Application: A.17-09-005
Exhibit No.: SDG&E-09
Witness: Paul Pruschki

PREPARED REBUTTAL TESTIMONY OF PAUL PRUSCHKI CHAPTER 9

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

May 23, 2018



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I. OVERVIEW AND PURPOSE

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") Port District of San Diego Energy Management Plan ("EMP") Application ("A.") 17-09-005 ("Application"). In my rebuttal testimony I address recommendations concerning SDG&E's energy efficiency ("EE") proposal presented by the Office of Ratepayer Advocates' ("ORA") witness Stanley Kuan. Specifically, my testimony rebuts issues raised by ORA regarding the cost-effectiveness of SDG&E's proposed specialized Energy Efficiency ("EE") measures and SDG&E's proposal to recover funding for specialized EE measures through the Public Purpose Programs ("PPP") electric rate component. My testimony also provides corrections to my originally filed testimony to reflect the removal of retrocommissioning from the larger list of specialized EE measures SDG&E seeks to fund through this Application.

My testimony is organized as follows:

- Section II Original Testimony Corrections: provides corrections to my original testimony.
- **Section III Cost-Effectiveness:** provides a response to ORA's position on cost-effectiveness.

Direct Testimony of ORA ("ORA Testimony") (Kuan), Chapter 3.

² See September 13, 2017, Prepared Testimony of Paul Pruschki (Chapter 2) ("Pruschki Testimony").

- Section IV Funding Specialized Measures: provides a response to ORA's position that the specialized measures should not be funded by the PPP.
- Section V Legislative Directives: provides relevant legislative directives to this proposal.
- Section VI Conclusion: provides a summary of the proposal.

II. ORIGINAL TESTIMONY CORRECTION

While preparing a response to ORA Data Request 011 pursuant to this proceeding, SDG&E identified certain previously excluded retrocommissioning measures that the California Public Utilities Commission ("Commission") later allowed SDG&E to pursue under its standard EE program offerings, meaning that SDG&E no longer needs to request permission to implement these specialized EE measures in this Application. In Decision ("D.")16-08-019,³ the Commission approved the implementation of a Strategic Energy Management ("SEM") program intended for industrial customers such as the Port District of San Diego ("District") and certain District tenants. The SEM program is designed for Behavioral, Retrocommissioning and Operational ("BRO") EE measures. SDG&E implemented its SEM program in the fourth quarter of 2017, after this Application was filed. Thus, SDG&E has reduced its costs estimates and adjusted savings for its EE proposal to reflect the removal of retrocommissioning measures from the scope of SDG&E's specialized EE request.⁴ The impacts to the District's EMP energy savings are as follows:

Decision Providing Guidance for Initial Energy Efficiency Rolling Portfolio Business Plan Filings, Conclusion of Law 26.

Retrocommissioning measures will still be pursued through SDG&E's standard/approved EE portfolio.

September 2017: with retrocommissioning measures included.

District Measure Category	Targeted Electric Energy Savings (kWh)	Targeted Gas Energy Savings (Therms)	Targeted Distribution	
Standard	7,000,000	42,000	70%	
Specialized	3,000,000	18,000	30%	
Totals (2019-2021)	10,000,000	60,000	100%	

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Revised Table PP-2, District EMP Savings by Measure Category: with

retrocommissioning reflected in standard measures, not specialized measures.

District Measure Category	Targeted Electric Energy Savings (kWh)	Targeted Gas Energy Savings (Therms)	Targeted Distribution
Standard	7,400,000	44,400	74%
Specialized	2,600,000	15,600	26%
Totals (2019-2021)	10,000,000	60,000	100%

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The impacts to the cost of SDG&E's EE proposal are as follows:

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Original Table PP-4,6 EE Direct Cost Summary, served in September 2017: with

retrocommissioning measures included in funding request for specialized measures.

(2017\$ Cost in 1,000s; Excludes Loaders, Escalation, Taxes)						
Project	2019	2020	2021	Total		
EE - Incremental	\$771	\$771	\$771	\$2,313		

Pruschki Testimony at 12.

⁶ *Id.* at 18.

Revised Table PP-4, EE Direct Cost Summary: with retrocommissioning measures removed from funding request for specialized measures.

