please note the QOR flag in this context is only indicating the quality of the total billed usage and not necessarily the underlying interval values that may have been provided separately and or previously (e.g. “next day data”).

2. PG&E will also communicate at the interval level, the quality of the interval usage data using the QOR flag. PG&E’s CDA design allows for ad hoc requests (e.g. requesting either next day or historical usage), so we are able to communicate the quality of the usage data at the time of the request, at the interval level.

Before the data becomes Revenue Quality, the quality of PG&E’s CDA data will be described via a variety of “flags.” These flags, along with the Revenue Quality flag designation of “19” are described in the table below.
<table>
<thead>
<tr>
<th>ESPI Object</th>
<th>ESPI Object Description</th>
<th>Possible Values</th>
<th>Possible Value Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>QualityOfReading</td>
<td>Quality of a specific reading value or interval reading value. Note that more than one Quality may be applicable to a given Reading. Typically not used unless problems or unusual conditions occur (i.e., quality for each Reading is assumed to be 'Good' (valid) unless stated otherwise in associated ReadingQuality).</td>
<td>0</td>
<td>valid: data that has gone through all required validation checks and either passed them all or has been verified</td>
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<td></td>
<td></td>
<td>7</td>
<td>manually edited: Replaced or approved by a human</td>
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<td></td>
<td>8</td>
<td>estimated using reference day: data value was replaced by a machine computed value based on analysis of historical data using the same type of measurement.</td>
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<td>9</td>
<td>estimated using linear interpolation: data value was computed using linear interpolation based on the readings before and after it</td>
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<td></td>
<td>10</td>
<td>questionable: data that has failed one or more checks</td>
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<td></td>
<td></td>
<td>11</td>
<td>derived: data that has been calculated (using logic or mathematical operations), not necessarily measured directly</td>
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<td></td>
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<td>12</td>
<td>projected (forecast): data that has been calculated as a projection or forecast of future readings</td>
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<td></td>
<td>13</td>
<td>mixed: indicates that the quality of this reading has mixed characteristics</td>
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<td>14</td>
<td>raw: data that has not gone through the validation, editing and estimation process</td>
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<td>15</td>
<td>normalized for weather: the values have been adjusted to account for weather, in order to compare usage in different climates</td>
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<td>16</td>
<td>other: specifies that a characteristic applies other than those defined</td>
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<td></td>
<td>17</td>
<td>validated: data that has been validated and possibly edited and/or estimated in accordance with approved procedures</td>
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<tr>
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<td></td>
<td>18</td>
<td>verified: data that failed at least one of the required validation checks but was determined to represent actual usage</td>
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<td></td>
<td></td>
<td>19</td>
<td>Revenue Quality: valid and acceptable for billing purposes [extension]</td>
</tr>
</tbody>
</table>
The examples below indicate how these processes work.

A) SmartMeter™ customers billed using PG&E interval data.

Daily Basis: QOR = 17 for interval segments assuming its availability in PG&E systems

Bill Basis: QOR = 19 for interval segments after interval data is available for the entire billing month

Bill Basis: QOR = 19 for billed totaled usage as indicated in ElectricPowerUsageSummary, along with monthly billed usage and applicable billing dates.

B) SmartMeter™ customers where interval data is not used for billing (i.e. anchor-billed residential customers)

Daily Basis: QOR = 17 for interval segments assuming its availability in PG&E systems

Bill Basis: QOR = 17 for interval segments after billing

Bill Basis: QOR = 19 for billed totaled usage as indicated in ElectricPowerUsageSummary, along with monthly billed usage and applicable billing dates.

In certain instances, PG&E utilizes an MV90 meter rather than a SmartMeter™ to bill customers. Different QOR flags will be used depending on whether or not the data has gone through the final monthly validating, editing and estimating (VEE) process.

C. If the data hasn't gone through final VEE process:

Daily Basis: QOR = 14 for interval segments assuming its availability in PG&E systems

Bill Basis: QOR = 14 for interval segments even after billing calculations have been completed

Bill Basis: QOR = 19 for billed totaled usage as indicated in ElectricPowerUsageSummary, along with monthly billed usage and applicable billing dates.

D. If the data has gone through final VEE process:

Daily Basis: QOR = 17 for interval segments assuming its availability in PG&E systems

Bill Basis: QOR = 19 for interval segments after interval data is available for the entire billing month*

Bill Basis: QOR = 19 for billed totaled usage as indicated in ElectricPowerUsageSummary, along with monthly billed usage and applicable billing dates.

* Availability of RQMD MV90 data is contingent on future unplanned work.
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