Application: A.17-04-027

Exhibit No.: SDG&E-13

Witness: Snyder

PREPARED REBUTTAL TESTIMONY OF CHARLIE SNYDER ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY CHAPTER 13



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

November 13, 2017

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PREPARED REBUTTAL TESTIMONY OF CHARLIE SNYDER CHAPTER 13

I. INTRODUCTION

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The purpose of my rebuttal testimony is to respond to the prepared direct testimony submitted by intervening parties in San Diego Gas & Electric Company's ("SDG&E's") Customer Information System ("CIS") Replacement Program Application ("A.") 17-04-027. My rebuttal testimony addresses various recommendations presented by Office of Ratepayer Advocates ("ORA") witness Kelly Lee¹ and Utility Consumers' Action Network ("UCAN") witness Garrick Jones.²

My rebuttal testimony is organized as follows:

- Section II Explains how SDG&E's CIS risk profile is valid and provides additional support for SDG&E's need to replace its legacy CIS. SDG&E disagrees with ORA's recommendation that SDG&E's risk scores should not be considered.
- Section III Addresses UCAN's assertion that SDG&E's cost per customer (or meter) is not aligned with industry standards. SDG&E disagrees with UCAN, as cost per customer/meter is only one means to gauge a CIS replacement project.
- Section IV Object to the UCAN-developed project cost comparison between SDG&E's CIS Replacement Application and Southern
 California Edison Company's ("SCE's") CIS Re-platform Program.

Exhibit ("Ex.") ORA-4, Report on San Diego Gas & Electric Company Implementation of Customer Information System Replacement Program (October 20, 2017) ("Lee Testimony").

² Ex. UCAN-1, Testimony of Garrick F. Jones in San Diego Gas and Electric's Customer Information System Replacement Application (October 20, 2017) ("Jones Testimony").

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SDG&E is skeptical that UCAN's analysis provides an apples-toapples comparison. SDG&E has striven to select and source a new CIS at the lowest, reasonable cost.

- Section V UCAN questions if SDG&E considered alternative, less
 costly solutions. SDG&E provides its rationale and approach for
 replacing the CIS with the chosen solutions.
- Section VI Summary and Conclusions.

II. SDG&E'S CIS REPLACEMENT RISK PROFILE IS SOUND

As discussed in detail in my direct testimony (Chapter 3), SDG&E's risk assessment strongly supports the conclusion that replacement of SDG&E's existing legacy CIS with SAP CR&B should occur as soon as possible.³

ORA recommends that the Commission's decision regarding whether to approve ratepayer funding for the CIS Replacement Program should not be based on risk scores presented in SDG&E's risk profile and risk management section of my testimony. ORA opines that SDG&E's current risk assessment methodology is inadequately developed to provide meaningful guidance.⁴

SDG&E understands ORA's concern about the current risk assessment methodology, as the Safety Model Assessment Proceeding ("SMAP")⁵ is relatively new and will undergo additional adjustments as it matures. However, that is no reason to cast aside SDG&E's methodology—or, for that matter, any new process, system, etc., that will evolve over time. SDG&E developed its methodology following the current SDG&E risk

See, Direct Testimony of Charlie Snyder (Chapter 3) at 12:1-3.

⁴ See, Lee Testimony at 1:13-15.

⁵ See, A.15-05-002, et al., which concluded in Decision ("D.") 16-08-018.

assessment guidelines used for all its 36 enterprise risks. While SDG&E acknowledged that the "future" and "mitigated" risks presented were subjective,⁶ the analysis performed on the "current" risk comports with SDG&E's present risk assessment process. Further, SDG&E is in the process of re-evaluating the CIS risk (along with the other enterprise risks) for the current year utilizing this same process.

ORA's recommendation to not consider SDG&E's risk scores would unduly discount SMAP results. SDG&E disagrees with that approach and stands by its current risk assessment methodology and results, which should be considered as another factor supporting the overall urgent need to replace SDG&E's legacy CIS.