2017\$ Funding Category 2019-2021

Total Incremental Funds Requested

Future Specialized Audits

Emerging Technology Projects

Targeted Specialized Measure Procurement Costs

(2017\$ Cost in 1,000s; Excludes Loaders, Escalation, Taxes)						
Project	2019	2020	2021	Total		
EE - Incremental	\$708	\$708	\$708	\$2,125		

Original Tables PP-5,7 EE Proposal Activities and Requested Funding, served in

Amount

\$1,413,050

\$300,000

\$600,000 \$2,313,050

September 2017: with retrocommissioning measures included in funding request for specialized

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measures.

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Revised Table PP-5, EE Proposal Activities and Requested Funding: with

retrocommissioning measures removed from funding request for specialized measures.

2017 \$ Funding Category 2019-2021	Amount
Targeted Specialized Measure Procurement Costs	\$1,224,643
Future Specialized Audits	\$300,000
Emerging Technology Projects	\$600,000
Total Incremental Funds Requested	\$2,124,643

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Id.

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specialized measures.

Original Table PP-6,8 Incremental Energy Efficiency Loaded Cost Summary, served in September 2017: with retrocommissioning measures included in funding request for

(Cost in 1,000s; Includes Loaders, Escalation)					
Project	2019	2020	2021	Total	
EE - Incremental	\$831	\$851	\$872	\$2,555	

Revised Table PP-6, Incremental Energy Efficiency Loaded Cost Summary: with retrocommissioning measures removed from funding request for specialized measures.

(Cost in 1,000s; Includes Loaders, Escalation)					
Project	2019	2020	2021	Total	
EE - Incremental	\$763	\$782	\$801	\$2,347	

In addition, I am providing the following revisions to my direct testimony, to no longer reflect retrocommissioning as a specialized EE measure:

⁸ *Id.* at 19.

Page PP-9: delete lines 9 through 12

• Advanced Controls and Energy Dashboards: Computer systems that display and manage the amount of energy consumption used in facilities and facilitate steps to control this consumption (e.g., advanced building management systems); and

Page PP-13, line 12: delete "3," replace with "2.4"

... energy savings impact within the District's boundaries. Overall, this proposal targets 3 2.4 million kWh of specialized energy savings measures based upon the findings in recently completed audits.

III. COST-EFFECTIVENESS

A. SDG&E Correctly Interprets AB 628 Cost-Effectiveness Requirement

ORA states, "[t]he Application's proposed specialized EE measures fail to satisfy the requirements of AB 628 and should be rejected. AB 628 (Gorell, 2013) set forth the goals and provided guidelines for the preparation of EMPs for harbor and port districts. AB 628 directed port districts and utilities to include cost-effective energy efficiency measures as a part of EMPs." Later in its testimony, ORA adds, "Given the Commission's statutory duty to ensure that energy efficiency is cost-effective, the fact that SDG&E has excluded specialized EE measures from its standard EE portfolio should not exempt the proposed specialized EE measures from cost-effectiveness review. Indeed, given the Commission's statutory obligation to ensure that energy efficiency resources are cost-effective, feasible, and reliable, the Commission should require SDG&E to make a sufficient showing that the proposed specialized EE measures are cost-effective before authorizing cost recovery for those measures."

ORA Testimony (Kuan) at 3-2:14-18 (footnotes omitted).

¹⁰ *Id.* at 3-3:10-17.

The District EMP was developed pursuant to Assembly Bill ("AB") 628 to reduce air emissions and promote economic development in the District. An important element of this EMP is EE. Specifically, the EMP outlines EE initiatives that concern both facilities owned and operated by the District, as well as those facilities operated by District tenants. SDG&E's full EE Proposal consists of two categories of measures: (1) standard measures which qualify for incentives under current and future EE programs; and (2) incentives for specialized measures which are not currently included in the current EE programs. This Application only requests funding and authority to implement a category of EE measures specifically for the District and its tenants, which are referred to as specialized EE measures because they do not fall within SDG&E's existing EE portfolio and are therefore incremental to existing allocated EE funds.

To aggressively find new EE savings opportunities, the EE policies regarding the implementation of non-permanently installed measures (specialized measures) should be evaluated. These specialized measure savings are real, can be replicated across various District tenant industries and offer opportunities for application beyond this proceeding to other industries, such as new construction building. On a broader basis, these specialized measures offer potential new opportunities for meeting the EE goals established in Senate Bill ("SB") 350,14 and SDG&E's overall portfolio remains cost-effective when they are included.

