Application: 18-02-016

Exhibit: SDGE-

REBUTTAL TESTIMONY OF

STEPHEN T JOHNSTON

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

AUGUST 24, 2018

TABLE OF CONTENTS

REBUTTAL TESTIMONY OF STEPHEN T JOHNSTON

I. INTRODUCTION

I submitted prepared direct testimony in this proceeding (A.18-02-016), which covered the framework for San Diego Gas & Electric Company's (SDG&E) programs and investments for Assembly Bill (AB) 2868, the definitions of AB 2868 statutory terms, a project evaluation process and weighting factors for AB 2868, the supply management process for AB 2868 solicitations, and the approval process.

On 9 and 10 August 2018, SDG&E received prepared testimony from several other parties. This rebuttal testimony will address certain points made by the Office of Ratepayer Advocates (Ex. ORA-1, O'Brien, Peterson, and Ziaja), The Utility Reform Network (Ex. TURN-01, Borden), and Small Business Utility Advocates (Ex. SBUA-01, Chernick).

On certain points, my testimony discusses the AB 2868 statutory language. I am not an attorney. I base my assessment on the plain language of the statutes and the Commission decisions that are cited in my direct testimony. I expect SDG&E's attorney will address any statutory interpretation issues in the briefs to be filed in this proceeding.

II. REBUTTAL TOPICS

A. Methodology for Evaluating AB 2868 Projects/Sites is Reasonable

My direct testimony included a project evaluation process[1] for AB 2868. SDG&E proposed this evaluation method to be transparent in how it evaluated potential projects for AB

[1] *See Direct Testimony of Stephen T Johnston on Behalf of San Diego Gas & Electric Company* (February 28, 2018) at SJ-19 – SJ-20. Citations to intervenor and SDG&E direct testimony are as follows: [Party nickname] (witness surname) page number(s):line number(s). Note that the citations to ORA will include the hyphens in the page numbers.

2868, including those selected as described in Steven Prsha's direct testimony,[2] and to simplify review of future projects that SDG&E may propose for AB 2868.

On the topic of SDG&E's methodology for evaluating AB 2868 sites, Ziaja of ORA stated[3] that the proposed approach to developing the evaluation framework is unreasonable because it "is contrary to the statutory language" in that an unequal weighting is applied to criteria that are co-equal in the statute. As discussed below, ORA's claim that the proposed approach is unreasonable and contrary to statutory language should be dismissed. More importantly, SDG&E developed the weighting for the statutory factors in consultation with affected stakeholders, including ORA, as follows.

First, the Commission in D.17-04-039 ordered the Investor Owned Utilities (IOUs) to host a minimum of two workshops[4] to discuss: "What will be an acceptable weighting of the statutory factors for purposes of evaluating projects." The question shows that the Commission thought that the different statutory factors might be assigned different weights, and that the weighting used in the evaluation of projects should be "acceptable" but not necessarily equal.

Second, SDG&E led the discussion of this specific topic at the first workshop.[5] Three staff from ORA were present in the workshop and the meeting minutes from that workshop[6] are provided by ORA in the attachments to their testimony. The only point debated and then agreed

---

2 *See* SDG&E (Prsha) Table SP-1 at SP-3 to SP-4.

3 ORA (Ziaja) 4-9:12-14

4 *See* D.17-04-039, ordering paragraph ("OP") 2 at 67 and Section 4-2 at 21.

5 *See* ORA Testimony at PDF p. 202, describing Topic 2 from the first workshop on 14 September 2017, titled "Acceptable Weighting of the Statutory Factors for Purposes of Evaluating Projects."

6 *Id.* at PDF pp. 190-191, describing a discussion topic from Stakeholder Workshop 1 held on September 14, 2017, titled "Discussion: Acceptable Weighting of the Statutory Factors for Purposes of Evaluating Projects."

upon by stakeholders[7] was that "achieving ratepayer benefits should be one of the highest priority items."[8] No other proposed weighting was recorded during the workshop, and the meeting minutes do not record any stakeholder making the assertion that all statutory factors must be weighted equally.

