ORA DATA REQUEST
ORA-SDGE-066-TLG
SDG&E 2019 GRC A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: DECEMBER 21, 2017
DATE RESPONDED: JANUARY 11, 2018

1. Referring to SDG&E's testimony, Ex. SDG&E-15, page WHS-1, line 11, SDG&E forecasts $164.399 million for Non-Shared Services for Test Year 2019 for its Electric Distribution Operations and Maintenance (O&M) expenses. This is an increase of $41.932 million or 34.24% over 2016 adjusted recorded expenses of $122.467 million.

a) Referring to SDG&E's testimony, page WHS-2, lines 11-13, SDG&E states that "Certain of the costs supported in my testimony are driven by activities described in SoCalGas and SDG&E's November 30, 2016 Risk Assessment Mitigation Phase (RAMP) Report."
On November 14, 2017, ORA witness Tamera Godfrey attended SoCalGas' and SDG&E's presentation held at the Commission which included discussions on RAMP. Based on a question asked by ORA, ORA understands that RAMP programs, projects, and related activities include ongoing and routine maintenance activities that SoCalGas and SDG&E have completed during the historical period (2012-2016 and 2017) or should be doing as part of regular ongoing and routine maintenance activities to identify maintenance issues, in order to evaluate, mitigate and eliminate all potential safety risks and reliability issues.
Provide documentation that clearly explains in detail if ORA's understanding of SoCalGas and SDG&E's RAMP, as discussed above in this question, is incorrect and the RAMP activities proposed in the 2019 GRC are not part of any regular ongoing and routine maintenance activities that are the same or similar to completed projects/programs during the historical period (2012-2016 and 2017) or maintenance projects/programs that should have been completed as part of regular ongoing and routine maintenance activities.

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SDG&E Response 1a:

SDG&E filed its RAMP Report in compliance with the Commission's orders in the Risk OIR, D.14-12-025 and D.16-08-018, and consistent with ongoing guidance from the Commission's Safety and Enforcement Division. Detailed testimony descriptions of the public policy supporting RAMP, Commission guidance and the steps that SDG&E has taken over the past several years to implement new processes in accordance with Commission guidance – including the process of implementing the Commission's new RAMP phase into SDG&E's GRC application and testimony – are provided in the Risk Management and Policy testimony of Diana Day (Exhibit SDG&E-02, Chapter 1) and the RAMP-to-GRC Integration testimony of Jamie York (Exhibit SDG&E-02, Chapter 3). SDG&E's November 14, 2017 workshop presentations were intended to enhance, but not to replace, information provided in SDG&E's written testimony chapters.

Per the Commission's guidance (as more fully described in Exhibit SDG&E-02, Chapters 1 and 3), SDG&E's RAMP Report identified SDG&E's key safety risks, a description of mitigation activities currently in place (also referred to as controls), and a description of costs associated with those controls. The controls presented in the RAMP Report are programs, projects, and related activities that are likely ongoing, and some of the 2012-2017 historical costs are imbedded in the work groups addressed by Exhibit SDG&E-15. RAMP also introduced new proposed risk mitigating programs, projects, and activities, also in accordance with D.14-12-025 and D.16-08-018, that could further reduce risk in certain risk mitigation categories, these have no historical costs in 2012-2017 as they have yet to have been implemented. Thus, the RAMP Report and the integration of the RAMP into the GRC identifies all "RAMP" costs, whether related to historical, ongoing, or new risk mitigation activities, in accordance with guidance from the Safety and Enforcement Division and as ordered by the Commission.

For risk mitigation activities, Exhibit SDG&E-15 identifies $71.930M in implemented activities (in 2016) and another $31.105M in proposed activities. Table WS-2 on page WHS-3 details RAMP embedded cost by risk category, as well as incremental costs for new proposed programs in test year 2019. See below.

