ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

Exhibit Reference: SDG&E-14, SDG&E-15 and SDG&E-24
SDG&E Witness: Alan F. Colton, William H. Speer, and Christopher R. Olmsted
Subject: Follow up questions regarding data requests ORA 12 and 15; and reliability
Please provide the following:

1. SDG&E's response to data request ORA-SDGE-015-TCR question 3c states that "GRID is designed with these functions…[e]xport data for RO model purposes." Describe the format of the data exported for use in the RO model.

SDG&E Response 1:

GRID is a database application. The RO model is primarily a spreadsheet application, which in itself consists of 28 Excel spreadsheets as well as a Microsoft Access database. SDG&E exports data from GRID tables into RO model worksheets using Microsoft Access functions that link the RO model directly to GRID, either automatically or incrementally through a discrete system refresh. The RO model initiates the export. Microsoft Access links are made by using the Open Data Base Connectivity (ODBC) programming interface functions and programmed macros.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
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2. Assuming that the RO model requires numeric data, explain why SDG&E cannot export numeric data from GRID, e.g., in .xls or .rft formats, based on queries suggested by ORA, the CPUC, or any other party?

SDG&E Response 2:

The data exported to the RO model, through the process described in question 1, consists primarily of resultant data from GRID and other sources, and does not contain historical or forecast adjustment details. Exporting data from a database consists of the preparation of data files that, while they can be imported into a spreadsheet, are not in and of themselves spreadsheets and do not contain formulae.

SDG&E has provided exported data from GRID to ORA in xls format. Data exports from databases show numeric data, they do not contain formulae. Not all data that appears in tabular format is a spreadsheet with working formulae. The RO model uses raw data imports to populate its own database and worksheet areas, formulae in the RO model are unique to the RO model and are not carried forward from GRID in the transfer process.

Neither the GRID database nor the RO model contain the native functionality to export data to fulfill ad-hoc query requests or to link different sources (e.g., SAP, GRID, RO). Doing so would require significant additional programming.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

3. Does SDG&E have the ability to export recorded expenditures in numeric format, e.g., in .xls or .rft formats, from its SAP accounting system based on queries suggested by ORA, the CPUC, or any other party? If so, describe any difficulties required to perform such queries.

SDG&E Response 3:

SDG&E can provide recorded expenditures as data exports from its SAP accounting system based on queries readable in xls format using a facility called Business Warehouse (BW). The BW extract data resides in database structures called 'cubes', which must be created for the intended purpose. A user may either use an existing 'cube' or request the creation of a new 'cube' with the attributes (fields) desired, if they exist. The new cube creation process is lengthy and must be performed by SAP administrators (not by users).

For GRC purposes, SDG&E uses a 'cube' that contains some, but not all, of the data found in the GRID database (which is not an SAP/BW database, it is a Microsoft SQL Server database). That cube is used as an intermediate data repository for some of the data used by GRID. SDG&E's SAP accounting system is the data source for historical expenditures that is ported to GRID. Historical adjustments made in GRID, as well as expense forecasts and other information that is created as a result of GRC modeling in GRID, are not ported back into SDG&E's SAP general ledger accounting records. Thus, any historical data extracted directly from SAP will not include any adjustments made during the GRC modeling process from GRID.

ORA DATA REQUEST
ORA-SDGE-056-TCR
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SDG&E RESPONSE
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Please provide the following:

4. Please provide the following documents described in SDG&E's response to data request ORA-SDGE-012-TCR question 1:

    a. Electric Transmission Schematic (ETS) that shows and names each substation connected to the transmission system, and all transmission lines. Contact the originator to discuss the existing format and the format of SDG&E's response.

    b. The Electric Design Manual. Contact the originator to discuss the existing format and the format of SDG&E's response.

    c. A list of Engineering Standard Practices, including document numbers, a description of each standard, whether the standard is subject to a document approval and control process, and the current revision number of controlled documents.