SDG&E's cost analysis for the specialized measures to develop its original proposal used day-ahead futures market energy pricing, a price premium based on renewable energy credits,

AB 628, Stats. 2013, Ch. 741, Energy Management Plans for Ports and Harbor Districts (October 11, 2013), codified in California Public Resources Code (Cal. Pub. Res. Code), Chapter 13 § 25990.

¹² *Id*.

Pruschki Testimony at PP-10 – PP-11.

¹⁴ SB 350, Stats. 2015, Ch. 547.

and resource adequacy capacity contract pricing. This resulted in an estimated dollar value of the cost of the avoided energy for the specialized measures. The total value of avoided energy for the specialized measures was used to establish a "not to exceed value" for a pay-for performance approach to achieve energy savings.

In response to ORA Data Request 011,¹⁵ SDG&E conducted Total Resource Cost ("TRC") and Program Administrator Cost ("PAC") analyses on these measures. Although SDG&E's EE proposal to provide incentives for specialized EE measures may not appear to be cost-effective from a forecast perspective, SDG&E's forecasted range for each of the proposed individual measure TRC ratios is 0.16 to 1.61 and PAC ratios range from 0.97 to 2.66. with an overall program TRC ratio of 0.55 and a PAC ratio of 1.95. As noted in section II of my rebuttal testimony, retrocommissioning measures have been excluded from the specialized measure category and were not included in this cost-effectiveness analysis. There are specialized measures in this proposal that have TRC and PAC ratios greater than 1.0 and are therefore cost-effective measures worth investing in. Final TRC and PAC ratios will be based on actual costs and verified savings of the installations. The following discussion provides support for SDG&E's expectations of improved TRC and PAC ratios once the measures are installed and verified.

Cost-effectiveness estimates are based on budgetary numbers and not on final program design. Program design can ensure a specified level of cost-effectiveness. SDG&E intends to manage these programs as pay-for performance Request for Offers ("RFOs") designed and implemented by third parties. Thus, cost-effectiveness targets will be part of the review and

¹⁵ ORA DR 011, Q2 (April 13, 2018).

acceptance of vendor proposals. Incremental energy savings through specialized measures will be considered along with cost-effectiveness goals.

Estimates are based on only a sample of the opportunities present in the District. The specialized audits used to develop the EE proposal did not identify all available energy efficiency opportunities for customers within the AB 628 jurisdiction, but rather identified new energy efficiency ideas not previously explored through existing programs. For example, two of the largest industrial customers within the District were not included in the specialized audits due to availability and funding constraints. Additional opportunities from a more comprehensive review of customers should identify more savings, take advantage of economies of scale, and result in improved cost-effectiveness.

Cost-effectiveness assumptions may be conservative. Net to Gross ("NTG") for these calculations has been estimated at 0.6, as prescribed by DEER. We believe that a higher NTG might be appropriate since implementation of these measures will be significantly influenced by SDG&E's efforts to identify these measures and offer specialized incentives. Additionally, calculations assume administration costs typical in a standard SDG&E program but SDG&E expects that bidders will be able to provide more cost efficiencies. The proposed RFO structure would also require a performance payment that would only pay for actual savings delivered.

Overall cost-effectiveness estimates are negatively impacted by certain measures with low TRC ratios. With further analysis, the cost-effectiveness for low-TRC measures can either be improved (through the reduction of measure cost and the increase of savings) or eliminated. This screening will factor into the program design and lead to improved cost-effectiveness.

Additionally, the AB 628 specialized EE programs are expected to provide additional benefits not necessarily quantified in cost-effectiveness calculations, as discussed below.

New Categories of Energy Efficiency. Specialized measures address energy efficiency opportunities previously uninvestigated such as temporary and portable equipment and energy intensive industrial processes such as sandblasting. Lessons learned and knowledge gained from this effort will provide important benefits not quantifiable in TRC calculations.

Encouraging Technological and Process Innovation. Specialized measures will present new challenges in development and implementation of solutions for measurement and verification of savings and will require innovative approaches to solve. Capabilities developed through this proposal provide important benefits not quantifiable in TRC calculations.

AB 628 Compliance. AB 628 prescribes the development of an EMP to, among other objectives, support GHG reductions in port districts. Not all the benefits envisioned by AB 628, such as promoting economic development, encouraging the development of new businesses and retaining existing businesses in the District, ¹⁶ can be quantified through traditional TRC/PAC calculations.

