Company: San Diego Gas & Electric Company (U902M)
Proceeding: 2016 General Rate Case
Application: A.14-11-003
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SDG&E

REBUTTAL TESTIMONY OF JOHN D. JENKINS

ELECTRIC DISTRIBUTION CAPITAL

June 2015

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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ELECTRIC DISTRIBUTION CAPITAL

I. SUMMARY OF DIFFERENCES

TOTAL CAPITAL TEST YEAR & VARIANCE - Constant 2013 ($000)			
PARTY	**Base Year 2013**	**Test Year 2016**	**Change**
SDG&E	275,114	474,033	198,919
ORA	-	465,370	190,256
MGRA[1]	-	474,033	198,919
TURN[2]	-	472,217	197,103
UCAN[2]	-	463,828	188.714
FEA	-	465,370	190,256
CCUE[3]	-	-	-
JMP[4]	-	474,033	198,919

Table 1 – Summary of SDG&E request and Intervenor proposals

TOTAL CAPITAL - Constant 2013 ($000)					
PARTY	**2014**	**2015**	**2016**	**Total (2014-2016)**	**Variance**
SDG&E	443,612	486,399	474,033	1,404,044	0
ORA	249,131	389,278	465,370	1,103,779	-300,265
MGRA[1]	-	486,399	474,033	1,404,044	0
TURN[2]	442,390	481,334	472,217	1,393,483	-10,561
UCAN[2]	436,744	471,943	463,828	1,372,515	-31,529
FEA	249,492	389,278	465,370	1,103,418	-299,904
CCUE[3]	-	-	474,033	1,404,044	0
JMP[4]	-	-	-	-	0

Table 2 – Summary of proposals by forecast year

[1] While MGRA did not develop their own forecasts, they did recommend accelerating the Fire Risk Mitigation (FiRM) project.
[2] TURN and UCAN selected specific categories to challenge, so it was assumed that they agreed with forecasts in the other categories. This assumption is reflected in the forecasts above.
[3] CCUE provided forecasts for 2016-2018 and proposed higher expenditures for electric distribution and gas distribution capital ($280.8 million over 2016-2018). Gas distribution is not covered in the testimony of John Jenkins.
[4] JMP did not provide specific forecasts, and therefore the tables above reflect SDG&E's forecasts.

II. INTRODUCTION

The following rebuttal testimony regarding SDG&E's request for electric distribution capital addresses the following testimony from other parties:

- The Office of Ratepayer Advocates (ORA) as submitted by Mr. Greg Wilson (Exhibit ORA-6) and by Mr. Scott Logan (Exhibit ORA-7), both dated April 24, 2015.
- The Mussey Grade Road Alliance (MGRA) as submitted by Ms. Diane Conklin and Dr. Joseph W. Mitchell, dated May 15, 2015.
- The Utility Reform Network (TURN), as submitted by Mr. Eric Borden, dated May 15, 2015.
- The Utility Consumer Action Network (UCAN), as submitted by Briana Kobor, dated May 15, 2015.
- The Federal Executive Agencies (FEA), as submitted by Ralph C. Smith, dated May 15, 2015.
- The Coalition of California Utility Employees (CCUE), as submitted by David Marcus, dated May 15, 2015.
- Joint Minority Parties (JMP), as submitted by Faith Bautista, Mark Whitlock, and Theresa Martinez, dated May 15, 2015.

In this rebuttal testimony, it should not be assumed that failure to address any individual issue implies any agreement by SDG&E with the proposal made by these or other parties. The forecasts contained in SDG&E's direct testimony, performed at the project level, are based on sound estimates of its revenue requirements at the time of testimony preparation.

In the GRC application, SDG&E submitted detailed summaries for 102 electric distribution capital projects, and in each case the detailed forecasting methodology was identified. In addition, SDG&E responded to numerous data requests providing supplemental detail in support of SDG&E's filed testimony and workpapers. This resulted in very few challenges to SDG&E's forecasting methodologies by the other parties. In fact, ORA states in its testimony that "where ORA disagrees with SDG&E's forecasts, those disagreements are largely based on the timing of when capital projects will be completed, as well as on the level of capital expenditures: ORA has not concluded that these projects should be rejected. ORA understands why SDG&E has requested the forecast increases it seeks in this General Rate Case

(GRC), and in many cases, ORA agrees with those forecasts."[5] There were numerous capital categories that were not challenged by any of the parties, which include the Overhead Pools (methodology not challenged), Mandated, Transmission/FERC Driven Projects, Equipment/Tools/Miscellaneous, and Smart Meter. This supports SDG&E's position that it has fairly and accurately represented its Electric Distribution capital requirements for this GRC.

The major challenge to SDG&E's Electric Distribution capital forecasts is the adoption of the 2014 actual data for the basis of the 2014 forecasts by ORA and FEA, as well as how this information was used for the basis of proposals by other parties. There are numerous issues that can affect the expenditures in Electric Distribution capital. First and foremost, the capital management process at SDG&E is fluid. There are numerous issues that can arise that affect not only the funding between Electric Distribution categories, but the funding between all capital categories. SDG&E must constantly prioritize its capital funding based on new information. This ranges from delaying projects, to accelerating projects, to providing funds for new projects. An example of this is the Fire Risk Mitigation (FiRM) project. As the various activities to address fire safety came together to be collectively managed, it became evident that an over-arching effort was needed to coordinate the effective and efficient use of those related resources. This resulted in the FiRM effort arising out of the RIRAT, a transformation that occurred in the 2nd Quarter of 2014.

In addition to the prioritization process described above, there were other factors that had an impact on 2014 Electric Distribution capital expenditures. The late decision in the TY 2012 GRC,[6] which was not issued until mid-2013, had a ripple effect that also impacted the ability to ramp up and spend capital in certain categories for 2014. In 2014, SDG&E embarked on a new large-scale program (FiRM) to reduce fire risk from its facilities. Any time a new program is initiated, there is a ramping-up period of time necessary to establish effective workflows, create project-specific processes, establish project management governance, procure materials, and organize construction resources. This ramp-up period occurred at a different rate than SDG&E anticipated, but the project is now in full-swing. The New Business activities also did not meet the forecasted amounts in 2014. This was due to overly optimistic third party forecasts on local permit activity. The expenditures in the Franchise category were also lower than anticipated in

[5] ORA-6 (Wilson), p. 2.
[6] D.13-05-010 to A.10-12-005, issued May 9, 2013.

2013-14, due to project delays driven by local jurisdictions. Those delays are cyclical, however, and those projects must take place in the near future. In addition to the underruns described above, there are a couple of categories where the expenditures are directly dependent on the expenditures in others. Specifically, the Overhead Pools and Materials categories correlate to expenditures in other categories. Those pools provide the necessary engineering and management resources to study, design, plan and manage the construction activity, and to provide the necessary materials to complete those installations. For example, lower than anticipated expenditures in New Business and Safety & Risk Management correlate to lower expenditures in Overhead Pools and Materials.

Regardless of the lower than anticipated expenditures in 2014, SDG&E stands by the forecasts that were developed based on the information SDG&E had at the time of the filing. SDG&E still believes the forecasts in 2015 and 2016 accurately reflect the work that needs to take place to maintain a safe and reliable electric system, with minor exceptions as described later in this testimony. As I stated in my direct testimony,[7] the capital projects described in my testimony are intended to maintain the delivery of safe and reliable service to our customers. SDG&E prioritizes our work to comply with applicable laws and regulations, and to provide system integrity and reliability in accordance with our commitment to safety. SDG&E's longstanding commitment to safety focuses on three primary areas – public safety, customer safety, and employee safety. This safety-first culture is embedded in the manner in which we carry out our work and build our systems – from initial employee training to the installation, operation, and maintenance of our utility infrastructure, and to our commitment to provide safe and reliable service to our customers.

SDG&E appreciates the time and effort put into testimony by the parties and values the perspectives from which their testimony was derived. In this rebuttal testimony, I provide rebuttal for key areas of disagreement between SDG&E and the parties that provided testimony related to electric distribution capital. It is important to ensure that an adequate funding level is approved to ensure SDG&E can continue to provide safe and reliable electric service to our customers.

[7] SDG&E-09-R (Jenkins), pp. JDJ-viii and JDJ-156.

A summary of the key points from the parties' testimony is described below, broken out by party.

A. ORA

Office of Ratepayer Advocates (ORA) issued its report on the Results of Operations for San Diego Gas & Electric Company/Southern California Gas Company, Test Year (TY) 2016 General Rate Case, on April 24, 2015.[8] The following is a summary of key areas of difference between ORA's forecast for SDG&E's Electric Distribution Capital Expenditures (Parts 1 and 2) and SDG&E's forecast:

- ORA adopted SDG&E's adjusted actual 2014 costs as their 2014 forecast, but they also disregarded $10.3 million for 45 new or carryover capital projects with spending in 2014 that were not originally forecasted to take place in 2014.
- ORA's forecast for the Franchise capital category is lower than SDG&E's request by $11.846 million in 2015 and $11.846 million in 2016.
- Based on ORA's forecast for reduced activities in the Materials program category for 2015, ORA recommends a reduction of $6.4 million from SDG&E's 2015 forecast of $22 million.
- ORA's forecast for the New Business capital category is lower than SDG&E's request by $20.582 million in 2015 and $21.482 million in 2016.
- ORA accepts SDG&E's forecast method for the Overhead Pools, but adjusted the forecasts based on overall reductions in their forecasted capital expenditures. The Overhead Pools budget category forecasts do depend on the spending in the other categories.
- ORA's forecast for the Safety and Risk Management capital category is lower than SDG&E's request by $13.278 million in 2015 and $15.939 million in 2016.

[8] April 24, 2015, ORA Report on Electric Distribution Capital Expenditures, Part 1 (Greg Wilson) and Part 2 (Scott Logan).