SDG&E Response 4:

a. SDG&E objects to this request under Rule 10.1, on grounds that the request is not relevant to the subject matter involved in the pending proceeding nor reasonably calculated to lead to the discovery of admissible evidence. Moreover, this request is unduly burdensome, as it seeks restricted confidential information requiring maximum control, the release of which could cause an impairment of business activities, significant economic damage and/or the health and well-being of individuals, and may also cause a violation of law.

b. SDG&E's Electric Design Manual is located on the Builder Services webpage at SDGE.com under Standards and Manuals at https://www.sdge.com/builder-services/standards-manuals.

c. A list of SDG&E's Distribution Engineering Standards is located on the Builder Services webpage at SDGE.com under Standards and Manuals at https://www.sdge.com/builder-services/standards-manuals.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
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DATE RESPONDED: DECEMBER 29, 2017

5. Please explain the following regarding SDG&E's Engineering Data Warehouse (EDW):

    a. The format of EDW and software used,

    b. How the EDW is populated with data,

    c. The frequency EDW data is updated,

    d. How data in EDW is subjected to QA/QC procedures,

    e. How queries of EDW are performed.

SDG&E Response 5:

a. EDW is a data repository stored on Microsoft Sequel Server.

b. Data is ingested into EDW from several sources. Each source pushes data to the EDW in a format acceptable to both EDW and the source.

c. Update frequency is dependent on the source system.

d. When a source is added to EDW, the data ingested is confirmed to match that in the source system. EDW is not a source system, and ongoing QA/QC of the data is the responsibility of the source system.

e. The primary reporting tool is SAP Business Objects. There are several applications that also make use of the data. The data is also queried using any SQL-compliant tool such as Microsoft SQL Server Management Studio.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

6. SDG&E's response to data request ORA-SDGE-012-TCR question 2 indicates that "SDG&E does not own" certain T&D assets within its service territory. Please provide the following regarding ownership of T&D assets:

   a. How SDG&E defines "its T&D system" with respect to ownership and operation,

   b. How SDG&E's defines T&D assets it owns versus those it does not own, for example, SDG&E's assets are those in rate base and included on SDG&E's balance sheet as assets,

   c. A high level explanation of the types of non-SDG&E owned assets that SDG&E maps, operates, monitors, or includes in data systems it uses to operate its own T&D assets,

   d. A list of each non-SDG&E owner of T&D assets, and the types of assets they own in SDG&E's service territory. Please contact the originator if there is a large number of owners.

   e. A history of acquisitions of other companies by SDG&E that have increased SDG&E's ownership of T&D assets.

   f. How SDG&E coordinates planning and operation of T&D assets it does not own.

   g. How SDG&E T&D assets are differentiated in SDG&E's data systems from non-SDG&E T&D assets.

SDG&E Response 6:

a. SDG&E defines the T&D system as any asset operating at the defined transmission or distribution-level voltage that has been acquired or constructed and maintained by SDG&E.

b. T&D assets are considered any asset that is or was within SDG&E's rate base. Rate base is defined as the net investment of property, plant, equipment, and other assets that SDG&E has acquired or constructed to provide utility service to its customers.

c. Non-SDGE owned assets include switchgears and substations owned and maintained by an SDG&E customer or another entity. For customer-owned substations who receive service at a transmission voltage, SDG&E typically installs a meter at the transmission level and installs a physical fence designating equipment owned and maintained by the customer.

SDG&E Response 6:-Continued

d. SDG&E objects to this request under Rule 10.1 to the extent that it seeks information that is not within SDG&E's knowledge or control and is outside the scope of this proceeding. Subject to and without waiving this objection, SDG&E responds as follows: SDG&E does not maintain such lists.

e. SDG&E acquired the Mountain Empire Cooperative District in about 1968.

f. SDG&E does not plan or operate T&D assets it does not own.

g. SDG&E utilizes its Geographical Information System to map SDG&E T&D assets. If the T&D asset is not mapped within SDG&E's GIS or is labeled as customer owned within GIS, then the T&D asset is a non-SDG&E-owned T&D asset.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
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7. Exhibit DRA-11 (Witness Laura Krannawitter) in SDG&E's 2012 GRC (A.10-12-005/006) states "there are 277 distribution substations that feed 995 primary distribution circuits" (testimony data September 1, 2011, page 1). SDG&E's response to DRP data request 5 rev. 1 in R.14-10-013 on March 2, 2017 ("DRP DR5") lists 172 substations, which includes transmission substations, and 1,062 distribution circuits.

    a. Please explain the difference in the number of substations and distribution circuits.

    b. If SDG&E currently owns/monitors/controls more than 172 substations, please contact the originator to discuss how to proceed.