Third, SDG&E presented the proposed evaluation criteria and weights[9] on 15 December 2017 during the preview session workshop,[10] with emphasis on how feedback from the prior workshops was incorporated into this proposal. The various ratepayer benefits were assigned the largest percentage of weight, to reflect the stakeholders' agreement that those benefits should have the highest priority. During the preview session and afterwards, no stakeholders provided any suggested changes to SDG&E's proposed weighting of the statutory factors. No one suggested equal weighting for the factors in the workshop process.

In sum, SDG&E arrived at the weighting detailed in my direct testimony through a Commission-ordered process, SDG&E included feedback from ORA and other stakeholders, and the weighting is in complete accord with the statutory language.

---

[7] *Id.* at PDF p.188, detailing the list of attending stakeholders from Workshop 1 held on September 14, 2017, which included three staff members from ORA.

[8] *Id.* at PDF p. 190 of the testimony file, which records the minutes of Acceptable Weighting of the Statutory Factors for Purposes of Evaluating Projects, from Workshop 1 held on September 14, 2017.

[9] *See* SDG&E (Johnston) SJ-20, Figure 5.

[10] D.17-04-039 at 67, OP 3.

1. Location in a Disadvantaged Community ("DAC") is used only as a proxy for meeting air quality standards in the evaluation of potential AB 2868 sites

During the AB 2868 workshops,[11] there was no clear direction or agreement on how "meet air quality standards" could be quantified or measured as it relates to "accelerate widespread deployment of distributed energy storage systems."[12] As stated in my direct testimony,[13] SDG&E proposes to use a project's location in a DAC only as a proxy for meeting air quality standards when evaluating potential projects for AB 2868, since CalEPA uses environmental pollution and low income as factors in identifying DACs. However, DACs, which are not mentioned in AB 2868, are distinct from, and have a different definition than low-income customers,[14] which are given priority in AB 2868.

Ziaja (ORA) correctly notes that placement of energy storage in a DAC location does not necessarily mean that it will help meet air quality standards.[15] SDG&E recognized this, and therefore included in its Application weighting factors for (i) renewables located at the critical public sector sites,[16] and (ii) petroleum-based generation that might be offset at those sites.[17] The combination of distributed energy storage systems that have microgrid capabilities located on circuits with renewable generation, which might offset the use of diesel backup generators at

---

[11] *See* ORA Testimony at PDF p. 193, which records the minutes of GHG and Air Quality Impacts from Workshop 1.

[12] *See* Cal. Public Utilities ("P.U.") Code § 2838.2 (b).

[13] *See* SDG&E (Johnston) SJ-21:10-19; and fn. 16.

[14] For example, maps of DAC areas are different than low-income community maps, although there is overlap. *Id.* at SJ-22, fn 18.

[15] ORA (Ziaja) 4-9:19-21.

[16] *See* SDG&E (Johnston) SJ-21:1-4.

[17] *Id.* at SJ-21:5-9.

those critical public sector sites, is intended to help meet air quality standards at those locations. This combination of factors, which are represented in SDG&E's AB 2868 project evaluation criteria,[18] align with the suggestion that Ziaja noted:

> In order to use an energy storage system to improve air quality standards in a DAC, the energy storage system must actually reduce the use of a fossil fuel generator in that DAC, reduce criteria air pollutants in the DAC, or reduce use of petroleum in the DAC.[19]

Therefore, Ziaja's conclusion that "SDG&E's methodology for evaluation is insufficient"[20] should be dismissed. SDG&E's proposed methodology in the Application addresses these points already and should be approved without modification.

B. The proposed advice letter process should be approved

My direct testimony proposed that the Commission permit any future proposals for additional distributed energy storage systems deployed as circuit-level and service-level microgrids be approved via a Tier 3 Advice Letter.[21] This proposal is aligned with the AB 2868 direction to "accelerate widespread deployment of distributed energy storage systems"[22] up to 166.66 Megawatts (MW). The proposal is also aligned with the Commission's direction to consider whether contracts resulting from approved programs and investments should be approved via application or through an alternative process, such as an advice letter.[23]

---

[18] *Id.* at SJ-20, Figure 5.