III. COST PER METER IS NOT AN ACCURATE INDICATOR OF COST EFFECTIVENESS

UCAN argues that SDG&E's CIS Replacement Program cost-per-meter is too high.⁷ As SDG&E has explained in discovery, the cost per meter is not an accurate indicator of cost effectiveness due to a variety of factors:

SDG&E has striven to select and source a new CIS at the lowest, reasonable cost. The cost of a project such as the CIS Replacement Program is not primarily driven by the number of customers, but instead is driven by the static activities required for the actual implementation. The major static costs are the internal labor, testing and system integration work. SDG&E does recognize there are variable cost components based on customer or meter quantities such as hardware and software licensing. However, the variable component costs are minimal as compared to the static component costs. At a certain point for large IOUs, such as SDG&E, the effort to implement is essentially the same regardless of number of customers. Performing an evaluation focusing on cost per customer would provide an inaccurate depiction of the reasonableness of implementation costs and would improperly ignore other cost factors such as additional complexities due to dual commodities as well as

⁶ See, Direct Testimony of Charlie Snyder (Chapter 3), at 10:12-13 and 11:15-16.

⁷ See, Jones Testimony at 6:15-10:5.

the actual proposed scope, which in SDG&E's case goes beyond replacing just the core billing system.⁸

Notably, UCAN's testimony does not dispute that the major CIS cost elements (*e.g.*, internal labor, testing, and system integration work) are static regardless of the number of customers or meters, once a certain threshold is achieved (such as in SDG&E's business case).

A. Removing Individual SAP CR&B Functionalities to Depress Per-Meter Cost Is Misguided

UCAN complains that SDG&E is unable to provide dollar differentials for functionality beyond core billing and dual commodities complexity (*i.e.*, electric and gas service). However, UCAN's complaint misses the mark entirely. With respect to functionality, it makes little sense to only replace a core billing system, since that is only one of multiple elements and capabilities embedded within the larger SAP CR&B platform. Moreover, SDG&E's core billing capability is only one facet of the capabilities provided by the current legacy CIS mainframe system. Put another way, SDG&E's legacy CIS is already performing functions that go beyond billing; the SAP CR&B must continue to do the same to address all customer needs. Such functionality comes into play as soon as a customer moves into a new home and includes establishing the service account, managing meter reading, managing/presenting rates and eligibility, performing bill calculation, collecting and applying customer payment, opening service orders for troubleshooting or other service work necessary to provide safe and reliable energy service, and facilitating customer inquiries into their energy billing, rate options, and service options. DG&E

⁸ See, SDG&E's response to UCAN Data Request 02, Question 19.

⁹ See, Jones Testimony at 7:1-11.

See, SDG&E's response to UCAN Data Request 03, Question 19.

cannot and should not decline to maintain this existing functionality in its CIS replacement solution in an attempt to reduce per-meter costs. Such an approach to cost reduction would be misguided.

Moreover, as discussed in Daniel Linder's direct testimony (Chapter 6), to effectively meet future customer and regulatory demands, most existing utility customer information systems need to be replaced with a simpler architecture. That is certainly the case for SDG&E's CIS. As discussed in the direct testimony of Christopher Swartz (Chapter 2), SDG&E cannot continue to implement system enhancements and changes in piecemeal fashion—this practice has led to the current CIS environment, where supportability, flexibility and agility is not only challenging, but also not cost effective. In contrast, SAP's CR&B system will continue to be supported in future years, where updates will be driven and informed by the needs and collective user experience of multiple electric and gas utilities.

B. Dual Commodities Complexity

With respect to dual commodities complexity, another driver of per-meter cost, SDG&E did not perform a separate gas implementation versus electric implementation cost analysis since many functions cover both commodities and run across multiple workstreams and capabilities. However, SDG&E understands that with a gas commodity, there are unique business processes and requirements that will become additional cost drivers, including gas commodity interface design, build and test work, graphic user interface, rate designs, and legacy system changes. Similarly, UCAN faults SDG&E for not providing unit pricing for SAP cloud components. While it is true SDG&E did not provide this information due to confidentiality agreements with SAP, SDG&E provided an

overall implementation cost for cloud solutions (\$15 million).¹¹ The appropriateness of SDG&E's implementation of cloud solutions is discussed more in the rebuttal testimony of Daniel Linder (Chapter 15).