B. The Utility Reform Network (TURN)

The Utility Reform Network (TURN) submitted testimony on May 15, 2015.[9] The following is a summary of TURN's position(s):

- TURN states that SDG&E assumes a worst-case scenario for solar distributed generation (DG) and could defer distribution capital investments if it adequately estimated the value of distributed solar.[10] TURN's recommendation is to disallow a portion (10%) of the Mira Sorrento project requested expenditure, the entire Salt Creek substation project, and the C917 circuit project.[11]
- TURN's forecast for the Capacity capital category is lower than SDG&E's request by $10.561 million over the forecast period.
- TURN's analysis finds that SDG&E provides no value for solar DG when forecasting distribution system capacity/expansion capital expenditures.
- TURN is concerned that SDG&E is undervalues the potential contribution of solar DG to reduce peak load at the distribution level, therefore overestimating distribution capital expenditures. TURN claims that there is no factual basis for assuming a "worst case scenario" during peak times across all solar DG assets on an entire system.
- TURN claims that SDG&E has not conducted any studies to support their system-wide assumption that solar DG provides zero output during peak times on distribution circuits.
- TURN claims that SDG&E has not provided sufficient evidence that adding solar DG capacity to peak load is warranted.
- TURN believes that SDG&E could defer Distribution capital if the value of distributed solar were adequately estimated. TURN claims that its analysis demonstrates that all, or at least a portion, of three projects in SDG&E's 2016 GRC request for distribution capital expenditure could be deferred to later GRCs, and that $10.6 million in 2014-2016 capital expenditures should be disallowed.

[9] May 15, 2015, Prepared Direct Testimony of Eric Borden Addressing the Treatment of Solar Distributed Generation for Estimating Distribution System Capacity/Expansion Expenditures, on behalf of The Utility Reform Network [TURN].
[10] Id. at 2:23.
[11] TURN Direct Testimony (Borden), p. 13:11-13.

C. UCAN

The Utility Consumer Action Network submitted testimony on May 15, 2015.[12] The following is a summary of UCAN's position(s):

- UCAN recommends that SDG&E's residential electric customer forecast be adjusted to use the February 2015 housing starts forecast developed by IHS Global Insight, to include 2014 actual data in the regression analysis, and to exclude the housing start change versus household variable.
- UCAN's forecast for the New Business capital category is lower than SDG&E's request by $31.5 million over the 2014-2016 period.

D. Federal Executive Agencies (FEA)

The Federal Executive Agencies (FEA) submitted testimony on May 15, 2015.[13] The following is a summary of FEA's position(s):

- FEA claims that electric distribution plant in service has only increased 4.91% annually over the last five years. In addition, electric distribution capital for 2014-2016 is much higher than the 2013 recorded year, and actual 2014 capital expenditures are lower than forecasted levels.
- FEA recommends $249.49 million of actual 2014 distribution capital and recommends ORA adjusted levels of capital expenditures for 2015 and 2016. For TY 2016, FEA recommends $465.37 million in electric distribution capital compared to SDG&E $474.033 million and a reduction of $8.663 million in TY2016.

E. Coalition of California Utility Employees

The Coalition of California Utilities Employees (CCUE) submitted testimony on May 15, 2015.[14] The following is a summary of CCUE's position(s):

[12] May 15, 2015, Testimony of Brian A. Kobor, Laura Norin, and Mark Fulmer on Behalf of the Utility Consumers Action Network Concerning Sempra's Revenue Requirement Proposals for San Diego Gas & Electric and SoCalGas.
[13] May 15, 2015 Direct Testimony and Exhibit of Ralph C. Smith, CPA, on Behalf of the Department of Defense and All Other Federal Executive Agencies [FEA].
[14] May 15, 2015, Prepared Testimony of David Marcus on Behalf of the Coalition of California Utility Employees [CCUE].

- CCUE's overall forecast adopts SDG&E's 2016 test year forecast for electric distribution capital and gas distribution capital, and recommends the addition of $280.8 million for reliability projects during the period of 2016-2018.
- CCUE suggests that SDG&E proposed insufficient preventive infrastructure replacements in the areas of:
    - Wood Poles;
    - Underground Cable;
    - Aldyl-A Gas Pipe;[15]
    - Capacitors;
    - Underground Switches; and
    - Including Overhead and Inflation Costs associated with the replacements above.
- CCUE recommends that the Commission establish a mechanism to bind SDG&E to spend the authorized amounts for reliability improvements.
- CCUE states that the Commission should require that SDG&E conduct a system-wide pole loading study in 2016 comparable to the study undertaken by SCE.

F. Joint Minority Partners (JMP)

The Joint Utility Partners (JMP) submitted testimony on May 15, 2015.[16] The following is a summary of JMP's position(s):

- Explore new technologies
    - The Tesla battery and the impact on rate increases as part of this proceeding; and
    - Innovations and ingenuity on drought conditions as it relates to energy and water issues.

G. Mussey Grade Road Alliance (MGRA)

The Mussey Grade Road Alliance (MGRA) submitted testimony on May 15, 2015.[17] The following is a summary of MGRA's position(s):

[15] For this gas-related item please see the rebuttal of Ms. Maria Martinez, Ex. SDG&E-207.
[16] May 15, 2015, Joint Minority Parties Initial Testimony on San Diego Gas & Electric Company (U 902 M) General Rate Case (Faith Bautista, Rev. Mark Whitlock, and Gilbert R. Vasquez).
[17] May 15, 2015, Direct Testimony of the Mussey Grade Road Alliance (Joseph Mitchell).

- The SED report correctly notes that the SDG&E application and supporting testimony, workpapers, and responses lack sufficient specificity to allow an estimation of how spending on specific projects will affect risk and safety.
- Despite its perceived weaknesses of the SDG&E testimony in providing quantifiable estimates that can be used for rate forecasting, MGRA believes that SDG&E does collect a number of metrics that can be used to track the resilience of their system to extreme fire weather events.
- SDG&E should explore accelerated completion of the FiRM program.
- MGRA claimed difficulty in segregating SDG&E's capital spending and operations budgets to identify spending for fire prevention, citing SDG&E's confirmation that wildfire prevention is not specifically budgeted as a project or program, but rather integrated into a wide range of activities.
- MGRA believes that SDG&E should develop a quantitative risk-scoring methodology as part of the upcoming S-MAP process.[18]
- MGRA believes there is insufficient detail in the rate case to link spending with risk reduction and states that SDG&E should develop methodologies to track fire prevention spending and effectiveness in a way that can be reported out to the Commission.
- MGRA states ORA's concern that the ERM organization may be "top-heavy," but does not recommend defunding it. MGRA believes that an ERM organization is necessary to effectively participate in S-MAP and RAMP, and that SDG&E should work with ORA to develop a plan for a "right-sized" ERM.
- As an alternative to ORA's recommendation to postpone a portion of the funding for the FiRM project to 2017, MGRA believes that SDG&E might be required to present a detailed plan for accelerated completion of this project in order to enhance public safety.
- MGRA believes that SDG&E examines risks and potential impacts from a wide variety of perspectives and attempts to balance these. Individual scoring elements are "quasi-quantitative," in that they are ranked with an ordinal score by a subject matter expert, but these scores are not tied to any objective standard.

[18] A.15-05-002 - Application of San Diego Gas & Electric Company (U902M) for Review of its Safety Model Assessment Proceeding Pursuant to Decision (D.)14-12-025, May 1, 2015.

- For circuit segment risk scores, MGRA believes that SDG&E correctly puts the most emphasis on environmental factors.
- Annual outage rates that SDG&E classified as vegetation-related have shown a significant decrease since 2010.
- With the definition of "fire weather" events in this testimony, MGRA observed a significant increase in the probability of outages during fire weather.
- MGRA also analyzed outage rates with respect to SDG&E's fire risk metric, in order to see if the fire risk metric is predictive of outage rate. For outages not due to external agency, no obvious trend in the data was apparent. For those outages occurring during fire weather, however, a possible trend for higher outage rates from higher-risk circuit segments was observed, as might be expected. For vegetation-related outages, an apparent and unexpected inverse correlation was observed, with higher risk scores possibly correlated with lower outage rates. This is a possible indication that SDG&E's program for vegetation management in Highest Risk Fire Areas may be having a measurable effect on outage rates.
- In future GRCs, MGRA believes that SDG&E should report on fire data as a metric to justify its fire prevention spending.
- MGRA claims that there is no specific person or entity at SDG&E delegated with responsibility for determining overall fire prevention spending, either in absolute or relative terms. Instead, individual projects and programs are independently proposed and budgeted, with fire risk reduction being one of the factors going into the priority that SDG&E assigns them. MGRA claims that no attempt is made to "optimize" the spending for fire prevention, at least at the level of higher management.
- MGRA believes that SDG&E should develop mechanisms for specifically identifying project costs, and for linking these projects to fire safety outcomes. This will be important for future fire prevention spending cost justifications.
- MGRA believes that a target safety goal of no more than a 3% probability of catastrophic losses anywhere in the SDG&E network in the event of a fire weather event equivalent to the October 2007 fire storm should be established (or 3% probability of catastrophic fire in 50 years). SDG&E should develop a plan to reach this safety goal as a part of the subsequent SDG&E rate case, and fire spending requests should be tied to measureable

progress towards that goal. SDG&E participation in the S-MAP[19] and R.08-11-005[20] Map 2 processes should provide new tools and guidelines helpful in building such a plan.

- MGRA believes that a cost/benefit or risk/benefit analysis should be applied to determine the correct balance between design standards, new technologies, and operational solutions in achieving the safety goal.

III. REBUTTAL TO PARTIES' CAPITAL PROPOSALS

In the following section, I provide rebuttal testimony for the primary areas of variance between SDG&E's forecast and ORA's forecast. It is important to note that the greatest disparity between any party and SDG&E for the test year forecast (2016) was 2.1%. The primary areas of rebuttal fall within the Capacity /Expansion, Franchise, New Business, Reliability and Safety & Risk Management budget categories. Rebuttal is provided for the Overhead Pools category, but since ORA agreed with the methodology for the pools, the primary difference between the value of the pools in SDG&E's forecast versus ORA's forecast is the cost basis for which the pools were calculated. Several parties accepted SDG&E's 2014 actuals as their 2014 forecast, and there was some concern that those 2014 actuals were considerably lower than SDG&E's forecast. FEA accepted ORA's forecasts for 2015 and 2016, and for the most part accepted the 2014 forecast. For this reason, SDG&E does not specifically address FEA's testimony below, but everywhere SDG&E rebuts ORA testimony shall also apply to FEA.