SDG&E Response 1a Continued:

TABLE WS-2
Summary of RAMP Overlay

RAMP Risk Chapter	2016 Embedded Base Costs (000s)	TY 2019 Estimated Incremental (000s)	Total (000s)
SDG&E-1 Wildfires Caused by SDG&E Equipment	34,919	1,137	36,056
SDG&E-3 Employee, Contractor and Public Safety	29,610	6,000	35,610
SDG&E-4 Distributed Energy Resources (DERs)	0	575	575
SDG&E-8 Aviation Incident	55	355	410
SDG&E-11 Unmanned Aircraft System (UAS) Incident	0	162	162
SDG&E-12 Electric Infrastructure Integrity	1,261	21,040	22,301
SDG&E-13 Records Management	4,855	1,281	6,136
SDG&E-14 Climate Change Adaptation	24	403	427
SDG&E-17 Workforce Planning	1,206	152	1,358
Total O&M	71,930	31,105	103,035

In addition, SDG&E discusses and identifies in testimony under each work group what RAMP activites are already implemented and ongoing under header “RAMP Current Activities.” Proposed risk mitigation projects and programs are discussed and identifed in testimony under each work group under sub header “RAMP Proposed Activities”.

ORA’s understanding “that RAMP programs, projects, and related activities . . . . to identify maintenance issues, in order to evaluate, mitigate and eliminate all [emphasis added] potential safety risks and reliability issues” is incorrect; rather, these programs, projects, and related activities are intended to further reduce potential safety risks.

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b) Referring to SDG&E's testimony, page WHS-3, lines 4-6, SDG&E states "risk mitigation activities are a major cost driver for 2019 forecast, accounting for $31M of my approximately $42M net proposed increase from 2016 (74%)".
Regarding SDG&E's Pole Risk Mitigation and Engineering (PRiME) program mentioned on page WHS-3 line 8, and regular ongoing and routine maintenance activities, provide documentation that demonstrates the total number of projects associated with maintenance of poles, overhead structures, and associated cost that directly relates to SDG&E's inspection, evaluation, and repair each year (2012-2016 and 2017) to mitigate safety and reliability risk and to comply with General Order (GO) 95.

SDG&E Response 1b:
There are 2 major programs that address overhead structures in addition to the proposed PRiME Program, brief descriptions and the total number of related projects follow.

The first, the Corrective Maintenance Program (CMP), is a visual inspection and maintenance plan for all distribution assets and equipment outside of substations, as part of SDG&E's compliance with CPUC General Order 165. Cyclical inspections are performed on all facilities, and repair work orders are created to remedy non-conformances within one year on an inspection where the infraction is found. The CMP is audited annually by the Safety and Enforcement Division of the CPUC for compliance with General Orders 95, 128 and 165. Depending on the level of damage found, pole repairs can range from replacing a broken cross arm or installing a new high voltage sign to a complete pole replacement if the structure is found to have lost sufficient integrity through an intrusive inspection. Additionally, if the damage warrants immediate repairs due to severe safety concerns, SDG&E crews will mitigate the safety hazard while on site. While this is primarily and O&M program, the CMP pole replacement costs are largely capital and are discussed in the testimony of Mr. Alan Colton (Exhibit SDGE-14).

SDG&E Response 1b Continued:

The second program is the FiRM project, which addresses fire risk by hardening critical areas in the service territory most at-risk for wildfires – the Fire Threat Zone (FTZ) and the High Risk Fire Area (HRFA). This capital program includes replacing older overhead distribution line elements such as conductors, insulators and connectors. FiRM utilizes advanced technology such as Light Detection and Ranging (LiDAR) and 3D pole and line modeling to address known local weather conditions. FiRM modernizes and hardens the electric system in areas of high fire risk. FiRM is primarily a capital program, discussed in the testimony of Mr. Alan Colton (Exhibit SDGE-14) but does have associated O&M costs.

The O&M costs for the overhead component of the CMP and the FiRM project is detailed in the tables below. All CMP costs are under the Electric Regional Operations work group, the FiRM O&M charges are split between Electric Regional Operations and Construction Services.