C. SAP's On-Premise IS-U System Is Not "Rudimentary"

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UCAN also criticizes the purportedly high cost per meter due to SDG&E's proposal to implement SAP's on-premise IS-U system, which UCAN asserts – citing a blog article by Scott Hirst – that even SAP considers to be a "rudimentary" system for customer services. 12 UCAN is simply mistaken in its reading of Hirst's article. This article specifically referenced "Customer Service" within IS-U; the article did not reference the IS-U platform in general, which was replaced by Customer Relationship Management ("CRM") functionality nearly 15 years ago due to changing customer expectations. SDG&E does not dispute that the call center (i.e. customer service/CRM) functionality within IS-U is rudimentary. But SDG&E's solution does not include the (rudimentary) customer services IS-U functionality – rather, it includes the current Cloud for Customer and SAP Hybris solutions, as discussed in the direct testimony of Daniel Linder (Chapter 6). Moreover, the core meter-to-cash functionality of the IS-U platform, which is included in SDGE's solution, is far from rudimentary; it is responsible for generating three billion bills per year worldwide under a variety of regulatory, jurisdictional, and customer specific requirements and circumstances.

See, SDG&E's Response to UCAN Data Request 02, Q.30.b.

See, Jones Testimony at 7:6-11 and n. 8.

D. Per-Meter Cost Is Not an "Apples-to-Apples" Metric for Comparison

Finally, UCAN asserts that SDG&E's cost per meter is at the "upper end of the range" with respect to TMG's Pricing Guidelines. 13 However, as SDG&E has explained, this metric does not provide a true depiction of per-meter cost as it relates to scalability, static costs, and overall scope (that is beyond replacing a CIS). As an example, suppose SDG&E were a 5-million-meter company instead of a 2.3-million-meter company. Then SDG&E's CIS per-meter costs would be less than half of the instant per-meter costs (or approximately \$51).¹⁴ However, as SDG&E has learned, approximately 30 percent of the proposed replacement costs are variable (e.g., licensing fees based on number of customers, storage, hardware). 15 If a 50 percent increase within the variable costs is assumed due to the approximate doubling of the number of meters, then the variable costs could account for an additional \$35M - \$40M. That would still leave the CIS per-meter costs at approximately \$58 - \$59 - close to the *minimum* costs per meter under UCAN's cited TMG Pricing Guidelines from April of 2015.¹⁶ Also, it should be kept in mind that this close-tominimum costs per meter includes cost-increasing factors for the CIS discussed below (SAP Cloud software licensing and MyAccount replacement). Thus, it is not accurate to eliminate all context and say that SDG&E's cost per meter is at the "upper end of the

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¹³ *Id.* at 7:16-8:8.

¹⁴ \$253.6M (SDG&E's nominal cost) / 5,000,000.

Fixed costs make up approximately 70% of the overall nominal cost and include SDG&E, third-party and system integration labor, SDG&E and third-party transition/implementation labor, facilities, contingency attributed to fixed costs, and contingency for regulatory changes.

^{\$288.6}M (SDG&E's nominal cost + \$35M) / 5,000,000 thru \$293.6M (SDG&E's nominal cost + \$40M) / 5,000,000.

range."¹⁷ UCAN's Witness Jones reference to the TMG Pricing Guidelines from April of 2015 does not provide an apples-to-apples comparison.¹⁸

IV. SDG&E'S AND SCE'S PROPOSED CIS REPLACEMENTS ARE NOT READILY COMPARABLE

UCAN argues that SDG&E's CIS costs are too high by conducting a cost comparison between SCE's and SDG&E's respective CIS replacement business cases.¹⁹ This is not a fair comparison for multiple reasons.