One of the rebuttal areas that does not fall into a specific budget category is ORA's 2014 adjusted recorded proposal. ORA adopted SDG&E's adjusted 2014 actual costs as their 2014 forecast, but they also disregarded $10.3 million for 45 capital projects completed in 2014 which had not been originally forecasted to take place in 2014.[21] ORA does not take issue with any of the 45 capital projects individually; rather, ORA seems to suggest that SDG&E generally cannot recover its reasonably incurred costs unless those costs are foreseen and forecasted in GRC testimony. SDG&E disagrees. An anomaly of SDG&E's recent 4-year GRC cycles is that the year 2013 was not represented as a forecast year in the last or the present rate case. For example, in the 2012 rate case, the forecast years were 2010-2012 with a base year of 2009 and GRC

[19] A.15-05-002, Application of San Diego Gas & Electric Company (U 902 M) for Review of its Safety Model Assessment Proceeding Pursuant To Decision 14-12-025 (filed May 1, 2015).
[20] R.08-11-005, Order Instituting Rulemaking to Revise and Clarify Commission Regulations Relating to the Safety of Electric Utility and Communications Infrastructure Provider Facilities, November, 2008.
[21] ORA-6 (Wilson), pp. 8-10.

period years of 2012-2015. In this GRC the forecast years are 2014-2016 with a base year of 2013, and prospective GRC period years of 2016-2018. The revenue requirement in the 2012 decision applied to the four GRC period years 2012-2015. Thus, SDG&E continued its capital expenditures using authorized revenue requirement levels from the 2012 GRC with year 2013 not appearing as a forecast year in those proceedings. The reversion to a three-year GRC cycle eliminates this anomaly.

My GRC testimony was carefully developed to accurately present a snapshot representation of forecasted electric distribution capital projects at a moment in time – specifically, in early 2014, when SDG&E needed to finalize its GRC forecasts. Although the GRC forecasts were carefully and accurately prepared based on the available facts as we knew them at that point in time, there is no way of knowing how capital management circumstances and priorities may change as time passes.

As described in my direct testimony,[22] the capital management process is dynamic. There are times were projects are projected to go into service at the end of the year, but are delayed due to permitting, weather, logistics issues and other factors. The delays result in carryover expenditures in the following year. In some cases, new projects arise based on new information, like FiRM. In the 2nd Quarter of 2014, SDG&E decided not to wait to move forward with FiRM, even though funding was not originally allocated for activities of that scale in through the capital management process. The capital management and prioritization process requires flexibility in order to make necessary adjustments. SDG&E understands why ORA adopted the 2014 actuals as their 2014 forecast, but it is not realistic or reflective of the capital management process to disregard actual expenditures because projects had not been included in a previous GRC forecast. SDG&E recommends that if ORA's proposed 2014 actual costs are used as the 2014 forecast, SDG&E's entire 2014 actual amounts should be adopted.

SDG&E requests that the 2014 recorded spending for these 45 new or carryover budgets should be included in ORA's recommended forecast for 2014.

[22] SDG&E-09-R, Revised Direct Testimony of John D. Jenkins. The electric distribution capital project oversight and prioritization processes are described on pages JDJ-2 through JDJ-11. See, e.g., id. at pp. JDJ-6 and JDJ-11 ("Priorities are adjusted, depending on whether or not risks are being adequately addressed, if new risks materialize based on new data, and depending on overall budget status.").

A. Safety and Risk Management Category of Projects (FiRM)

1. ORA

ORA takes issue with the capital forecast for the Fire Risk Mitigation (FiRM) project, budget 14247, or Phase 3.[23] All other budget code forecasts within the Safety and Risk Management category, including FiRM Phases 1 & 2 (Budget 13247), were accepted without adjustment by ORA for 2015 and 2016. With regard to the FiRM budget 14247 forecasts, ORA states that they are "not convinced that SDG&E's forecasts for 2015 and 2016 are achievable, since they are multiple times larger than the 2014 forecast (which SDG&E failed to complete)."[24] As described in my direct testimony the FiRM program is very similar to the Pipeline Safety Enhancement Program (PSEP) taking place on the gas side of the business, as it aggressively addresses an area of high risk through significant investment.[25] The FiRM program is arguably the largest capital electric distribution project ever undertaken by SDG&E. Any project of this magnitude would be expected to have a ramp-up period. SDG&E expected some level of ramp-up and is confident that the forecasts are accurate and achievable for 2015 and 2016. SDG&E has augmented internal design and construction resources with contracted resources to ensure the program goals can be achieved.

With drought and frequent Santa Ana wind conditions currently impacting San Diego, fire risk management has become a part of day-to-day operations for SDG&E,[26] and it is even more important to have full funding for each phase of FiRM. Mr. Geier explained how natural conditions outside of SDG&E's control necessitate fire risk management efforts as a top priority in SDG&E's capital fire hardening projects, everyday operational activities, and wind and fire risk emergency response protocol activities:

SDG&E continues to address as a top priority the safety and operational risks caused by the extreme Santa Ana wind conditions throughout SDG&E's service territory, given that fire risk is extremely high during wind events, and the consequences of a fire can be catastrophic. SDG&E has implemented fire risk mitigation measures that are unprecedented (in both

[23] ORA-6 (Wilson), pp. 34-37.
[24] ORA-6 (Wilson), pp. 36-37.
[25] SDG&E-09-R (Jenkins), p. JDJ-24.
[26] Fire risk management as a part of SDG&E's day-to-day operations is shown throughout my direct testimony and the direct testimonies of David Geier (SDG&E-3, Electric Operations Risk Policy) and Jonathan Woldemariam (SDG&E-10, Electric Distribution Operations and Maintenance).

California and the electric industry) to minimize both the likelihood of fire and any damage caused by fire should an incident occur. Given current severe drought conditions in California[27] and the increasing number of year-round wind events in our service territory, SDG&E has needed to even further increase its fire risk mitigation efforts to adapt to changing field conditions.[28]

Through the FiRM capital project and SDG&E's comprehensive operating procedures, SDG&E continues to invest a tremendous amount of time and effort into reducing the potential for catastrophic wildfires, and reducing the impact on the electric system resulting from wildfires. ORA appropriately recognized timing issues with multiple budget categories, and in the case of FiRM, timing was the reason for lower than expected expenditures in 2014. However, as described above this was primarily due to the rate of FiRM ramp-up, but now the project progression is in-line with forecasts and the project is on track to achieve the 2015 and 2016 forecasts. It was anticipated that spending would be higher in Phases 1 and 2 of the initial stages of the FiRM project, as those phases focused on the highest risk areas. Phase 3 was anticipated to follow Phases 1 and 2, with some overlap.[29] Phase 3 of the FiRM project transitions into more of a pole loading analysis effort, which will be more O&M intensive than Phases 1 and 2. It is very important that both Capital and O&M[30]GRC requests are approved.

SDG&E respectfully disagrees with ORA that the 2015 and 2016 forecasts aren't achievable. SDG&E has already ramped up the FiRM program and has the design and construction resources in place, now working at a pace that matches with our original plan outlined in this GRC testimony and workpapers. Furthermore, SDG&E believes there shouldn't be any reduction in funding for this critical risk reduction work given the drought conditions and declared state of emergency in California related to the drought conditions. This is a high priority project, and full funding is necessary to minimize the potential for catastrophic wildfire

[27] On February 17, 2014, Governor Brown issued a "State of Emergency" due to the ongoing drought; and on February 18, 2014, CPUC Safety Enforcement Division acting director Denise Tyrrell issued a letter directing the utilities to increase inspections in fire threat areas, to re-prioritize corrective action items, and to modify electric system fault protection schemes.
[28] SDG&E-03 (David Geier), pp. 4-6.
[29] See SDG&E-09-R (Jenkins), pp. JDJ-128-JDJ-129; SDG&E-CWP-09-R (Jenkins) Section 14247- Fire Risk Mitigation (FiRM) – Phase 3.
[30] See direct testimony of Jonathan Woldemariam SDG&E-10 Electric Distribution Operations and Maintenance.

and associated impacts to customers. In addition to the severe drought conditions, SDG&E has seen an increase in the amount of Red Flag Warnings (characterized by extreme winds, high temperatures, and low live-fuel moisture), each with the potential to span several days.

Year	Red Flag Events	Number of Days Affected
2010	2	spanning 3 days
2011	3	spanning 6 days
2012	5	spanning 10 days
2013	6	spanning 13 days
2014	8	spanning 24 days

Table 3 – Red Flag history

This is a high priority project for SDG&E and customers throughout the San Diego and Orange County service territory, and full funding is necessary to minimize the potential for catastrophic wildfire and associated impacts to customers.

2. MGRA

As discussed above, fire risk continues to be a key focus for SDG&E. Fire risk reduction activities are deeply ingrained in daily operations at SDG&E, and fire risk is the reason why the FiRM project was developed. The focus of MGRA's testimony is on fire risk and FiRM. MGRA generally supports what SDG&E is doing to continue to reduce fire risk. SDG&E appreciates the efforts MGRA has undertaken to enhance fire safety, and lauds them for acknowledging SDG&E's efforts to do the same. MGRA did not provide any forecasts of their own, but did suggest that SDG&E look into accelerating the FiRM project. Because MGRA did not provide forecasts of their own, SDG&E will primarily focus on statements made by MGRA in their testimony and recommendations formed using data SDG&E provided in data requests.

In MGRA's testimony, MGRA states "Despite the weaknesses of the SDG&E testimony as far as providing quantifiable estimates that can be used for rate forecasting, SDG&E does collect a number of metrics that can be used to track the resilience of their system to extreme fire weather events."[31] SDG&E disagrees with this statement. SDG&E used cost information from historical fire hardening projects and capital upgrades, and applied the cost figures to the

[31] MGRA (Mitchell), pp. 4-5.

projected level of work for 2014-2016 to come up with the forecasts provided in the application testimony. Cost estimate details were provided in my workpapers.[32]

MGRA suggests SDG&E should explore the possibility of accelerating the completion of FiRM. When SDG&E began developing the FiRM project, several schedule alternatives were evaluated, including an accelerated schedule. The current project schedule is based on the most accelerated alternative initially evaluated. SDG&E moved forward in the quickest and most feasible manner.