[19] ORA (Ziaja) 4-9:21-24.

[20] *Id*. at 4-10:14-15.

[21] SDG&E (Johnston) SJ-27:1-4.

[22] *See* P.U. Code § 2838.2 (b).

[23] *See* D.17-04-039 at 21.

Peterson and O'Brien with ORA argue that GO 96-B provides the application process is appropriate where there has not been prior approval or when controversial policy issues are at stake.[24] ORA mentions several uncertainties that would not permit approval through a Tier 3 Advice Letter.[25] It is SDG&E's expectation that the issues ORA mentions will be discussed and decided in the present Application, thus, aligned with ORA's logic, the Advice Letter process is appropriate for future proposals that fit within SDG&E's evaluation framework and that conform to the ultimate decision on this matter.

Proposing to use the standard Application process for additional requests would not "accelerate" widespread deployment of distributed energy storage systems, from a time and process perspective. Therefore, SDG&E's application proposed a robust and transparent process for how potential AB 2868 projects would be evaluated, how the supply management solicitation would select the most qualified bid, and how the project will maximize ratepayer benefits and minimize overall costs, so that future proposals that fall within this framework can be approved via an Advice Letter process, up to the statutory 166.6 MW limit.

SDG&E's proposal in the Application addresses ORA's concerns and should be approved without modification.

C. Sizing and location of the proposed distributed energy storage systems is reasonable

The size (in Megawatts, or MW) of the distributed energy storage systems proposed in SDG&E's Application are designed to meet several of the goals stated in AB 2868 and aligned with D.17-04-039. The sizes, referred to as the capacities of the distributed energy storage

[24] ORA (Peterson) 4-10:18 – 4-11:9.

[25] *Id*. at 4-11:6-9, which mention competitive solicitation, cost effectiveness, revenue streams, and the evaluation framework.

systems, are listed in the direct testimony of Steven Prsha.[26] For discussion purposes, the sizing is generally a 10 MW/10 MWh (meaning capable of providing 10 MW maximum for 1 hour) per circuit, with one exception.[27]

Using the 10 MW capacity per circuit is beneficial and aligned with the directions in AB 2868 in several ways. Evaluating the size of the distributed energy storage system using only one criteria from AB 2868 may lead to a wrong conclusion about the capacity. However, when SDG&E's Application is reviewed against all of the AB 2868 goals and D.17-04-039, the proposed 10 MW per circuit maximizes ratepayer benefits while minimizing overall costs, as follows.

First, AB 2868 directs the utilities to propose investments and programs of distributed energy storage systems that "maximize overall benefits."[28] Using the energy storage in multiple use cases to maximize the benefits to ratepayers, as SDG&E proposes, completely aligns with, and satisfies, this statutory command. The Commission's Multiple-Use Application (MUA) Decision[29] was issued January 17, 2018, one month before SDG&E submitted this Application. SDG&E sought to reflect the multiple uses approved by that decision[30] when developing its AB 2868 evaluation process.[31] When evaluating multiple uses of distributed energy storage systems, a 10 MW / 10 MWh system will:

---

[26] *See* SDG&E (Prsha) Table SP-1 at SP-3 to SP-4.

[27] The exception is one circuit in the Kearny project that will have a 10 MW / 20 MWh capacity. *Id*. at SP-4:15 – SP-5:4.

[28] *See* P.U. Code § 2838.2(b).

[29] *See* D.18-01-003.

[30] *Id*. at 10, Table 1.

[31] *See* SDG&E (Johnston) SJ-2:1-3.

(i) Reduce more GHG emissions when bid into the CAISO markets compared to a smaller system, using the assumptions and model presented by Bierman.[32]

(ii) Provide greater local capacity compared to a smaller system, as presented by Summers. SDG&E needs additional local capacity,[33] and the proposed 10 MW projects may meet some of that deficit.[34]

(iii) Produce greater potential revenues and services to the benefit of ratepayers by participating in wholesale energy markets compared to a smaller system, using the assumptions and model presented by Bierman.[35]

(iv) Provide resiliency/microgrid/islanding services to a larger amount of customer load compared to a smaller system, which also allows for greater integration of renewables and reduced dependency on petroleum for customer generation and customer load connected within the microgrid.[36]

These factors above are included in the AB 2868 project evaluation process.