SDG&E Response 7:

a. SDG&E previously reported pad-mounted 12/4kV transformers as distribution substations, which in turn led to the reported amount of 277 substations. SDG&E now reports substations primarily that reside with a contained fenced area.

b. SDG&E does not own/monitor/control more than 172 substations.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

8. SDG&E's response to data request ORA-SDGE-012-TCR question 4 addresses substations with a distribution level low side voltage. However, SDG&E's response to DRP data request 5 rev. 1 in R.14-10-013 on March 2, 2017 ("DRP DR5") indicates 20 substations with transmission level low side voltages without load data. Please provide the following:

    a. Explain why load data was not provided for these 20 substations,

    b. Provide a list of all substations that do not have a permanent means of measuring and recording loads on each transformer, e.g., via SCADA,

    c. Provide a list of all substations that do not have a permanent means of measuring and recording loads on each feeder head or circuit breaker,

    d. Provide a list of all substations that do not have a permanent means of measuring and recording loads on each transformer, but that that have a semi-permanent measurement/recording system currently in place, including but not limited to DPR (Digital Pulse Recorder),

    e. Provide a list of all substations that do not have a permanent means of measuring and recording loads on each feeder head or circuit breaker, but that that have a semi-permanent measurement/recording system currently in place, including but not limited to DPR (Digital Pulse Recorder).

SDG&E Response 8:

a. The 20 substations identified did not contain distribution circuits, which correlated with the load data not being present.

b. Please refer to SDG&E's response to DRP data request 5 rev. 1 in R.14-10-013 on March 2, 2017 ("DRP DR5") excel titled "ORA DRP Data Request No 005_Confidential_17_05-10.xls" within tab "Question 1 – Confidential Data". Within this tab any substation containing "N/A" within subpart "u" and "v" identifies the substations that do not have a permanent means of measuring and recording distribution load.

c. Please see the accompanying file "ORA-SDGE-056-TCR.question.8.xls"

d. Please see the accompanying file "ORA-SDGE-056-TCR.question.8.xls"

e. Feeders do not use DPR or have another means of measuring and recording load at the circuit breaker.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

9. Data request ORA-SDGE-012-TCR question 5c asked for the name and location of each SDG&E control center, but SDG&E's response did not provide the location. Please provide the data originally requested.

SDG&E Response 9:
SDG&E objects to this request under Rule 10.1, on grounds that the request is not within scope and reasonably calculated to lead to the discovery of admissible evidence; and because the request is unduly burdensome, as it seeks restricted confidential information requiring maximum control, the release of which could cause an impairment of business activities, significant economic damage and/or the health and well-being of individuals, and may also cause a violation of law, e.g., NERC CIP-014 and the protection of Bulk Electric System (BES) cyber information.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
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10. SDG&E's response to data request ORA-SDGE-012-TCR question 14 indicates that SDG&E-provided SAIDI and SAIFI data for 2015 did not include planned outages and other types of outages. Please provide the following regarding the outage data and all reliability metrics (e.g., SAIDI, SAIFI, MAIFI, CAIDI) reported annually to the CPUC:

    a. All changes in SDG&E's outage measurement systems, procedures or processes that impacted measured outages or reported reliability metrics. For each change, indicate the first year of recorded data that was impacted, and SDG&E's opinion about how the reported reliability metrics were affected.

    b. All changes in SDG&E's definition of outages included in reliability metrics, for example, whether planned outages were counted or not, that impacted measured outages or reported reliability metrics. For each change, indicate the first year of recorded data that was impacted, and SDG&E's opinion about how the reported reliability metrics were affected.

    c. All changes in SDG&E's definition of Major Event Days (MEDs) that impacted measured outages or reported reliability metrics. For each change, indicate the first year of recorded data that was impacted and SDG&E's opinion about how the reported reliability metrics were affected.

    d. Any other changes that render comparisons of reliability metrics between annual reports inaccurate. Please describe these other changes and SDG&E's opinion about how the reported reliability metrics were affected.