MGRA considered SDG&E's outage data, weather data and fire data to derive their own correlations on fire risk. SDG&E believes that this information is more appropriately considered in the R. 15-05-006 proceeding (which recently replaced R. 08-11-005) rather than this GRC. That proceeding is focused on creating rules and criteria to be used by utilities and communications companies to reduce fire risk.

As MGRA recognizes, the S-MAP and R.08-11-005 Map 2 processes will help to enhance fire risk-related processes going forward. In addition, as SDG&E's Enterprise Risk Management efforts gain momentum, there will be more tools put into place to quantify risks and to ensure money is being allocated in the right areas, with respect to risk. SDG&E believes that MGRA proposals would be more appropriately presented in S-MAP or other fire related proceedings.

Finally, SDG&E cannot agree with MGRA's statement: "No excess of fires due to SDG&E equipment failures is seen in the fire history. While this is good news, it should be remembered in the context that the Witch fire that caused so much damage in San Diego County and which has been indirectly responsible for so much procedural activity at the CPUC <u>was due to an equipment failure</u> [emphasis added] during fire weather conditions, but one on a transmission line which means that it was not included in the present sample."[33] SDG&E maintains that the Witch Fire incident was not related to an equipment failure and that no fault has as yet been determined for the cause of that fire.

In MGRA's testimony, Dr. Mitchell acknowledges that "outages classified by SDG&E as vegetation-related have been reduced significantly since 2010,"[34] yet sees an apparent

[32] SDG&E-CWP-09-R (Jenkins).
[33] MGRA (Mitchell), p. 47 (emphasis added).
[34] MGRA (Mitchell), p. 30.

discrepancy related to the magnitude of this reduction, "This trend was noted in the testimony of David Geier: 'SDG&E's vegetation management activities have proven to be very successful and have resulted in a 75% decrease in distribution outages due to vegetation contact in the last 5 years at SDG&E.' However, the reduction seen in the outage data available to MGRA doesn't support a reduction of 75% (only ¼ of previous rate)."[35] Dr. Mitchell's analysis of Mr. Geier's statement about the 75% decrease is simplistic and misleading. He used data from certain locations to classify specific date ranges as having fire weather, while using outages from the entire service territory. There are multiple reasons why Dr. Mitchell's simple correlations wouldn't be one-to-one, including general climate conditions regarding rain, drought, wind patterns & durations, etc. In addition, Dr. Mitchell looked at a data set for specific circuits in the FTZ. The decrease in vegetation-related outages is not as stark when you do that. If you look at vegetation-related outages on the entire system, the story is very different and shows a much larger reduction. See Figure 1 below:

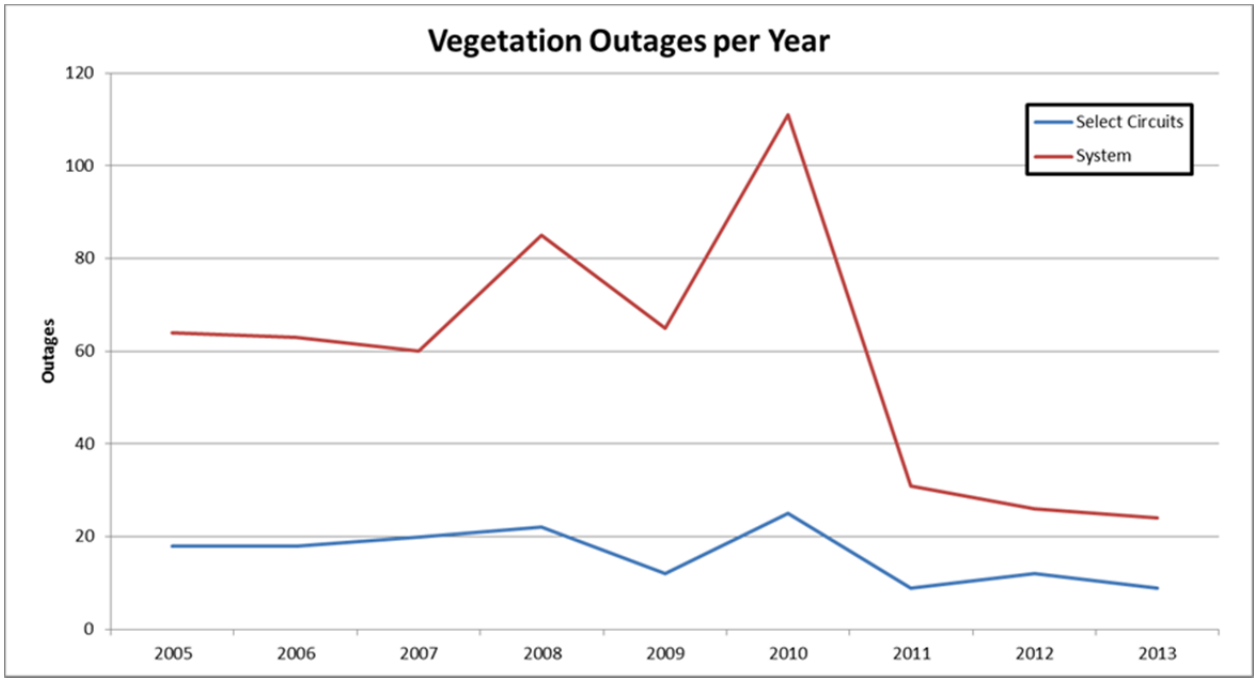

Figure 1 – Vegetation outages per year

Additionally, Mr. Geier's remark was likely made during 2014 when SDG&E did not have that year's full data set, and there is clearly a strong drop off in vegetation-related outages

[35] MGRA (Mitchell), p. 30.

in years 2011-2013 (as Figure 3 in MGRA's testimony shows[36]). MGRA had a full year of 2014 data for the specific circuits available to use in their analysis, and the 2014 vegetation-related outages do spike up, but the 2014 numbers are lower than any year previous since 2010. Mr. Geier's statement is still relevant and captures the overall trend of significant vegetation-related outage reduction.

In MGRA's testimony, Dr. Mitchell comments on the vegetation-related outages, "Once again, we see a large spike corresponding to the 2007 events. Much more surprising is the spike in 2014 that is associated with the unprecedented spring Santa Ana events of that year. This runs counter to the trend of lower vegetation outage rates seen after 2010 noted by SDG&E and shown in Figure 3….It would be good if SDG&E could speak to this issue in its responding testimony and explain whether the spring 2014 excess of vegetation-related outages were a real effect and if so whether this is due to an issue that has been or will be addressed.[37]" As mentioned previously, 2014 was a year of extreme weather conditions. Wind was more widespread in 2014 than previous years. Even Dr. Mitchell's analysis, specifically Figure 6 in MGRA's testimony[38], supports this conclusion, "While this data set excludes vegetation related events, it does provide a possible clue as to the reason for excess of vegetation outages during the spring 2014 event. It appears that the October 2007 fire weather event impacted San Diego more broadly, with high and extreme winds across the entire county, while the 2014 event had extreme winds that were much more localized. This observation is also supported by the outage data in Figure 6, which shows a small cluster of events at higher wind speeds in 2014, but most points showing lower wind speeds than 2007."[39]

B. New Business Category of Capital Projects

1. ORA

ORA takes issue with capital forecast for the New Business category of projects, primarily because it does not agree with the use of SDG&E's Construction Unit Forecast, nor does it agree that permit activity is increasing as robustly as predicted in San Diego. ORA

[36] MGRA (Mitchell), p. 30.
[37] MGRA (Mitchell), p. 33
[38] MGRA (Mitchell), p. 34.
[39] MGRA (Mitchell), p. 34.

suggests that SDG&E use meter growth for future GRC forecasts instead of the Construction Unit Forecast.[40]

In its conclusions, ORA states it has simply incorporated adjusted-recorded 2014 data into its spreadsheet and revised the proposed expenditures to reflect what they believe to be the link between gross meter sets and forecasts for customer driven capital projects. SDG&E does not agree with that approach. ORA further states such a linkage is utilized by other energy utilities and claims it makes "logical sense." SDG&E understands that the Construction Unit Forecast differs from methodologies the other California utilities use to predict their new business work, but there is a reason we use this methodology.

New business budgets are used to plan for and record capital expenditures associated with work performed to add new electric distribution system within the SDG&E service territory. As I explain in my direct testimony, construction units are what is used by SDG&E to plan for, monitor and record completed units of distribution system capital work.[41] Construction units are an integral and necessary element of SDG&E's work order system (aka, the Distribution Planning & Scheduling System—DPSS). Planning for and tracking the installation of electric meters to measure electricity consumed by the customer is not an activity performed by the DPSS. It is completely a different process, one of which is not associated with planning for or monitoring new business capital work. It is important to note that new business capital work must be complete before a meter can be installed; new meter sets lag the necessary New Business construction work.

The sequence of activities leading to construction units and, finally, on to meters is as follows. First, a developer submits development plans to a local governmental planning authority for review that leads to permitting. Typically, the stages a developer goes through are: plan designation, tentative map, final map, and then permitting. As the developer's project moves through these stages they will contact SDG&E to plan for electric service. SDG&E typically must perform its capital work sometime during the multi-level permitting phase. A developer may be permitted to develop property, but not yet permitted for building construction. Once SDG&E completes its distribution capital work, the developer can construct a building on

[40] ORA-6 (Wilson), pp. 23-26.
[41] SDG&E-09-R (Jenkins), pp. JDJ-19-21.

the lot, and then SDG&E can place a meter on the building to measure electricity consumption. In short, capital work always precedes the installation of electric meters.