Second, from purely a technical perspective, as SDG&E stated in response to an ORA data request:

> A typical SDG&E 12 kV distribution feeder is rated for 10 MW of capacity. In order to seamlessly island the predetermined microgrid load, the energy storage

[32] *See* SDG&E (Bierman) EB-9:5-11 and Appendix A at 2.

[33] *See* SDG&E (Summers) JWS-5:11-12 and JWS-7:15-16.

[34] *Id*. at JWS-8:2-5.

[35] *See* SDG&E (Bierman) EB-11:16-20 and EB-12:8-10 for estimated wholesale market revenues of the proposed distributed energy storage systems.

[36] SDG&E (Johnston) SJ-21:1-9.

system must have the capability to briefly island the entire circuit while remote controlled distribution switches shed non-critical load.[37]

For these reasons, an energy storage system with 10 MW of capacity was proposed, and is reasonable as consistent with the statutory criteria.

1. Size and location of energy storage for circuit-level microgrid services benefits ratepayers

TURN, citing to Steven Prsha's direct testimony, states, "[t]he primary use case for these projects is to provide backup power and enhance circuit resiliency."[38] TURN uses this individual point to claim that SDG&E has proposed excessive amounts of storage.[39] While the primary use case of the microgrid design is to provide resiliency to critical public sector facilities, deploying a 10 MW system also maximizes benefits to ratepayers, as stated above – by reducing more GHG emissions, providing greater local capacity, and providing greater potential revenues and services. TURN's proposal to deploy smaller energy storage systems[40] would result in certain individual systems, because of their small size, being unable to produce revenues from wholesale energy markets, obtain local capacity reliability, and reduce GHG emissions by bidding into CAISO markets.

TURN correctly notes:

> "the entire circuit does not need to be islanded in order to provide backup for specific facilities. SDG&E should have sought to island only the portion of the circuit related to the facilities which it has deemed 'critical.'"[41]

---

[37] *See* ORA-SDG&E DR-03, Question 3 (Response provided by Steven Prsha), reproduced in ORA Testimony at PDF pp. 349 -350.

[38] TURN 8:15-17.

[39] *See* TURN 9:4-5.

[40] *Id*. at 12, Table 2.

[41] *Id*. at 9:18-20.

SDG&E's proposal is already in alignment with this statement from TURN in that only segments of each circuit will be included in the microgrid island.[42]

SBUA recognizes that "SDG&E intends to remotely disconnect any portion of the feeder beyond the last critical customer."[43] However, Chernick (SBUA) proposes that customer-sited storage should be behind the meter to increase resiliency, compared to the siting proposed by the utilities.[44] If the storage was deployed behind-the-meter, it would be providing microgrid services to only one customer, and may result in increases of GHG emissions as Peterson and O'Brien (ORA) correctly emphasize in the SGIP report.[45] SDG&E proposes the 10 MW systems are deployed in-front-of-the-meter, under utility control, to achieve reductions in GHG emissions along with other benefits. Utility-operated and in-front-of-the-meter storage can reduce GHG emissions, as estimated by the Enovation report.[46]

As stated in my direct testimony, SDG&E intends to propose service-level microgrid projects at a later time, as SDG&E recognizes that some energy storage could be deployed within a microgrid to provide resiliency to individual or multiple critical public sector facilities connected to the same service-level transformer, in alignment with AB 2868 goals.[47] SDG&E's service-level microgrid proposal may be suitable for certain projects where SBUA proposes

---

[42] *See* ORA Testimony at PDF p. 364, ORA-SDG&E DR-04, Prsha's response to question 15, and the confidential 15a attached document which shows a circuit, and the segment that would be islanded. Prsha responded, "[p]ursuant to D.16-08-024, G.O. 66-D, PU Code § 583, and § 454.5(g), the attached 'Confidential - 15a backup power_customer generation.docx' contains confidential information that is protected from disclosure."

[43] *See* SBUA 19, fn. 18.