First, and most important, as discussed in the Rebuttal Testimony of Laura Atkinson (Chapter 12), the total benefits that SDG&E will realize over the projected 15-year asset life of the SAP CR&B provides a positive business case for our customers. The benefits total more than \$575 million in nominal dollars, exceeding SDG&E's forecasted total nominal costs over the same asset life (\$535 million).²⁰

Further, SDG&E does not have all the necessary data to perform an apples-to-apples comparison between SCE's CIS Re-platform Project included in its 2018 Test Year ("TY") General Rate Case ("GRC") Application, and SDG&E's CIS Replacement Program Application, which is proposed in a standalone application, separate from SDG&E's recently filed 2019 TY GRC Application. As UCAN concedes, there are variables that drive cost differences between the two CIS replacement projects, such as SDG&E's need for less RICEFW's²¹ and staff augmentation than SCE (which should produce lower costs

¹⁷ See, Jones Testimony at 7:17.

See, Jones Testimony id. at 7:12-8:8.

¹⁹ See, id. at 12:17-22:8.

²⁰ See, Rebuttal Testimony of Laura Atkinson (Chapter 12) at 6:2-5.

²¹ RICEFW is identified in the Direct Testimony of Daniel Linder (Chapter 6), as "Reports (R), Interfaces (I), Conversion (C), Extensions (E), Forms, (F) and Workflow (W)." See *id*. at 16.

for SDG&E),²² and SDG&E's selection of cloud solutions and decision to replace the Web/MyAccount solution (which should produce higher costs for SDG&E).²³ SCE and SDG&E have both been modifying their legacy CIS and supporting systems for over 20 years. The two systems are markedly different and the two utilities will face different variables and diverse implementation challenges, despite both implementing SAP's CR&B solution; comparing the costs of their respective proposed CIS is like comparing apples to oranges.

Second, UCAN's cost analysis, as presented in Table 2: Comparison of SDG&E's Cost Forecast to SCE's,²⁴ fails to consider the following key points:

- (1) <u>Timing</u>: SCE's CIS Re-Platform costs were developed approximately one year prior to SDG&E's CIS Replacement Application. Since that time, SAP products and direction have focused more on cloud technologies which, as stated herein, has contributed to a higher upfront capital cost as opposed to on-premise solutions. This is one factor that results in roughly the same implementation period (years 1 through 5) capital costs for SDG&E and SCE.
- (2) <u>Different Capital Cost Drivers</u>: As discussed above, SDG&E estimates that 70% of the CIS cost is fixed for utilities of SDG&E's size. If the remaining 30% is variable, it would be reasonable to assume that SDGE's capital cost should be lower than

²² See, Jones Testimony at 19:4-20:5.

See, id. at 16:19-27. SDG&E's approach to cloud is discussed in detail in the Direct Testimony of Witness Linder (Chapter 6) and Rebuttal Testimony of Witness Linder (Chapter 15). Individual cost elements will vary between the two utilities, with SDG&E higher in some areas and SCE higher in some areas; however, as stated above in the 'cost per meter' discussion, many cost elements are static regardless of size. Note that a static cost element may be different between SCE and SDG&E, but at a certain volume the same amount of work is required.

See, Jones Testimony at 18.

1	SCE's. However, certain unique cost drivers have increased SDG&E's capital costs – SAl				
2	Cloud software licensing, MyAccount (Web Portal) replacement, and changes to support				
3	dual commodities.				
4	(3) Analysis of On-Going Support Activities: Table 2 shows a stark contrast				
5	between SDG&E's on-going 15-year capital support dollars (\$204,613,000) and SCE's				
6	ongoing capital support dollars (\$33,700,000), and a slight difference between O&M costs				
7	(SDG&E - \$133,000,000 and SCE - \$103,000,000). ²⁵ SDG&E cannot speak to SCE's				
8	ongoing support costs, but provides the following costs categories comprising SDG&E's				
9	on-going 15-year support activities:				
10 11	Labor for the on-going support center of excellence (75% capital and 25% O&M):				
12 13 14	•	Internal labor Third-party labor (staff augmentation and testing services)			
15	Managed Services Provider labor:				
16	•	(20% capital and 80% O&M)			
17	Software:				
18 19 20	•	O&M: Maintenance for on-premise licenses Capital: Cloud license O Assumed a 3-year cycle (5 occurrences)			
21	Hardware:				
22 23 24 25	•	O&M: Maintenance for years 2-5 Capital: Production hardware refresh every 5 years o 3 cycles: 2025, 2030, 2035			
26 27 28	•	Non-Production hardware refresh every 5 years o 3 cycles: 2024, 2029, 2034 (development, QA and training environments)			

Note that there is a one-year variance as described with Table 2 due to timing based on SCE's implementation date versus SDG&E's implementation date.