10 year Wood Pole Intrusive Inspections

Year	Completed POIN Inspections	Total Charges	
2012	23,400	$	1,030,257
2013	17,044	$	1,016,404
2014	22,045	$	1,182,577
2015	23,760	$	1,086,127
2016	22,010	$	760,048

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SDG&E Response 1b Continued:

Annual Patrol Inspections

	Patrol Map Inspections	Cost of ground patrol	Helo Charges	Total (Ground + Helo)
2012	8,626	$ 838,048	$ 40,733	$ 878,781
2013	26,769	$ 1,089,408	$ 24,219	$ 1,113,627
2014	26,739	$ 1,030,774	$ 84,690	$ 1,115,464
2015	26,841	$ 1,082,157	$ 142,376	$ 1,224,533
2016	26,906	$ 1,109,227	$ 99,229	$ 1,208,456

5 year Detailed Overhead Visual Inspections

	OHVI Inspections	Cost of OHVI Inspections
2012	43,151	$ 457,292
2013	43,779	$ 507,679
2014	47,715	$ 489,832
2015	47,872	$ 377,838
2016	47,029	$ 827,530

Crew Follow Up and Field Cleared Repair Costs

	OH Follow-UP infractions Cleared/FCleared	O&M Total $
2012	37,033	$ 6,667,254
2013	48,763	$ 5,816,169
2014	60,099	$ 5,188,596
2015	25,110	$ 1,557,317
2016	24,582	$ 4,081,421

SDG&E Response 1b Continued:

Associated O&M expenses for the FiRM Capital Program

	ERO	CS	Total
2014	119,353	298,033	417,386
2015	351,274	3,482,378	3,833,652
2016	595,389	2,332,808	2,928,197

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c) Regarding SDG&E's plan to evaluate overhead structures in its entire service territory, and its plan to "evaluate approximately 22,600 poles in 2019", provide documentation that explains in detail specifically why SDG&E has not evaluated overhead structures in its entire service territory as part of regular ongoing and routine maintenance activities to ensure safety and reliability and to mitigate and eliminate risks during 2012-2016 and 2017 and is waiting until TY 2019 to evaluate 22,600 poles.

SDG&E Response 1c:

SDG&E objects to this request on grounds that it assumes incorrect facts and misstates testimony. Subject to and without waiving this objection, SDG&E states as follows: Exhibit SDG&E-14 describes SDG&E's Corrective Maintenance Program (CMP), which is filed with the Commission (see "SDGE GO 165.pdf") and meets GO 95, 128, 165 and 166 requirements. The Safety and Enforcement Division (SED) audits this program annually.

SDG&E's existing visual and intrusive inspections processes will continue, and are still critical for compliance with general orders and the safety of the public and employees. However, visual inspections are limited, and currently available technology to perform more detailed analysis of pole-loading and environmental impacts has significantly improved. The PRiME program uses new known local condition wind data gathered from SDG&E's fleet of recently-installed anemometers and new 3-D modeling software that goes beyond the capability of a visual inspections, allowing for an analysis of the structure at a wide range of potential wind and conductor loading conditions, including worst case conditions. While the existing CMP plan addresses compliance with general orders, PRiME will go further to mitigate the risks of a structure failure by analyzing structural performance under more localized environmental and loading conditions.

For a detailed explanation of the PRiME program, please see WHS 23 under the Construction Services workgroup.

d) If SDG&E has performed evaluations of its overhead structures in its entire service territory during 2012-2016 and 2017, provide the number of evaluations and the related costs for 2012-2016 and 2017.

SDG&E Response 1d:

Please see the response to ORA-SDGE-066 question 1 part b) for the number or evaluations performed and the cost of the evaluations and repairs for the existing inspection and maintenance program.

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e) Provide the documentation that explains in detail and compares the processes and procedures SDG&E utilized for performing inspections, evaluations, and repairs of poles and overhead structures during 2012-2016 and 2017 and the specifics of what it plans to do that is different in its TY 2019 proposed activities.

SDG&E Response 1e:

Please see our filed CMP plan (SDGE GO 165.pdf) for details around the existing inspection and repair process and the advice letter (SDGE Advice Letter 2510-E.pdf, which updates some GO165 inspection requirements. SDG&E complies with this plan per SDG&E's attached CMP standard (2017CMPManual.pdf).

All SDG&E overhead electric facilities, including wood poles, must be designed, constructed, maintained and inspected in accordance with GO 95 and GO 165. The current overhead electric system was designed in accordance with the GO 95 requirements in place at the time of construction and GO 165 requirements for ongoing inspection and repair.

SDG&E performs intrusive wood pole inspections to determine the deterioration of its poles and the remaining capacity. The primary factors considered in calculating the safety factor on poles are pole strength capacity (taking into account deterioration) and loads.