In addition to the considerations discussed above, the Commission has historically approved individual measures and programs that are not cost-effective on their own, but are cost-effective when considered as part of an IOU's full EE portfolio. Examples of approved programs that may not be cost-effective in the short term, but have potential to contribute to energy savings, are Home Upgrade programs and Emerging Technology programs, because they serve a specific need. The Commission also approves program pilots to determine if measures or projects have potential benefits even if they do not demonstrate immediate cost-effectiveness,

¹⁶ Cal. Pub. Res. Code § 25990(a).

such as SDG&E's Advanced Metering Infrastructure Water Energy Nexus,¹⁷ and Energy Efficiency Financing pilots,¹⁸ and several other pilots described in D.09-09-047.

SDG&E recognizes that these specialized measures are not currently offered in the portfolio and have not been implemented in SDG&E's territory previously. Therefore, this proposal to support additional, specialized measures for the District and its tenants should be treated similarly to a pilot. As such, SDG&E will apply the requirements of an EE pilot to the implementation of these specialized measures so that the Commission and its ratepayers can assess the potential benefits of including these specialized measures in the future within the broader EE portfolio. The pilot program requirements as specified in D.09-09-047 are as follows:¹⁹

- A specific statement of the concern, gap, or problem that the pilot seeks to address
 and the likelihood that the issue can be addressed cost-effectively through utility
 programs;
- 2. Whether and how the pilot will address a Strategic Plan goal or strategy and market transformation;
- 3. Specific goals, objectives and end points for the project;
- 4. New and innovative design, partnerships, concepts or measure mixes that have not yet been tested or employed;

Approved in D.16-06-010 and Advice Letter 2973-E (approved and effective December 5, 2016).

¹⁸ D.12-11-015.

¹⁹ D.09-09-047 Ordering Paragraph ("OP") 20.

- 5. A clear budget and timeframe to complete the project and obtain results within a portfolio cycle pilot projects should not be continuations of programs from previous portfolios;
 - 6. Information on relevant baselines, metrics or a plan to develop baseline information against which the project outcomes can be measured;
 - 7. Program performance metrics;

- 8. Methodologies to test the cost-effectiveness of the project;
- 9. A proposed EM&V plan; and
- 10. A concrete strategy to identify and disseminate best practices and lessons learned from the pilot to all California utilities and to transfer those practices to resource programs, as well as a schedule and plan to expand the pilot to utility and hopefully statewide usage.

Considering this specialized EE proposal in isolation from the full SDG&E EE portfolio, as ORA has done,²⁰ is an overly narrow view, since this proposal is not a stand-alone proposal, but intended to compliment the standard EE programs already available to support the EMP. When combined with the total portfolio of EE services, this proposal to fund a limited, useful set of specialized measures is cost-effective.²¹ In addition, SDG&E proposes to complete all the pilot requirements enumerated above to obtain additional information to determine if these new measures offer viable EE opportunities and potential savings to be included in standard EE

ORA Testimony (Kuan) at 3-3.

²¹ R.09-11-014, Energy Efficiency Policy Manual, Version 5, July 2013, p. 22 ("A prospective showing of cost-effectiveness using the Dual-Test for the entire portfolio of ratepayer-funded energy efficiency activities and programs (i.e., individual programs, plus all costs not assignable to individual programs, such as overhead, planning, evaluation, measurement verification and administrator compensation and performance, if applicable) is a threshold condition for eligibility for ratepayer funds").

measures available to other customers. Contrary to ORA's claim that SDG&E "deprives the Commission of the opportunity to confirm that ratepayer funding for specialized measures benefits SDG&E ratepayers," SDG&E is providing the Commission with innovative EE solutions and the means to verify savings that have the potential to expand EE savings opportunities.

Therefore, in assessing SDG&E's full complement of EE services to support the Port's EMP, SDG&E meets the requirements of AB 628 to implement cost-effective energy efficiency programs.²³

IV. FUNDING SPECIALIZED MEASURES

ORA recommends that the Commission reject SDG&E's proposal to fund specialized measures with PPP funds on the basis that the measures "do not provide verifiable, incremental benefits to San Diego's ratepayers."²⁴ SDG&E strongly disagrees with this assessment.

SDG&E's proposed specialized measures will provide incremental benefits. The measures that SDG&E recommends for funding are not currently included in SDG&E's portfolio and are therefore new and incremental. These measures are not currently approved by the Commission because they are "portable" and not "permanently" installed. However, ORA fails to recognize that in the operation of these portable measures, they will need to "plug" into a District tenant's premise and use their electricity to power the equipment. This is real energy consumption and demand on the system that the customer will be seeing on their bill and paying

ORA Testimony (Kuan) at 3-3:19-20.