The above on-going support costs were reasonably modeled based on SDG&E's proposed solution sets and on-going support staffing recommendations, and these on-going costs will be more than offset by SDG&E's proposed benefits, as discussed in the direct testimony of Laura Atkinson (Chapter 4).

(4) <u>Post-Implementation Support Costs Will Be Subject to Reasonableness Review:</u> SDG&E provided illustrative costs for years 6-20 as part of its Application in support of its Total Cost of Ownership. It is worth emphasizing that <u>all</u> future costs related to on-going support for those years will be subject to a reasonableness review, as part of corresponding GRC Applications.

V. SDG&E CHOSE A REASONABLE, COST-EFFECTIVE SOLUTION

As discussed in my direct testimony (Chapter 3), SDG&E retained Ernst and Young ("EY") to comprehensively assess SDG&E's legacy CIS and create a roadmap for a future-state that would not only serve SDG&E's current business and technology needs, but also provide a solid foundation to meet future needs. The primary goal of the EY assessment was to determine whether the legacy CIS should be (i) maintained (no change), (ii) significantly enhanced, or (iii) replaced.²⁶ This effort not only looked at our current CIS, but also our MyAccount, Meter Data Management System (MDMS), field service order system (SORT), and the Customer Relationship Management (CRM) system.

UCAN argues that if SDG&E's "core" goal is to implement a simpler CIS that requires less on-going programming and customization, and if that goal can be solved with a less costly solution, then it should be considered as an alternative to SDG&E's proposal.²⁷

See, Direct Testimony of Charlie Snyder (Chapter 3) at 2:1-11.

See, Jones Testimony at 5:16-6:2.

SDG&E considered alternative proposals as part of its CIS Strategy findings.²⁸ SDG&E provided UCAN with the comprehensive output developed by EY from this effort, which detailed SDG&E's selection process and final recommendation.²⁹ This process initially identified 22 options, which SDG&E and the EY team narrowed to eight short-listed options. Eliminated options included, among other things, SDG&E "building" the new CIS on its own, and SDG&E keeping the status quo and maintaining the legacy CIS and sub-systems – a non-starter option given the existence of several critical solution gaps (*e.g.*, inability to provide a 360-degree view of the customer, delay and resource burden associated with system changes, challenges with implementation of structured rate changes, etc.).

The remaining eight short-listed options were analyzed and scored, which resulted in two top alternatives: (1) replace the CIS or (2) enhance the CIS.³⁰ No doubt, the cost analysis performed at that time showed that enhancing the CIS was a less costly alternative; however, this approach had many serious disadvantages:

- A significant investment would still be required to enhance the applications and there were concerns regarding how long the legacy CIS could keep up with regulatory trends and customer expectations, given the existing architecture constraints;
- Enhancing the CIS would not address any of the underlying architecture issues, which would create support issues and would not mitigate risks associated with technology obsolescence;
- The enhance option would continue to add interfaces and other touch points to the core CIS application to support required capabilities, which would cause support and maintenance challenges;

²⁸ See, Direct Testimony of Charlie Snyder (Chapter 3) at 2:1-5:15.

²⁹ See, SDG&E's response to UCAN Data Request 02, Question 12.

Other subsystem options were also proposed with the top two recommended approaches.

- The complex architecture and distributed environment of the enhanced CIS would require additional testing and IT resources for needed changes, which could cause implementation delays;
- Enhancement of the CIS would keep SDG&E reliant on a specific technical skillset; and
- Although the implementation risk of enhancing the CIS was lower than replacing the CIS, it was unknown how long the enhancements would extend the useful life of the CIS.