With regard to 2017 and beyond, SDG&E will acquire more information about "known local conditions" through the use of improved technology and tools available for even more comprehensive analysis. The PRiME program will be used to analyze structures supporting overhead electric lines in light not only of current required safety factors but also reasonably anticipated localized environmental and potential loading conditions.

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f) Referring to SDG&E's testimony, page WHS-3, lines 10-12, SDG&E states "much of the overhead infrastructure is aging, and the standards, information, and design and evaluation tools have improved significantly over the past 10 years", provide documentation that explains in detail specifically if SDG&E was aware during its last two GRCs that its "overhead infrastructure is aging, and the standards, information, and design and evaluation tools have improved significantly over the past 10 years".

SDG&E Response 1f:

SDG&E is aware that its overhead infrastructure is aging and that design and evaluation tools improve each year. SDG&E refers to its testimony in its last two GRC proceedings as documentation of its then-current understanding of its electric distribution system and available technology at the time. SDG&E fully implemented the Fire Risk Mitigation (FiRM) Program in 2014, using then state-of-the-art advanced engineering practices combined with improved weather data, which leads the utility industry. The available technology continues to improve and does not remain static, SDG&E continues to adopt new tools and modeling programs to enhance its knowledge of the state of its overhead system. This involves both the LiDAR surveys and the 3-D modeling of poles to perform loading calculations under all potential conditions utilizing PLS-CADD software. SDG&E's PRiME Program will look to expand on the utilization of these engineering practices outside the HRFA to the entire service territory.

g) Provide documentation that explains in detail if SDG&E failed to maintain, repair and/or replace any of its aging infrastructure that presented potential safety risks or failed to utilize and incorporate new standards, information, design and evaluation tools into its maintenance programs and projects over the past 10 years.

SDG&E Response 1g:

SDG&E systematically inspected and timely repaired issues it has discovered on its system. The system has been maintained in accordance with our filed CMP plan and subsequent changes to GO165. SDG&E has incorporated improved technology and tools as those have become available, and is requesting the necessary funding to permit acquisition of new tools and technology to not only continue but to expand its ability to model and maintain its system. Additionally, SDG&E's reliability metrics have been the best among western utilities for eleven consecutive years, which SDG&E considers to be an indicator of an effective inspection and maintenance program.

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h) Referring to SDG&E's testimony, page WHS-3, lines 17-19, SDG&E states that it "has also begun utilizing Light Detection and Ranging (LiDar) survey data in conjunction with 3-Dimensional (3-D) design software to accurately model distribution facilities." Provide documentation that explains specifically when SDG&E started utilizing "Light Detection and Ranging (LiDar) survey data in conjunction with 3-Dimensional (3-D) design software to accurately model distribution facilities."

SDG&E Response 1h:

SDG&E began using LiDAR in conjunction with 3-D design software on distribution lines on larger distribution projects as part of SDG&E's FiRM program in mid-2014. Please see the attached "Distribution_LiDAR_Survey_Contract.pdf" that documents the LiDAR survey contract for the FiRM project.

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i) Referring to SDG&E's testimony, page WHS-4, lines 16-18, SDG&E states its "new Asset Management organization will align the asset management functions and strategies across SDG&E, to avoid performing these functions in silos." SDG&E forecasts $4.610 million for Asset Management in TY 2019. SDG&E did not record any expenses for Asset Management during 2012-2016. Provide documentation that explains in detail and demonstrates how SDG&E performed asset management functions during 2012-2016 and 2017 and provide all associated costs incurred for these activities and the accounts/business units that addressed asset management functions.