²³ Cal. Pub. Res. Code § 25990(b)(4).

²⁴ ORA Testimony (Kuan) at 3-4:10-11.

for. Therefore, if the portable equipment is energy efficient, it will result in real, incremental energy savings at the tenant's site.

SDG&E's EE proposal anticipates that the proposed equipment will be used on all applicable projects within the District's jurisdiction and therefore, the District and its tenants will collectively see real energy savings, which then in turn provides real benefits to all ratepayers. Specialized measures are not only applicable for one use at one customer site. Specialized measures refer to measures specific to certain types of industrial equipment used throughout the tidelands, and throughout SDG&E's service territory in industrial uses. District examples include welding equipment, air compressors, lighting and ventilation used aboard ships docked for repair, but the same measures could also apply to the new construction building industry, which uses the same types of portable equipment. As part of the verification of these specialized measure benefits, program design and requirements will be structured to require that all portable EE measures used on qualifying District projects have an assessment on measure applicability and cost-effectiveness completed before the purchase of the measure is approved.

The benefits of these specialized measures will be verified. The program will require a "pay for performance" contract approach to ensure that incentives are only paid for verified savings. In addition, as part of the approach outlined above to treat these measures similarly to pilot programs, SDG&E will provide the following data to all stakeholders: program performance metrics; methodologies to test the cost-effectiveness of the project; and an EM&V plan.

No studies have been conducted to understand and estimate the savings potential from the use of such portable measures. This Application creates an excellent opportunity to study the viability of including these EE measures in future portfolios.

V. LEGISLATIVE DIRECTIVES

SB [NCL1]350 defines "End Use" and "Energy Efficiency Savings" as follows:25

- (1) "End use" means the purpose for which energy is used, including, but not limited to, heating, cooling, or lighting, or class of energy uses upon which an energy efficiency program is focused, typically categorized by equipment purpose, equipment energy use intensity, or building type.
- (2) "Energy efficiency savings" means reduced electricity or natural gas usage produced either by the installation of an energy efficiency measure or the adoption of an energy efficiency practice that maintains at least the same level of end-use service or by conservation actions that reduce energy use by reducing the quantity of baseline energy services demanded.

In addition, AB 628 directs port districts and electric corporations, among others, to perform "[a]n assessment, in consultation with business and industry, that identifies current and emerging processes and technologies to reduce energy consumption and improve energy efficiency." AB 628 also directs port districts to develop "[a] list of recommendations, developed jointly with the serving electrical corporation, . . . for the enhanced use of cost-effective energy efficiency and demand-side management in existing buildings and the inclusion of energy efficiency measures as part of the development of new buildings." ²⁷

The measures proposed in SDG&E's Application directly address these legislative requirements, and nothing in these definitions and directives precludes funding for the

²⁵ Cal. Pub. Res. Code § 25310 (a)(1)-(2).

²⁶ Cal. Pub. Res. Code § 25990(b)(2)(C).

²⁷ Cal. Pub. Res. Code § 25990(b)(4).

specialized measures SDG&E is proposing to implement pursuant to the District's EMP. These measures are creative and innovative ways to support the District's needs and provide EE savings for the District, its tenants, and SDG&E's ratepayers. As the potential measures have real, incremental savings, and cost-effectiveness will be assessed as part of the project, ratepayers will benefit from this proposal, which may in the long-run provide for new EE savings across the EE portfolio. It is therefore reasonable for ratepayers to fund this EE proposal.

VI. CONCLUSION

SDG&E's complete EE Proposal, which is a combination of its current standard EE portfolio and a pilot for specialized EE measures, provides the required support for the District to achieve its overall energy management goals as articulated in its EMP and Climate Action Plan. The EE proposal is cost-effective when combined with SDG&E's overall portfolio and the specialized measures demonstrate the potential to be cost-effective. Approval of this EE Proposal provides the Commission the opportunity to evaluate innovative EE solutions and the verification of savings that have the potential to expand EE savings opportunities into the future to achieve SB 350's goal to double EE savings.

Therefore, SDG&E requests the following:

- (1) Approve the implementation of the specialized measures as cost-effective approaches to achieve EE savings as part of SDG&E's overall portfolio; and
- (2) Approve the incremental funding of \$2.347 million over 3 years from 2019 through 2021.

This concludes my prepared rebuttal testimony.