Since construction units are integral to planning for, monitoring and recording capital expenditures for this type of new business work, construction units are what need to be forecasted. Both meter growth and residential permits are strongly correlated to construction units. The correlation coefficient[42] relating meter growth to construction units is 0.92 and the correlation coefficient relating residential permits to construction units is 0.97. Both statistics are impressive, but permits are a more accurate driver to use as an independent variable for producing a forecast of construction units. Permits appear in the development cycle long before meter sets and with respect to new business construction are a leading indicator, whereas meter sets are a lagging indicator. Permits are issued much closer in time to the work that is being planned for, monitored and recorded than are meter sets.

The model used to forecast construction units uses a forecast of the issuance of residential permits as its independent variable[43] to produce a forecast of construction units. Professional data service providers such as Moody's and Global Insight generate forecasts of permits to be issued nationally, regionally, by state, and locally. These forecasts are used by many in the construction industry and banking. At SDG&E we use Global Insight data series, and though ORA claims they do "not have access to the Global Insight or building permit data,"[44] this data is commercially available. UCAN performed analysis using Global Insight data as part of their testimony.[45,46] SDG&E's model statistics are reasonable and indicate the model is useful for the purpose.

Given this, SDG&E believes the construction unit forecast model, which is based on the forecasted number of permits, is a superior model to the meter growth forecast model, given that it minimizes lag, is better correlated and fits better with budget timing. ORA argues that

[42] A correlation coefficient equal to 1 indicates perfect positive correlation, whereas -1 indicates perfect negative correlation. A value between zero and one indicates some lesser relationship. In this situation values closer to one are more desirable.
[43] 34% of permits issued during the current year and 66% of the permits issued one year prior.
[44] ORA-6 (Wilson) p. 25.
[45] UCAN (Korber) p. 6.
[46] When given only housing starts, starts must pass through a transforming function to convert them into permits.

SDG&E's use of a construction unit-based methodology is "demonstrably unreliable."[47] SDG&E acknowledges that the 2014 recorded Construction Units came in below forecast, but this was due to an overly optimistic estimate of permits and local development, not due to an inferior forecasting model.

Lastly, ORA recommends that, in future rate cases, the Commission should direct SDG&E to use meter increases as the basis of its capital forecasts for customer-driven projects. For the above reasons, SDG&E disagrees with that recommendation, believing the Construction Unit Forecast is a better predictor of the capital work needed to support the growth of SDG&E's electric distribution system.

2. UCAN

UCAN recommends that SDG&E's residential electric customer forecast be adjusted to use the February 2015 housing starts forecast developed by IHS Global Insight, to include 2014 actual data in the regression analysis, and to exclude the housing start change versus household variable.[48] These changes result in a 15% reduction to SDG&E's forecast of new residential customers, which eliminates the need for more than $31.5 million of New Business expenses over the 2014-2016 period. Kenneth Schiermeyer rebuts UCAN's electric customer forecast.[49]

SDG&E uses the construction unit forecast methodology to estimate new business activity in San Diego; the merits of this methodology have been addressed in detail above. The housing starts forecast by Global Insight is an input used to determine permit activity in San Diego, which is used in the construction unit model, but the construction unit is ultimately a different and superior forecast tool than housing starts. Using the 2014 actual construction units for San Diego and the updated February 2015 housing starts data from Global Insight does result in a lower estimate for new business budgets. However, SDG&E's original estimate was made with the best information from Global Insight at the time, and future Global Insight estimates could just as easily increase as decrease.

C. Capacity and Expansion Projects

1. TURN

In his testimony regarding the capacity projects, Mr. Borden states:

[47] ORA-6 (Wilson), p. 26.
[48] UCAN (Kobor), pp. 6-15.
[49] SDG&E-231 (Schiermeyer).

> In response to a TURN data request, SDG&E explained that it penalizes distribution circuits with solar DG by adding DG capacity to measured peak load. The utility explains that this methodology represents a 'worst case scenario'…TURN is concerned that SDG&E is undervalues the potential contribution of solar DG to reduce peak load at the distribution level, therefore overestimating distribution capital expenditures. There is simply no factual basis for assuming a 'worst case scenario' during peak times across all solar DG assets on an entire system.[50]

SDG&E's Distribution Planning group follows industry best practices, utilizing a deterministic planning process. Deterministic planning ensures that the distribution system can serve all customer demand under the most severe conditions. For the SDG&E distribution system, this approach begins with forecasting a 1-in-10 year demand utilizing adverse weather factors, which is an approach consistent across the industry. Mr. Borden should recognize that distribution planning is different than transmission planning, as Distribution Planning studies localized demand, not system-wide demand. Each circuit/substation is examined individually, and the peak demand can be at a drastically different time than that of the system. In many cases, this results in circuits peaking after solar DG has stopped producing energy.

Even if SDG&E were to focus on system demand, the impact of solar is much less than Mr. Borden surmises. The section in the Black & Veatch report quoted by Mr. Borden in his testimony[51] draws the following conclusion regarding the impacts of DG in California in 2011, "The estimate for 2011 is significantly lower due to a number of factors. First, the CAISO peak demand came later in the day in 2011 than in 2010 and 2008—4 to 5 pm instead of 3 to 4 pm—when PV systems are producing less energy because it is closer to sunset. Also, the CAISO peak demand occurred later in the year in 2011 than in 2010 and 2008, which again means that PV systems are producing less energy; the sun is closer to setting at 4 pm in September than it is at 4 pm in June. Finally, it is possible that the peak demand hour in 2011 may have been cloudier than the peak demand hour in 2010 and 2008. All of these factors result in a lower solar PV capacity factor than in previous years."[52]In summary, the CAISO peak demand in 2011 occurred later in the day and later in the year, and the peak day in 2011 may have been cloudier than the peak demand hour in past year. All of reasons support either zero DG output or a small

[50] TURN Direct Testimony (Borden), p. 3.
[51] TURN Direct Testimony (Borden), p. 5, Line 16 and p. 12, Line 27.
[52] Black & Veatch (B&V) (May, 2013), Biennial Report on Impacts of Distributed Generation, California Public Utilities Commission, p. 4-17.

percentage during peak hours. SDG&E's system peak generally occurs late in the year, which results in a lower DG output than a system that peaks in mid-summer. Table 4 below provides the system peak times for the last 6 years.

Date and Time	Load (MW)
9/16/2014 15:50	4892.3
8/30/2013 16:00	4605.9
9/14/2012 16:25	4598.6
9/7/2011 13:55	4368.2
9/27/2010 15:30	4684.9
9/3/2009 15:55	4487.9

Table 4 – SDG&E System Peak, Date and Time

As can be seen from the table, SDG&E's system (and most circuits/substations) peaks late in the year, and late enough in the day for solar output to be significantly reduced. When referencing the Black & Veatch report, Mr. Borden does not mention the portion stating that "during the peak demand hour of 4-5pm (Sept 7th 2011), 342 MW of DG were operating accounting for only 0.7 percent of CAISO load."[53] Overall, the impact of DG on CAISO peak load is small, and DG solar PV peaks much earlier in the day than CAISO demand. Also, the report states, "Black & Veatch acknowledges that there are limitations to only estimating the impact of DG on CAISO peak demand. CAISO and each IOU have to plan for peak demand at a variety of levels (customer transformer, distribution feeder, distribution substation, sub transmission network, transmission substation, transmission line, the utility system, and the entire CAISO system) and this report does not attempt to model the impact of DG at every level."[54] To reference this report on a CAISO level is incorrect. This repeated appeal to a system level value shows again Mr. Borden's lack of full understanding of distribution planning concerns.

[53] Black & Veatch (B&V) (May, 2013), Biennial Report on Impacts of Distributed Generation, California Public Utilities Commission, pp. 1-6.
[54] Black & Veatch (B&V) (May, 2013), Biennial Report on Impacts of Distributed Generation, California Public Utilities Commission, pp. 4-17.

TURN's testimony also referenced an analysis by Pecan Street: "Among other conclusions, the study found that during summer peak demand hours (3-7pm), west-facing panels "produced 49 percent more electricity during those hours than did south-facing systems."[55] SDG&E does not request nor have the authority to mandate the physical layout of solar installations. To enforce this mandate on customers would require unnecessary increase in installation costs. The current tariffs for connecting solar installation does not require a west-facing system and, if required moving forward, would eliminate numerous installations as well as possibly reduce the overall output of the solar panels throughout an entire day. Also, SDG&E does not track west-facing versus south-facing panels, as this tedious process would require extensive labor hours. Because of these reasons, the study by Pecan Street is not relevant to SDG&E and does not support TURN's argument.

Mr. Borden states in his testimony that TURN did their own capacity analysis: "TURN also obtained peak load and solar DG capacity data for each substation and circuit with requested distribution capital expenditure in SDG&E's 2016 GRC. TURN's analysis, outlined below, demonstrates that all, or at least a portion, of three projects in SDG&E's 2016 GRC request for distribution capital expenditure could be deferred to later GRC's."[56] Table 1 in Mr. Borden's testimony "Peak Load on Substations/Circuits When Accounting for Solar DG" identifies the calculated forecast peak demand with contribution from solar DG.[57] Mr. Borden's calculated forecast peak demand values identified in Table 1 are calculated by subtracting the full nameplate capacity provided by SDG&E for 2013 from the 2014 through 2016 forecasted demands, and then subtracting 35% of the estimated renewables for 2014 through 2016.[58] And according to Mr. Borden, the estimated growth in renewable generation per year of 81% was calculated by the average annual growth from 2010 through 2013 for all substations/circuits in the 2016 GRC, with the exception of C910.[59] TURN's analysis is flawed for a number of reasons, casting doubt on its conclusions.

[55] TURN Direct Testimony (Borden), p. 9.
[56] TURN Direct Testimony (Borden), p. 11, Table 1.
[57] TURN Direct Testimony (Borden), p. 11.
[58] TURN Direct Testimony (Borden), p. 12.
[59] TURN Direct Testimony (Borden), p. 12.