In addition, a succession of regulatory and rate changes in 2016 further supported (indeed escalated) the need to replace rather than enhance the legacy CIS. Enhancements alone could not support the rapidly changing business, customer, and regulatory requirements. Further, due to the complexities of implementing these key changes, capital project cost estimates to enhance the legacy CIS increased, and in some cases doubled, between 2015 and 2016. As I have explained, if the same EY CIS evaluation study had been conducted in 2016 rather than 2015, enhancing the legacy CIS would *not* have been deemed a viable approach.³¹ This is further illustrated by SDG&E's GRC Phase 2 implementation costs, which have significantly increased since 2008 (2008 - \$1.0M / 2012 - \$2.5M / 2016 - \$11.5M),³² and SDG&E's recent TY2019 GRC Application, which has requested approximately \$25 million for the three-year cost to default residential customers to Time of Use (TOU) rates.³³

Having chosen to replace the legacy CIS, SDG&E reasonably selected SAP's CR&B solution as the CIS platform for the future. SAP's CR&B was the optimal choice to

See, Direct Testimony of Charlie Snyder (Chapter 3) at 5:12-15.

See, Direct Testimony of Christopher Swartz (Chapter 2) at 9 (Table Ch2-1: Comparison of GRC Phase 2 Implementation Costs).

³³ See, A.17-10-007, Ex. SDG&E-19, Direct Testimony of Lisa C. Davidson (Customer Service Information and Technologies) (October 6, 2017) at LCD-56:4-15.

replace SDG&E's legacy CIS and related subsystems – SAP is a market leader among CIS providers, and SAP's CR&B provides obvious synergies to interact with SDG&E's SAP ERP and other SAP applications. As I explained in detail, SDG&E reasonably selected SAP over the only other major CIS software vendor (Oracle) based on numerous factors,³⁴ many of which are qualitative and cannot be easily translated into hard costs or benefits. Considering all these factors, even if the Oracle CIS system were somewhat less costly,³⁵ SAP was still by far the best fit for the new SDG&E CIS.³⁶ Moreover, to minimize costs within the SAP CR&B solution, SDG&E is adopting the SAP Minimal Viable Solution approach, as described in the direct testimony of Daniel Linder (Chapter 6) and the rebuttal testimony of Laura Atkinson (Chapter 12). This approach will effectively meet SDG&E's customer information needs at the lowest, reasonable cost, as well as provide a positive business case with project benefits totaling more than \$575 million in nominal dollars, which exceeds SDG&E's forecasted total nominal costs over the same asset life (\$535 million).³⁷

VI. SUMMARY AND CONCLUSIONS

In summary, my rebuttal testimony responds to the prepared direct testimony submitted by intervening parties in SDG&E's CIS Replacement Program Application.

For the reasons stated in my rebuttal testimony, the Commission should concur that:

See, Direct Testimony of Witness Snyder (Chapter 3) at 16:5-18:17.

³⁵ Of note, the EY study used the same indicative CIS cost for both Oracle and SAP.

SDG&E notes that replacing the CIS, and other subsystems, will require the help of vendors other than just SAP. SDG&E will solicit competitive bids for key workstreams (*e.g.*, system integration, change management, etc.) to achieve the most cost-effective CIS possible.

See, Rebuttal Testimony of Laura Atkinson (Chapter 12) at 6:3-5.

- SDG&E's CIS risk profile provides valid support for SDG&E's need to replace the CIS;
- Costs per customer/meter is only one aspect by which to gauge a CIS
 Replacement project, and UCAN's cost analysis is not a true apples-to-apples
 comparison because it fails to consider static cost elements, project scope,
 and dual commodity complexities;
- 3. UCAN's project cost comparison between SDG&E's CIS Replacement Application and SCE's CIS Re-Platform Program fails to consider numerous key factors, and SDG&E sufficiently justified all cost elements within the CIS implementation and future support phases. Further, the project benefits total more than \$575 million in nominal dollars and exceed SDG&E's forecasted total nominal costs over the same asset life (\$535 million);³⁸ and
- SDG&E considered alternative approaches and selected the only option (i.e.
 replacement) that will effectively meet its customer information needs at the
 lowest, reasonable cost.

This concludes my prepared rebuttal testimony.

³⁸ See, Rebuttal Testimony of Laura Atkinson (Chapter 12) at 6:3-5.