SDG&E Response 10:

a. On January 20, 2016, the Commission issued D16.01.008, which standardized reliability reporting methodology for utilities within CPUC jurisdiction. SDG&E incorporated changes in conformance with this Commission decision. For example, SDG&E changed its reporting to use the IEEE 1366 MED exclusion criteria for SAIDI, SAIFI, MAIFI, and CAIDI, whereas previously different exclusion criteria was used. D.16.01.008 required that utilities report the last 10-years of reliability history using the IEEE 1366 exclusion criteria, meaning historical reporting using other exclusions must be re-reported. A copy of SDG&E's historical and current annual reliability reports containing this re-reported data can be found at: http://www.cpuc.ca.gov/General.aspx?id=4529 No other significant changes have been applied to SDG&E's recording methodology in recent history. SDG&E is indifferent to its preferred exclusion criteria, as long as comparisons between calculations are consistent when comparing SDG&E's reliability performance.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
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SDG&E Response 10:

b. Planned outages, MED exclusions, and other detailed information are listed in the CPUC annual reports for calendar years 2015 and 2016. These documents are made public at http://www.cpuc.ca.gov/General.aspx?id=4529. These metrics were first reported pursuant to D16.01.008 for calendar year 2015's reliability results. When SDG&E provides its standardized reliability results, it does so using MED-excluded unplanned outage information.

c. SDG&E has solely used the IEEE 1366 definition to calculate the threshold for MED. As mentioned above, other exclusions were previously used pursuant to prior CPUC decisions.

d. SDG&E has been consistent in its reporting practices aside from the exclusion criteria mentioned above.

ORA DATA REQUEST
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SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
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11. SDG&E testimony states that it has "best in the West" (Exhibit SDG&E-14, p. AFC-75) "best-in-class" reliability (Exhibit SDG&E-15, p. WHS-viii). SDG&E provides links to summary articles to support these assertions. Please provide the actual reports that support these assertions. If the reports provided do not describe the methodologies used and provide quantitative results, please explain how ORA, the CPUC, and other parties can determine if SDG&E's claimed reliability performance is based on an accurate "apples to apples" comparison.

SDG&E Response 11:

SDG&E objects to this request to the extent that it seeks information that is not within SDG&E's knowledge or control and/or calls for speculation regarding facts that are not within SDG&E's knowledge. Subject to and without waiving this objection, SDG&E responds as follows:

SDG&E has been ranked "Best in the West" in reliability by the PA Consulting Group (a third-party utility reliability consultant),[1] earning their regional ReliabilityOne award for eleven consecutive years. In addition, SDG&E also received the PA Consulting Group national ReliabilityOne[2] award in 2014, and they recognized SDG&E in 2015 for Outstanding Response to a Major Outage Event.[3] SDG&E's testimony footnote citations provide links to third-party websites that provide confirmation of and information about the awards that SDG&E has received.

On information and belief, SDG&E understands from PA Consulting Group that it has awarded SDG&E the "Best in the West" distinction based on SDG&E's annual CPUC reporting, which is publicly available at http://www.cpuc.ca.gov/General.aspx?id=4529, and on an on-site evaluation of SDG&E's practices. PA Consulting does not let SDG&E see the results of its proprietary scoring matrix. On information and belief, SDG&E understands that PA Consulting Group scores its evaluation for awards in four major categories: "Operational Performance", "Use of Innovative Technology", "Customer Outage Communication/Experience", and "Data Integrity for Reliability Reporting." On information and belief, SDG&E also understands that it takes different PUC reporting requirements and exclusions recognized in different regions into account when scoring the various utilities.

