

Application: 20-03-

Exhibit No.: SDGE-

Witness: Nuo Tang

**PREPARED DIRECT TESTIMONY OF**  
**NUO TANG**  
**ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**



**BEFORE THE PUBLIC UTILITIES COMMISSION**  
**OF THE STATE OF CALIFORNIA**

**MARCH 2, 2020**

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**PREPARED DIRECT TESTIMONY OF  
NUO TANG**

**I. INTRODUCTION**

The purpose of my direct testimony is to discuss: (1) the procurement methodology San Diego Gas & Electric Company (“SDG&E”) has utilized to date in its procurement of energy storage resources in response to California Assembly Bill (“AB”) 2514; and (2) the procurement methodology SDG&E will employ in its 2020 solicitation cycle for energy storage resources to meet California Public Utilities Commission (“Commission”) mandates other than resources procured specifically for AB 2514.

**II. ENERGY STORAGE PROCUREMENT METHODOLOGY**

**A. 2014, 2016 Energy Storage Solicitation Procurement Methodology for AB 2514 Resources**

In December 2010, the Commission opened a rulemaking to implement the provisions of AB 2514, which directs load serving entities to procure viable and cost-effective energy storage systems.<sup>1</sup> Within this rulemaking, the Commission issued Decision (“D.”) 13-10-040 (the “Energy Storage Decision”) in October 2013, creating an Energy Storage Framework and Design Program and requiring the investor-owned utilities to file procurement applications with proposals for procuring energy storage resources biennially, starting in 2014 and ending in 2020.<sup>2</sup> To date, SDG&E has employed a procurement methodology in its 2014 and 2016 solicitation that support the guiding principles outlined in the Energy Storage Decision.<sup>3</sup> In both

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<sup>1</sup> Rulemaking 10-12-007.

<sup>2</sup> D.13-10-040, ordering paragraphs (“OP”) 2-4 at 77 (procurement applications must be filed in 2014, 2016, 2018 and 2020).

<sup>3</sup> For additional details on the outcome of these procurement cycles, please see the testimony of Don Balfour served in support of this application.

1 its 2014 and 2016 energy storage solicitation cycles, SDG&E primarily utilized a two-pronged  
2 approach to procure energy storage, a competitive request for offer (“RFO”) solicitation process  
3 consistent with its Long Term Procurement Plan (“LTPP”), and a request for proposal process  
4 similar to that used for the purchase of other utility distribution reliability assets.

5 **B. Resource Procurement Counting Towards SDG&E’s AB 2514 Target**

6 On May 31, 2018, the Commission approved SDG&E’s Preferred Resource Application,<sup>4</sup>  
7 which allowed SDG&E’s planned and existing energy storage projects to meet its procurement  
8 targets. The results of the solicitations are described in the direct testimony of Mr. Don Balfour.

9 **C. SDG&E’s Plan to Meet its AB 2515 Target**

10 As discussed in Mr. Balfour’s testimony, because the developers terminated 7 MW of  
11 contracted storage resources prior to completion,<sup>5</sup> SDG&E must procure additional energy  
12 storage to meet its AB 2514 target. SDG&E may procure additional energy storage to replace  
13 the terminated projects and fulfill its AB 2514 target by pursuing three paths to secure the least-  
14 cost, best-fit solution.

15 First, SDG&E will conduct a solicitation in the 2020 energy storage solicitation cycle,  
16 SDG&E will continue to employ a procurement methodology that supports the guiding  
17 principles in the Energy Storage Decision, procuring resources intended to further:  
18 (1) optimization of the grid, including peak reduction, contribution to reliability needs or  
19 deferment of transmission and distribution upgrade investments; (2) the integration of renewable  
20 energy; and (3) the reduction of greenhouse gas emissions.<sup>6</sup> Additionally, on January 11, 2018,

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<sup>4</sup> D.18-05-024, *approving*, A.17-04-017.

<sup>5</sup> For additional details on the terminated contracts, please see the testimony of Donald Balfour served in support of this application.

<sup>6</sup> D.13-10-040 at 9-10.

1 the Commission adopted eleven interim rules to direct the utilities on how to promote the ability  
2 of storage resources to realize their full economic value when they are capable of providing  
3 multiple benefits and services to the electric system.<sup>7</sup> As of January 11, 2018, SDG&E has  
4 reflected these eleven rules in applicable procurement processes in which energy storage may be  
5 procured.<sup>8</sup>