TURN's testimony provides a figure of the historical distribution solar generation for seven substations and three circuits.[60] However, one substation (Telegraph Canyon) is presented twice in the chart, altering the annual growth of 81% (calculated by Mr. Borden) or any additional calculations and conclusions derived from using the data in the chart. The values within TURN's Table 1[61] require justification, as the calculations to produce these values contain invalid assumptions and incomplete information. For example, Table 1 in Mr. Borden's testimony identifies total capacity of a circuit in kW. However, the values presented for the circuits were calculated as single-phase. Providing single-phase values is misleading when discussing SDG&E's three-phase distribution system. Comparing single-phase circuit capacities to the substation capacities in megawatts (MWs) leads to incorrect assumptions. Furthermore, TURN approximated disallowing 10% of the Mira Sorrento project without a detailed cost breakdown of the project or any relevant information to determine this percentage.[62]

Throughout the testimony, TURN concedes that solar DG does not provide value at all times and should not be accounted for on all circuits.[63] Mr. Borden states: "It is appropriate to discount the nameplate capacity based on the time of circuit peak related to DG output, and even perhaps to account for uncertainty in system performance."[64] However, for each project in question, TURN accounts for the full output of the 2013 renewable values in the 2014-2016 forecasts, contradicting the previous statement.[65] To credit all of 2013, but only credit 35% of the forecasted renewable's nameplate for the additional years, would produce zero correlation per year. Second, an assumption was made by Mr. Borden to subtract 35% of the nameplate capacity for each year's assumed solar DG capacity, based on a correlation with the Black & Veatch report that indicates an hourly nameplate capacity factor range of 25% to 65%.[66] Yet TURN's testimony is unclear on why 35% was selected from the given 25% to 65% range.

[60] TURN Direct Testimony (Borden), p. 13, Figure 4.
[61] TURN Direct Testimony (Borden), p. 11, Table 1.
[62] TURN Direct Testimony (Borden), p. 13.
[63] TURN Direct Testimony (Borden), *passim*; *see e.g.*, p. 3 ("TURN has historically strongly supported the concept of 'right place, right time, and certainty' as it applies to evaluating the impacts of DG in providing system benefits …").
[64] TURN Direct Testimony (Borden), pp. 3-4.
[65] TURN Direct Testimony (Borden), p. 12, lines 14-17.
[66] TURN Direct Testimony (Borden), p. 12, lines 18-19 and 27-29.

Another flaw in TURN's analysis is the claimed 81% annual growth rate for solar capacity value: "the 81% per year was the average annual growth from 2010-2013 for all substations/circuits in the 2016 GRC, excluding circuit C910 which had an average annual growth of 1,780% and was excluded as an outlier."[67] SDG&E was not asked to provide data for all substations/circuits in the 2016 GRC, so it is unclear how TURN was able to perform this analysis accurately. The 81% annual growth rate assumption is unrealistic and unsustainable. Applying the 81% assumption as an annual growth rate to North City West substation (maximum capacity at 60MW), for example, would result in 62 MW of distributed generation by 2018 and 70 MW by 2020 (assuming the 35% capacity factor). In addition, past performances are not necessarily indicative of future solar DG growth. Analyzing the data based on the formula described in the testimony produces erroneous results and unsustainable data, providing no justification to eliminate or reduce the Salt Creek substation project, Mira Sorrento project or C917 project.

Mr. Borden asserts that the growth of solar DG is sufficient to offset the need for Salt Creek substation, but this conclusion is based on faulty forecasts as outlined above.[68] What Mr. Borden does not realize is that Salt Creek was proposed to address a rapidly growing residential area in eastern Chula Vista. As stated in the Draft Environmental Impact Report (DEIR) for Salt Creek Substation, "The project area and vicinity is part of the Otay Ranch master-planned community, which was established to meet the high demand for single family homes. Allowable uses within the P-C zone include residential, civic facilities, schools, agriculture, and parks and recreation land uses."[69] SDG&E expects that the Otay Ranch community will add approximately 286 MW of new load, and this new load will utilize all the existing capacity at Telegraph Canyon and Proctor Valley Substations by 2019.

Mr. Borden references using smart meter data to obtain profiles of solar DG as well as referencing SCE GRC regarding dependable solar DG: "SDG&E has claimed that it can use existing smart meter data to evaluate the load profiles of individual circuits. Thus, it should be able to evaluate the impact of solar relative to the peaking time of individual circuits. At a minimum, SDG&E should be able to aggregate circuits with similar load profiles to better

[67] TURN Direct Testimony (Borden), p. 12.
[68] TURN Direct Testimony (Borden), pp. 11, 13.
[69] SDG&E Salt Creek Substation Project Draft Environmental Impact Report, May 2015, p. 4.10-1.

estimate the potential of DG to reduce circuit peaks and incorporate this into its estimated distribution expenditures in future GRC's."[70] Currently, smart meter data does not have the ability to distinguish between rooftop solar DG output and customer demand, they only provide the net energy produced or consumed. Part of the Distribution Resource Plan (DRP) is to develop a dynamic tool capable of mimicking multiple solar DG profiles throughout SDG&E service territory. SDG&E is developing a DRP, which will be filed on July 1, 2015, in accordance with California Public Utilities Code § 769.[71] The implementation of this plan is still being developed and multiple phases are required. The study performed by SCE concludes "dependable" solar nameplate capacity at noon is 17% and at 5 pm is 2%.[72] Using this assumption to develop a simple linear correlation at 4:00 pm (roughly when the system peaked in 2014), the dependable solar nameplate capacity is only 5% of the solar DG capacity. This limited amount of "dependable" solar DG subtracted from a substation or circuit load is insignificant when planning the distribution system.

SDG&E does not disagree that solar DG will play an important role in future distribution capacity plans, and the DRP proceeding referenced by Mr. Borden will be a transformative effort. This does not change the fact that today solar DG is not at a penetration level that can offset the need for additional capacity, nor does it absolve SDG&E of its duty to provide safe and reliable electric service for customers. At present this requires installing sufficient capacity to serve customer load when solar DG is not available. Today, solar DG does not provide physical assurance, nor does it guarantee performance or availability during peak conditions. If DG is relied upon to guarantee that an overload does not occur, but it is unavailable when needed, the circuit or substation will have a real-time capacity deficiency, which may lead to prolonged outages during peak conditions.

D. Franchise Category of Capital Projects

1. ORA

ORA takes issue with capital forecast for the 205 (Electric Distribution Street/Highway Relocations), 210 (Conversion from OH to UG Rule 20A, and 213 (City of San Diego Surcharge

[70] TURN Direct Testimony (Borden), p. 14.
[71] See R.14-08-013, February 6, 2015, Assigned Commissioner's Ruling on Guidance for Public Utilities Code Section 769 – Distribution Resource Planning.
[72] See SCE---03, vol. 3 (November 2013), 2015 General Rate Case, p.12-13.

Program) budget codes.[73] ORA states that they assume that the expenditures will "stabilize at the 2014 level" instead of following a least squares analysis they performed.[74] SDG&E agrees with ORA that the 2014 actuals came in below SDG&E's forecast, but this should not result in decreased forecasts for 2015 and 2016. Franchise work is instigated by the various jurisdictions that SDG&E serves, not by SDG&E itself. Those jurisdictions can throttle franchise projects for a variety of reasons, and can accumulate those project funds, even borrowing ahead to fund larger projects. Dips in the Franchise category of capital projects reflect an effort on the part of jurisdictions to hold off spending in a particular year – in this case, 2014 – but it does not mean that the work will not need to be completed in a later year. In fact, it can mean that spending should be expected to increase in later years. Because the nature of annual spending in this category rises and falls, SDG&E used a 5-year average, to smooth out the peaks and valleys. ORA has chosen a "valley" year. By the nature of the work in this category, it will not follow a downward trend. The work does vary from time to time, which is why an average is appropriate. If we were constrained by the 2014 ORA forecast, and we were to see spending similar to 2009-2012 levels, SDG&E would need to pull money from other categories to comply with franchise commitments. This would impact other categories, and ORA agreed with forecasts in a number of other categories (with the exception of shifted in-service dates).

For the 205 budget, one can see variation in the budget over the last 5 years, with the minimum being $3.684 MM in 2013, and the maximum being $8.042 MM in 2012[75]. SDG&E's forecasted values fall in between the maximum and minimum historical amounts, which is necessary when work can vary significantly within a budget. In this category of projects, spending levels are purely influenced by other entities. Merely adopting the 2014 actuals for the 2015 and 2016 forecast is not appropriate for any of the programs or budget codes in the Franchise category. Budget 205 trends with overall government spending for the region and will likely require additional funding going forward. It's driven by municipal roadway activities. During times of economic downturn, tax revenue is diminished and the street improvement budgets get cut. When municipalities have more tax revenue, they're able to address roadway

[73] ORA-6 (Wilson), p. 17.
[74] ORA-6 (Wilson), p. 19.
[75] SDG&E-09-CWP-R (Jenkins) p. 241.

improvements such as: realignments, traffic signals, storm drain/sewer/water main replacements, sidewalk and pedestrian improvements.

For the 210 budget, the 2014 actuals came in below the forecasted amount due to scheduling delays on 3 roadway improvement projects in San Diego County, permits on 3 projects in San Diego, and delays due to lighting installations by the City of San Diego. The 2015 budget has been adjusted upward to account for the delays. While ORA did adjust some of the forecasts in other categories (e.g. Capacity and Reliability) to account for adjusted in-service dates, ORA did not follow the same logic with the 210 budget category. The underruns in 2014 due to delayed work are anticipated to cause an incremental increase in 2015. Funding for budget 210 must track with SDG&E's annual grant of Rule 20A allocations in order to keep the regulatory liability at a manageable level. In SDG&E's filing of its Rule 20A activities for 2012, the unspent allocation balance was $8.7 million. By the end of 2014, that amount had risen to $10.5 million. SDG&E is required, per its franchise agreement with the City of San Diego alone, to grant $16.1 million in Rule 20A allocations for 2015. Funding budget 210 at the ORA-recommended level would not provide sufficient funding to have an active program in many municipalities or allow the unspent allocation balance to be maintained at a reasonable level. Diminished spending for 2014 was due to scheduling delays as stated above and is also reflected in its annual Rule 20 reporting to the CPUC. From 2012 to 2014, the value of work required to complete active projects in construction declined from $26.3 million to $5.7 million. However, funding commitments for projects awaiting construction increased from $70.1M to $95.0M in that same period. Failure to properly fund budget 210 will not allow SDG&E to complete these projects, which are selected and supported by their communities, and will further increase the regulatory liability for the program.