[44] *Id*. at 20:5-7.

[45] ORA (Peterson, et al.) 3-6:1-5, and fn. 23.

[46] *See* SDG&E (Bierman) EB-9:5-11, and Appendix A.

[47] *See* SDG&E (Johnston) SJ-10:9 — SJ-13:11.

customer-sited storage. SDG&E's service-level microgrid proposal would provide resiliency services to public sector customers in the hypothetical outage scenarios that SBUA pose.[48]

SDG&E proposes the distributed energy storage system sizes for specific circuit-level microgrids in Prsha's direct testimony to maximize ratepayer benefits of reducing GHG emissions through CAISO markets, reducing dependency on petroleum through microgrid services, meeting air quality standards by integrating local renewables and offsetting diesel generator usage, while minimizing overall costs by using available land at substations.[49] Therefore, SDG&E's proposal to deploy 10 MW per circuit achieves multiple ratepayer benefits in compliance with AB 2868 and D.17-04-039 and maximizes such benefits in comparison with alternatives offered by other parties.

Thus, SDG&E's proposal, when taken as a whole, maximizes ratepayer benefits. TURN's objections that SDG&E has proposed an excessive amount of storage should be dismissed.

2. The proposed distributed energy storage systems integrate renewables

TURN acknowledges that SDG&E's energy storage project proposals will integrate renewables by bidding into the CAISO markets.[50] However, TURN argues that the charging load will not necessarily be comprised of "excess" solar generation.[51] SDG&E demonstrates in Evan Bierman's direct testimony how distributed energy storage systems of the type proposed by SDG&E can integrate renewables at a grid-level by participating in CAISO wholesale energy

[48] *See* SBUA 19:14 –20:4.

[49] *See* SDG&E (Prsha) SP-1:13 – SP-2:5.

[50] TURN 14:12-15.

[51] TURN 14:16.

markets,[52] and in Steven Prsha's testimony how customer-located renewables can be included in microgrid-level applications.[53]

D. Recommendations for collecting data are either already available, or the data is not directly obtainable

TURN states that the Commission should require data collection and reporting on the energy storage systems, including reliability, petroleum reduction, and GHG emission reductions.[54]

SDG&E already collects data on electrical outages at the circuit-level and has reporting requirements related to reliability.[55] GHG emissions for energy storage are not required to be reported since storage does not emit GHG. However, energy storage's impact on GHG emission reductions can be calculated using the Itron method[56] based on the energy storage system's actual performance. SDG&E would agree to reporting on GHG calculations using this method at annual intervals for projects approved through AB 2868 proceedings. Revenues from the participation of the energy storage in wholesale markets will be tracked and recorded as specified in SDG&E's direct testimony.[57]

Reduction in petroleum dependence cannot be readily calculated because the data is not directly obtainable. As stated in SDG&E's reply to an ORA data request in this proceeding,

---

[52] *See* SDG&E (Bierman) EB-1:15-18.

[53] *See* SDG&E (Prsha) SP-24:1-22.

[54] TURN 7:19-23.

[55] Outages on the primary voltage system are tracked based on the circuits and customers affected. Outage information is stored in databases, and outage impacts are reported annually to the Commission.

[56] *See* SDG&E (Bierman) EB-9:1-4.

[57] *See* SDG&E (Jasso) NJ-2:8-15.

> While SDG&E identified which critical customers had diesel-generating resources, SDG&E does not have the individual nameplate capacities or the operating parameters for these behind-the-meter diesel generating units.[58]

The reduction in petroleum dependence from non-use of diesel generators is not directly measurable without collecting information from customers on their use (or non-use) of diesel backup generators – assuming they even keep such statistics. Customers may be unwilling to share this information or may be unable to collect this information themselves. While collecting information on reduction of petroleum dependence may not be feasible within the proposal for the current Application, SDG&E is willing to consider specific proposals from other parties.

III. CONCLUSION

SDG&E's 2018 energy storage procurement and investment plan should be approved without modification.

This concludes my rebuttal testimony.

[58] *See* ORA Testimony at PDF p. 350, ORA-SDG&E DR-03, response to Question 3.a.