SDG&E Response 1i:

In the past, asset management had been performed in different workgroups throughout the company. Asset management strategies for distribution overhead and underground structures and equipment inspection and maintenance including poles, transformers, switches, insulators, capacitors, voltage regulators, cable and conductor, reclosers, and more, were primarily compliance driven and developed by the Compliance Management group (SDGE-15 WHS 74) with the responsibility of ensuring compliance GO 95, 128, 165 and 166. The Compliance Management group and the Technology Solutions and Reliability Group are being absorbed into the Asset Management group, which will provide systems support, metrics, and reporting (SDGE-15 WHS 75). The historical costs for the absorbed groups are provided in the workpapers. SDG&E also has distribution substation transformers, circuit breakers, and relays that are managed out of the Substation Operations and Maintenance group and the System Protection group (SDGE-15 WHS 51 and WHS 53). The analysis of circuits and equipment for proactive asset replacement strategies also is performed in Electric Regional Operations (SDGE-15 WHS 38, and Distribution Engineering WHS 56). Those three groups will not be absorbed by Asset Management, as they perform many other functions as described in the testimony. At the time of the GRC filing it was not known that these groups (Compliance Management and

SDG&E Response 1i Continued:

Technology Solutions and Reliability) were going to be absorbed into the Asset Management Organization, as the organization was in the process of being established. This reorganization has no impact on the incremental request, as the zero-based estimate for asset management included only the cost for the additional employees needed to establish the workgroup. The $4.610 million incremental request for the Asset Management Organization is to establish and operate an ISO 55000-certified asset management program that would exceed existing compliance requirements establishing asset management policies, strategies, and governance for all distribution assets. The certification to ISO 55000 is expected to strengthen SDG&E's distribution asset management program and its alignment with SDG&E's overall risk management strategy, as well as to facilitate SDG&E's Enterprise Risk Management development and compliance with the Commission's new risk, asset, and investment management expectations and requirements, as described in Exhibit SDG&E-02, Chapters 1-3 (*see also* Chapter 1, Appendix D, "Risk Maturity and Integration of Risk, Asset, and Investment Management at SDG&E, an Assessment Report").

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j) Referring to SDG&E's testimony, page WHS-4, lines 26-29, SDG&E states "Proactive efforts such as our fire risk mitigation programs, our inspection and maintenance programs, advances in system protection, and our design and engineering standards and work methods are in place to reduce the risks associated with the electric system." This statement is confusing when compared to SDG&E's incremental request. ORA needs clarification regarding the success or failure rates of SDG&E's "proactive efforts" associate with its maintenance programs and projects.
Provide documentation that explains in detail and reconciles (compares historical processes and procedures with proposed changes in TY 2019) SDG&E's assertions about its proactive efforts that are in place to reduce the risks associated with its electric system and its TY incremental funding requests of 20% to 286% for various line items/categories of management shown in Table WS-6 on pages WHS-16 and WHS-17.

SDG&E Response 1j:
SDG&E objects to this question as vague and ambiguous. Subject to and without waiving this objection, SDG&E responds as follows: Detailed testimony descriptions of the public policy supporting the proactive steps that SDG&E has taken over the past several years to implement new risk, asset, and investment management processes in accordance with new Commission requirements and guidance are provided in the Risk Management and Policy testimony of Diana Day (Exhibit SDG&E-02, Chapter 1; *see also* Chapter 1, Appendix D, "Risk Maturity and Integration of Risk, Asset, and Investment Management at SDG&E, an Assessment Report"). Greg Flores describes SDG&E's Enterprise Risk Management (ERM) organization and development in Exhibit SDG&E-02, Chapter 2. SDG&E's RAMP Report (filed in I.16-10-015) provides a RAMP-to-GRC Integration testimony of Jamie York (Exhibit SDG&E-02, Chapter 3) describes how costs supporting RAMP activities have been integrated into SDG&E's GRC request. And detailed descriptions of the reasons for Electric Distribution O&M funding request

SDG&E Response 1j Continued:

increases, including those associated with RAMP risk reduction, are found in Exhibit SDG&E-15 and accompanying workpapers.

As described in Exhibit SDG&E-15, our existing electric distribution programs and procedures have been successful and should continue to be funded. SDG&E has taken a leadership role in addressing fire threats in the communities we serve by sharing our personnel, resources, information, communications facilities, and/or fire-defense assets so as to enhance the capabilities of our local communities to defend against catastrophic wildfire events experienced in southern California.

The proposed incremental projects described in Exhibit SDG&E-15 should also be funded, as they will further reduce risk, improve safety and reliability, address system growth, address regulatory compliance requirements, and develop the workforce. The specific need and benefit for every incremental request is described in detail in the body of the testimony and workpapers.