The 213 budget is a fully collectible budget, as described in my testimony.[76] Even though the budget is collectible in nature, SDG&E's forecasts should still be adopted, despite the 2014 actuals coming in below the forecasted amount. As one can see in ORA's Table 6-3,[77] the 2009-2012 expenditures were over $20 million, merely adopting the 2014 actuals does not adequately capture the historical spend in this category, nor does it cover the amount of work

[76] SDG&E-09-R (Jenkins), pp. JDJ-18-61.
[77] ORA-6 (Wilson), p. 18.

anticipated for this budget code. SDG&E does not select these projects or schedule them, although SDG&E is obligated to fund those projects as directed by the municipalities.

SDG&E disagrees with ORA's adoption of the 2014 spend levels for the Franchise category of projects. SDG&E's forecasts for the Franchise budget category accurately reflects the funding required to meet its regulatory obligations under Rule 20A (Project 210) and its obligations under its various franchise agreements. The ORA recommendation to reduce the category forecast by nearly $12 million (28% reduction) will result in SDG&E being unable to complete projects for which it has made commitments and for which various municipalities have saved Rule 20A credits. Projects in this category have a long life cycle, are well-managed, and as evidenced by historical expenditures can exceed even the estimated values that SDG&E has forecasted for 2015 and 2016.

E. Reliability Category of Capital Projects

1. ORA

ORA used in-service dates originally provided by SDG&E through data request ORA-SDG&E-54 to generate some of its recommendations for the Reliability budget category. As a result of ORA's recommendations, SDG&E found an error in a subset of the original data set provided, and understands how ORA's recommendation was developed. The error is that SDG&E had inadvertently assigned in-service dates to blanket budget projects in the data request, these projects are ongoing and have no specific in-service date, and are correctly designated as blanket budgets in the project workpapers. The corrections are displayed in Table 5 below.

Budget Code	Asset ID	Project Description	SDG&E Revised Filing In-Service Date	ORA In-Service Date
112470.001	130	ADVANCED ENERGY STORAGE	Blanket	12/31/2015
112610.001	130	SEWAGE PUMP STATION REBUILDS	Blanket	6/30/2016
142430.001	130	Microgrid Systems for Reliability	Blanket	12/31/2016
142430.002	170	Microgrid Systems for Reliability	Blanket	12/31/2016
10261E.001	130	Advanced Technology	Blanket	7/1/2017
10261E.002	170	Advanced Technology	Blanket	7/1/2017
12266A.001	130	Condition Based Maintenance Program	Blanket	12/31/2016
12266A.002	170	Condition Based Maintenance Program	Blanket	12/31/2016

Table 5 – Blanket Budgets with In-Service Dates Corrected

The timing and the error are unfortunate, but SDG&E is presenting true and correct information from which the Commission should base its decision. The designation between specific in-service dates and blanket budgets affects the value of those projects closing to plant and accumulating to plant balances. SDG&E recommends that the original average work life as indicated in SDG&E's Results of Operations (RO) model for these budgets be adopted.

2. CCUE

CCUE takes issue with SDG&E's proposed preventative infrastructure replacements, for electric distribution, regarding poles, underground cables, capacitors, and underground switches.[78] CCUE also recommends that the Commission establish a mechanism to bind SDG&E to spend the authorized amounts for reliability improvements, proposing the use of two-way balancing accounts.[79] CCUE proposes an increase to infrastructure spending of $280.8 million[80]over the 2016 to 2018 period for poles, cable, and system devices (circuit breakers,

[78] CCUE Prepared Testimony (Marcus), p. 1.
[79] CCUE Prepared Testimony (Marcus), p. 10.
[80] Value includes gas distribution

capacitors, SF6 switches).[81] In addition, CCUE scales up overheads for the capital increases it recommends.[82] CUE claims that "there are a variety of infrastructure components where SDG&E does not appear to be doing an adequate job of keeping up with its aging infrastructure. The Commission may be better served, if it wants to try two-way balancing accounts, by using them for areas where there is a clear need for SDG&E to spend more on reliability and safety-related investments than it has proposed," citing those same infrastructure areas of poles, cable, and others.[83]

SDG&E affirms that the current forecast would allow SDG&E to maintain its high standard of reliability for its customers. SDG&E has explored CCUE's suggestions about specific budget recommendations in the categories of pole, switch, underground cable, and capacitor replacement. CCUE suggests adding manpower and funds to increase the rate of reliability project completion. However, CCUE does not take into account other limitations that affect projects. There are City or County permits that are required during the design process that add significant time to the work order preparation process. There may also be environmental issues that have to be addressed during the construction process and that could add significant time to the construction schedule. SDG&E's current forecast takes into account both of these factors to the greatest extent possible.

SDG&E has proven that it does an excellent job of keeping up with aging infrastructure, and has shown year after year that SDG&E's system works through strong reliability metrics. SDG&E was named the Recipient of the 2014 ReliabilityOne™ National Reliability Excellence Award. This is the second time in five years that SDG&E has received this prestigious national honor. The ReliabilityOne™ National Reliability Excellence Award is given to the regional award recipient that has demonstrated sustained leadership, innovation and achievement in the area of electric reliability. SDG&E has also received the PA Consulting award for Outstanding Reliability for the West Region for nine straight years.[84] Moreover, the PBR provides an incentive for SDG&E to continue to strive for excellent reliability performance.

[81] CCUE Prepared Testimony (Marcus), p. 4.
[82] CCUE Prepared Testimony (Marcus), p. 33.
[83] CCUE Prepared Testimony (Marcus), p. 50.
[84] Press release available at: http://finance.yahoo.com/news/sdg-e-awarded-best-nation-004700085.html.

SDG&E does not agree with CCUE's recommendation of using two-way balancing accounts as suggested, as it reduces SDG&E's ability to reprioritize and adjust funds to meet our customer's needs.

3. JMP

JMP suggests in their testimony that SDG&E consider new technologies such as battery storage, referencing the Tesla batteries.[85] SDG&E strongly believes in exploring new technologies that will provide benefits to our customers. SDG&E has already installed battery storage systems (currently 6.5MW), including two separate Tesla battery systems (200kW each), and continues to evaluate energy storage alternatives in accordance with AB2514 (those specific costs are not covered in this GRC request). The Advanced Technology project described in SDG&E's testimony SDG&E-09 JDJ-102, does address how SDG&E is using new technology to deal with intermittency issues related to renewable generation and effects of distributed generation. In addition, SDG&E is actively participating in the Commission's Distribution Resource Plan (DRP) rulemaking proceeding, R.14-08-013. SDG&E recommends the Commission withhold any directive in this GRC regarding JMP's comment regarding Tesla batteries pending the outcome of that DRP Rulemaking, which SDG&E believes is the more appropriate proceeding in which to consider such comments.

F. Materials

1. ORA

ORA takes issue with capital forecast for the 214 – Transformers Materials budget, primarily because the 2013 and 2014 expenditures were lower than the prior years.[86] SDG&E understands ORA's logic and appreciates the fact that ORA's 2016 forecast matches SDG&E's 2016 forecast, but ORA's 2015 forecast does not adequately cover the anticipated costs in this category. SDG&E's forecast methodology for materials is zero-based, and did not solely use a trend of historical annual spend to forecast future expenditures. Rather, SDG&E's methodology takes into account the need to replace the use of mineral oil with FR3[87] as a transformer insulating medium, anticipated customer growth, material price indices, and DOE-improved

[85] JMP (Bautista, Whitlock, Vasquez), pp. 11-13.
[86] ORA-7 (Logan), pp. 11-12.
[87] Envirotemp™ FR3™ natural ester fluid, a substitute for transformer mineral oil.

transformer efficiency design standard changes.[88] There is an incremental increase in unit cost for transformers filled with FR3, but the benefits are substantial: a much higher flash-point for FR3, more efficient operation of the transformers, longer transformer life, and greater capability of the transformer to handle intermittent loads related to PV systems and EV charging.[89] ORA does not dispute these cost drivers, but ORA's forecast and subsequent recommended reduction are based on unadjusted historical data that does not take into consideration the aforementioned impacts. Therefore, ORA's recommended reductions for 2015 should not be adopted.

ORA's recommendation for a $6.4 million reduction from SDG&E's 2015 forecast of $22.2 million is not warranted. ORA's assessment of 2015 has not taken into account over a million dollars' worth of materials that were expected to arrive in 2014, but delays in deliveries resulted in shipments arriving in 2015. The delay resulted from an unanticipated increase in transformer orders from others utilities responding to customer growth, impacting the ability of the supplier to keep pace with demand and meet 2014 material orders. Had the transformers arrived in 2014, the 2014 recorded expenditures would have been higher, resulting in a higher trend for 2015. Additionally, one of SDG&E's primary transformer suppliers experienced a fire at its main manufacturing facility in the fourth quarter of 2014, which impacted lead times and also contributed to delays in receiving material until 2015. Typical lead time for delivery of material from this manufacturer is nine weeks on average. The manufacturing facility fire and the unanticipated increase in transformer orders from other utilities increased the lead time to around 18 weeks.

In addition to material delays, customer growth and increased manufacturing costs are also forces contributing to a higher forecast in 2015. The SDG&E 2015 forecast is at a minimum appropriate. SDG&E is expecting higher customer growth over 2014, resulting in higher forecasted expenditures for transformers to support this growth. The 2015 first quarter recorded expenditures for transformers, if extrapolated out for the year and removing the impact of the delayed material orders, supports SDG&E's 2015 forecast.

[88] SDG&E-09-R (Jenkins), pp. JDJ-69-70.
[89] SDG&E-09-R (Jenkins), p. JDJ-70.

The Department of Energy (DOE) has implemented a new design standard to improve transformer efficiency, effective January 1, 2016.[90] SDG&E also is changing the internal transformer fluid used for heat dispersion (mineral oil), to a soybean based oil (FR3 insulating fluid), to improve transformer loading and fire prevention. These changes will result in a 15% overall cost increase to manufacture transformers. The impact on expenditures will occur in the fourth quarter of 2015. Orders placed in the third quarter and received in the fourth quarter of 2015 will reflect factory changes to comply with the new DOE standard and SDG&E's internal fluid changes, thus increasing expenditures by year-end 2015.