Thus, SDG&E does not receive "actual reports" from PA Consulting, and SDG&E's testimony is not based on any such report. SDG&E's testimony is based on its knowledge that it has received these awards. The publicly available report upon which SDG&E understands the awards have been based is provided to the Commission annually and available on the Commission's website.

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[1] See http://www.paconsulting.com/newsroom/releases/us-power-utilities-achieve-improved-reliability-performance-for-four-consecutive-years-17-november-2016/.
[2] See http://www.prnewswire.com/news-releases/pa-consulting-group-recognizes-north-american-utilities-for-excellence-in-reliability-at-the-2014-reliabilityone-awards-283184191.html.
[3] See http://www.paconsulting.com/newsroom/releases/pa-consulting-group-honours-north-american-utilities-for-reliability-excellence-at-2015-reliabilityone-awards-23-october-2015/.

ORA DATA REQUEST
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12. SDG&E provides comparisons for SAIDI and SAIFI in Exhibit SDG&E-15 starting at page WHS-92. Does SDG&E believe these comparisons provide an accurate "apples to apples comparison?" If so, please describe how SDG&E verified that outage definition, measurement, and accounting for MEDs is consistent across each utility.

SDG&E Response 12:

On January 1, 2016, the Commission issued D16.01.008 (attached to this Data Request as "ORA-SDGE-056-TCR - D1601008 Electric Reliability Reporting.pdf"), which standardized reliability reporting methodology for utilities within CPUC jurisdiction. The decision directs utilities to standardize reporting in a specific format for the express purpose of addressing discrepancies between utilities. It also requires the use of IEEE 1366 as the basis for MED. SDG&E adheres to the IEEE 1366 use of MED. Based on these facts, SDG&E believes that outage definition, measurement, and accounting for MEDs is consistent across each utility within CPUC jurisdiction.

ORA DATA REQUEST
ORA-SDGE-056-TCR
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 11, 2017
DATE RESPONDED: DECEMBER 29, 2017

13. Exhibit SDG&E-15 explains why "SDG&E is not proposing an electric reliability performance-based ratemaking mechanism in this proceeding," in part because "it runs the risk of perversely incentivizing SDG&E to prioritize reliability over safety" (pp. WHS-92 and WHS-96.) Please describe the primary types of T&D equipment (e.g., reclosers), planning procedures, and operating procedures that could increase reliability while reducing safety.

SDG&E Response 13:

California utilities face the largest wildfire risk in the country. To mitigate this risk, SDG&E utilizes several operating practices that decrease the risk of utility-caused ignitions, while decreasing overall system reliability. One of these practices (as described in testimony, Exhibit SDG&E-15 at page WHS-96) involves "turning off reclosing in its Fire Threat Zone during fire-prone conditions." Reclosing helps reduce sustained outages caused by temporary faults on SDG&E's overhead system, directly reducing sustained customer outages into momentary outages. Turning the reclosing functionality off for safety reasons directly increases the amount of overhead sustained customer outages, thus negatively impacting reliability.

Additionally, SDG&E has implemented sensitive ground relaying to detect high impedance faults that may take longer to clear with standard relays. This type of relaying increases false tripping, causing more customer outages, but minimizes energy that could create a fire ignition due to a wire down.

SDG&E has also implemented a practice to patrol lines to visually verify the integrity of the overhead infrastructure prior to re-energizing circuits in the Fire Threat Zone. This minimizes the risk of damaged facilities creating a fire ignition upon re-energization. This practice often delays outage troubleshooting and causes additional reliability impact, as it does not rely upon traditional tools such as portable fault indicators; however, SDG&E believes that this practice is consistent with maximizing public safety.

Consistent with SDG&E's strong safety culture, SDG&E is continuously searching for improved operational practices that reduce the risk of wildfire threat and protect the public. In some cases, improved safety practices and improved reliability may go hand in hand. However, a performance incentive mechanism that would financially punish SDG&E for not meeting an increasingly restrictive reliability performance criteria sends the wrong incentive signal, and could undermine the integrity of SDG&E's safety culture and improved operational practices put in place to reduce the risk of wildfire threat and maximize public safety.