SDG&E experienced increased expenditures of over a million dollars that occurred in 2015 from orders placed in 2014 and received in 2015, and cost increases in the fourth quarter of 2015 due to a 15% supplier manufacturing cost increase to meet the new 2016 DOE standard and the SDG&E internal transformer fluid change. Therefore, SDG&E requests that the 2015 forecast be adopted without adjustment to compensate for these cost increases, similar to how ORA adopted the 2016 forecast. SDG&E accepts ORA's recommendation to adopt the proposed 2016 Materials capital expenditure forecast of 23.0 million.

G. Overhead Pools Category of Capital Projects

1. ORA

ORA takes issue with the capital forecast for the Overhead Pools category of capital projects. They determined that SDG&E's methodology was sound and shouldn't be adjusted, but they did suggest that the Overhead Pool forecasts be adjusted based on ORA's overall Electric Distribution Capital forecast, since the Overhead Pools are dependent on the other capital categories of work. ORA accepts SDG&E's forecast methodology for each of the four overhead pools (Electric Distribution, Substation, Department Overhead, and Contract Administration) as reasonable since the basis of forecast for developing each pool's forecast is very close to the 2014 recorded cost data. Because SDG&E does not agree with the reductions in several of the other categories of capital work and the fact that ORA has agreed with SDG&E's forecast methods for each of the overhead pools, SDG&E requests that the Overhead Pools forecasts described in my direct testimony be adjusted to the revised basis of forecasts.

[90] EERE-2010-BT-STD-0048-0762, Table I.5 – Electrical Efficiencies for All Liquid-Immersed Distribution Transformer Equipment.

ORA states that the "tools cited by SDG&E are currently in use by much of the electric utility."[91] While it is true that the tools (PLS-CADD and LiDAR) SDG&E is using for distribution design are used by the industry, they have historically been used for transmission lines and not distribution facilities. In the past, distribution design has predominantly been standards-based and not necessarily based on specific site conditions, nor has it utilized survey-grade data. But, as I explain in my direct testimony, SDG&E is performing more detailed and comprehensive design and using more accurate localized meteorological data than it has ever done in the past, due to regulation changes and an increased focus on risk reduction.[92] For larger distribution projects, SDG&E's designs are being done in the same fashion that transmission designs have been done for the last 15-plus years. SDG&E has had success using the advanced PLS-CADD and LiDAR tools for designing and assessing the current state of the electric transmission system, and has taken the same advanced design concepts and used them to enhance the level of engineering and design on the distribution system. My direct testimony explains that the expenditures in the Pools are increasing as SDG&E needs to increase reliance on detailed engineering studies or designs for the distribution system.[93]

SDG&E has calculated the 2015 and 2016 overhead pool forecasts for subcategories Substation Pool, Department Overhead Pool, and the Contract Administration Pool based on ORA's adjustments, as ORA recommended in testimony.[94] Based on the calculations, ORA's forecasts for 2015 and 2016 should be $4.0 million and $3.8 million higher, respectively.

[91] ORA-6 (Logan), p. 6.
[92] SDG&E-09-R (Jenkins), pp. JDJ-22, JDJ-84-85.
[93] SDG&E-09-R (Jenkins), p. JDJ-85.
[94] ORA-6 (Logan), p. 9, lines 1-3.

Summary of Recalculated ORA Forecast vs. ORA Recommended
In Thousands, 2013 $'s

	Recalculated ORA Forecast		ORA Recommended		Variance	
	2015	2016	2015	2016	2015	2016
Substation Pool	$ 10,662	$ 12,545	$ 8,414	$ 7,045	$ 2,248	$ 5,500
Department Overhead Pool	3,020	3,464	2,371	4,139	649	(675)
Contract Administration Pool	4,747	5,404	3,677	6,447	1,070	(1,043)
Total	**$ 18,430**	**$ 21,413**	**$ 14,462**	**$ 17,631**	**$ 3,968**	**$ 3,782**

1 **Table 6 – Summary of Recalculated ORA Forecast vs. ORA Recommended**
Supporting Analysis
In Thousands, 2013 $'s

Substation Pool		
Basis of Forecast	**2015**	**2016**
Capacity/Expansion	$ 11,241	$ 11,493
Reliability/Improvements	23,509	32,124
Transmission/FERC Driven Projects	8,769	7,586
Total - Basis of Forecast	**$ 43,519**	**$ 51,203**
ORA Recalculated Forecast - 24.5% of Basis	**$ 10,662**	**$ 12,545**
ORA Recommended	**8,414**	**7,045**
Substation Pool Variance	**$ 2,248**	**$ 5,500**

Department Overhead Pool		
Basis of Forecast	**2015**	**2016**
Capacity/Expansion	$ 19,335	$ 10,590
Franchise	29,918	29,918
Mandated	38,148	39,063
Materials	15,605	23,027
New Business	47,852	57,799
Reliability/Improvements	55,601	52,614
Safety & Risk Management	24,808	52,378
Transmission/FERC Driven Projects	1,045	1,045
Total - Basis of Forecast	**$ 232,312**	**$ 266,434**
ORA Recalculated Forecast - 1.3% of Basis	**$ 3,020**	**$ 3,464**
ORA Recommended	**2,371**	**4,139**
Department Overhead Pool Variance	**$ 649**	**$ (675)**

Contract Administration Pool		
Basis of Forecast	**2015**	**2016**
Capacity / Expansion	$ 21,918	$ 14,701

Franchise	29,918	29,918
Mandated	37,846	38,761
New Business	45,296	54,712
Reliability / Improvements	44,959	43,219
Safety & Risk Management	27,406	59,484
Transmission/FERC Driven Projects	8,446	4,858
Total - Basis of Forecast	**$ 215,789**	**$ 245,653**
ORA Recalculated Forecast - 2.2% of Basis	**$ 4,747**	**$ 5,404**
ORA Recommended	**3,677**	**6,447**
Contract Administration Pool Variance	**$ 1,070**	**$ (1,043)**

Table 7 – Supporting Information for Recalculated ORA Forecast

IV. CONCLUSION

To summarize, the parties that submitted proposals for ED Capital were ORA, MGRA, TURN, UCAN, FEA, JMP, and CCUE. As I stated in my introduction, there were several budget categories unchallenged, some categories where in-service dates were adjusted by parties, and several challenges on methodology, in specific areas. The largest disparity between SDG&E's test year forecast and another party's forecast was 2%. SDG&E disagrees with ORA's disregarding of $10 million from the 2014 actuals. It is my recommendation that for Electric Distribution Capital in this case, where 2014 actual data is to be used, the full 2014 expenditures should be considered. SDG&E disagrees with adjustments for FiRM spend, especially given the current drought situation; MGRA's testimony also recommends against any reduction in spend for FiRM. SDG&E disagrees with the forecasts recommended by ORA for the Franchise category, those forecasts are not representative of the work that SDG&E has seen occur in this category, and work that is known to be in the queue for local agencies.

The majority of the categories of electric distribution capital projects remain the same as previous GRCs, with the largest difference being the Safety & Risk Management category, which incorporates FiRM. In the application, SDG&E put forth the best and most feasible forecast for electric distribution capital, given the information available at that time. While SDG&E appreciates the fact that CCUE is focused on enhancing reliability, SDG&E already does an excellent job of maintaining a reliable electric system. SDG&E has provided a substantial amount of detail supporting the forecasts in testimony, workpapers, and data requests. It is encouraging that ORA substantially agrees with SDG&E's forecasting methodology,

although made adjustments to in-service dates in several categories. My original testimony and workpapers support SDG&E's commitment to provide safe and reliable service, and to ensure this obligation can be upheld.

This concludes my prepared rebuttal testimony.

APPENDIX A

Data Request ORA-SDG&E-DR-054-GAW

ORA DATA REQUEST

ORA-SDG&E-DR-054-GAW
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: JANUARY 29, 2015
DATE RESPONDED: FEBRUARY 12, 2015

Exhibit Reference: SDG&E-9, page JDJ-89

Subject: Subtransmission and Substation Projects

Please provide the following:

1. Table 10, on page JDJ-89 of Exhibit SDG&E-9, shows a list of 20 reliability/improvements capital projects. Based on the project descriptions provided by SDG&E, at least some of these capital projects appear to involve substation work, and possibly subtransmission work. General Order (GO) 131-D states, in part, the following in Section III.B:
   "No electric public utility shall begin construction in this state of any electric power line facilities or substations which are designed for immediate or eventual operation at any voltage between 50 kV or 200 kV or new or upgraded substations with high side voltage exceeding 50 kV without this Commission's having first authorized the construction of said facilities by issuance of a permit to construct in accordance with the provisions of Sections IX.B, X, and XI.B of this General Order."
   In later portions of GO 131-D, there is a list of a number of exemptions to this Order.
   a. For each of the 20 projects listed on page JDJ-89, please indicate whether or not GO 131-D is applicable.
   b. If SDG&E has concluded that a project does not fall under GO 131-D, please explain how that conclusion was reached.
   c. If SDG&E has concluded that a project does fall under GO 131-D, but that project is considered to be exempt, please provide the exemption that SDG&E believes is applicable.
   d. For those projects for which GO 131-D is applicable (and for which there is no exemption), please provide the date on which the Permit To Construct (PTC) or the Certificate of Public Convenience and Necessity (CPCN) was approved by the Commission. Please also provide the decision number pertaining to the approval.
   e. If no PTC or CPCN was approved, please provide the Commission-approved Advice Letter (AL).
   f. In no PTC, CPCN, or AL was approved by the Commission, please explain under what authority SDG&E proceeded with construction or is planning on proceeding with construction.
   g. Please provide ORA with any changes to the proposed operational dates of any of these 20 projects.

SDG&E Response:

All of the projects listed are exempt either by being less than 50kV or by being a modification of a current substation within the existing fence perimeter. Please see the attached spreadsheet "SDG&E Response to Data Request ORA-SDGE-054-GAW" for responses to the other questions in this data request.