6 Second, SDG&E will consider projects that qualify under AB 2514 that submit offers in  
7 other Commission mandates apart from AB 2514 in which energy storage resources are eligible  
8 resources; SDG&E has held, or is scheduled to hold, solicitations in 2020 where energy storage  
9 resources may qualify. The following SDG&E solicitations are currently planned or in process  
10 and are open to energy storage resources: a resource adequacy solicitation is anticipated in 2020,  
11 a 2021 demand response auction mechanism, and a 2021 – 2023 Integrated Resource Plan  
12 (“IRP”) Reliability Procurement solicitation. The IRP Reliability Procurement solicitation was  
13 ordered pursuant to Commission Decision 19-11-016. SDG&E was ordered to procure at least  
14 292.9 MW of incremental capacity from all resource types to be online by August 1, 2023 to  
15 support system reliability.<sup>9</sup> SDG&E received offers in this solicitation on February 7, 2020 and  
16 expects to execute contracts by August 3, 2020. Due to the nature of the modified Cost  
17 Allocation Mechanism (“CAM”),<sup>10</sup> applicable to only bundled and a subset of unbundled  
18 customers, for the IRP Reliability Procurement, it is uncertain whether energy storage contracted  
19 as part of IRP Reliability Procurement would qualify to count towards the AB 2514 targets

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<sup>7</sup> D.18-01-003 at 2.

<sup>8</sup> *Id.*, Appendix A at 1-2.

<sup>9</sup> D.19-11-016, OP 3 at 80-81.

<sup>10</sup> D.19-11-016 at 67.

1 because cost allocation under AB 2514 is through traditional CAM, applicable to all bundled and  
2 all unbundled customers.<sup>11</sup>

3 Finally, SDG&E is examining its existing AB 2514 qualified contracts, to determine  
4 whether there may be opportunities to negotiate an augmentation of any such contracts to fulfill  
5 the target. In sum, SDG&E is actively pursuing multiple options as described above to comply  
6 with its AB 2514 procurement targets.

7 **D. SDG&E's 2020 Energy Storage Solicitation Procurement Methodology**

8 SDG&E employs competitive solicitations in accordance with SDG&E's most recent  
9 LTPP.<sup>12</sup> SDG&E generally follows the established RFO process outlined in its LTPP:<sup>13</sup>

10 (a) analysis to determine portfolio need and the best products to fill that need; (b) creation of  
11 RFO documents; (c) preparation of bid evaluation criteria; (d) RFO distribution to the market;  
12 (e) evaluation of RFO bids to determine the best fit for SDG&E's portfolio; and (f) contract  
13 negotiation. Throughout the RFO process SDG&E confers with its Procurement Review Group  
14 and the solicitation is overseen by an Independent Evaluator to ensure fairness and equity in the  
15 RFO process.<sup>14</sup>

16 SDG&E recognizes that Commission mandates are not mutually exclusive, and where  
17 applicable, SDG&E will seek Commission approval for energy storage resources to count toward  
18 multiple mandates. For example, the Energy Storage Decision states that energy storage projects

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<sup>11</sup> D.14-03-004, finding of fact ("FOF") 50-51 at 129.

<sup>12</sup> SDG&E 2014 Long Term Procurement Plan, Advice Letter 2850-E-A, Attachment B, *approved*, D.15-10-031 (effective February 19, 2016).

<sup>13</sup> *Id.* at Attachment B, section II.A.5.b., sheet nos. 54-56, Procurement Contracting Methods and Practices, Long-Term Transactions.

<sup>14</sup> *See* D.06-05-039, FOF 20 at 77-78.

1 | procured in other Commission proceedings, such as LTPP or the Renewables Portfolio Standard  
2 | (“RPS”) Program, may be applied toward an AB 2514 target, provided these resources meet the  
3 | requirements outlined in the Energy Storage Procurement and Design Program.<sup>15</sup> Ratepayer  
4 | savings are achieved when a resource can apply toward multiple mandates, and in its 2018  
5 | solicitation cycle, SDG&E will continue to assess this benefit as part of its qualitative evaluation,  
6 | within its evaluation criteria, to determine the “best fit” resources for its portfolio.

### 7 | **III. CONCLUSION AND SUMMARY**

8 | SDG&E is in the process and intends to procure additional resources to meet its  
9 | procurement obligation under AB 2514.

10 | This concludes my prepared direct testimony

### 11 | **IV. WITNESS QUALIFICATIONS**

12 | My name is Nuo Tang, and my business address is 8315 Century Park Court, San Diego,  
13 | CA 92123. I am the Principal Energy Policy Advisor in the Electric and Fuel Procurement  
14 | department for San Diego Gas & Electric Company. I am primarily responsible for market  
15 | policy development of SDG&E’s procurement related programs, and am experienced with  
16 | management of SDG&E’s resource adequacy portfolio. I have been in this role for  
17 | approximately 12 years. Prior to my policy advisor role, I worked in risk management in  
18 | Electric and Fuel Procurement.

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<sup>15</sup> D.13-10-040, Appendix A at 4. Note that SDG&E’s approved Preferred Resource application (A.17-04-017, *approved*, D.18-05-024) contains 83.5 MW of energy storage resources that SDG&E may apply toward two Commission authorizations; its LCR target (D.14-03-004) and Energy Storage Decision implementing the AB 2514 target (D.13-10-040).

1           Prior to joining SDG&E, I worked for Exelon Corporation as a senior financial planning  
2 analyst as well as risk management for approximately five years. I received my Bachelor of Arts  
3 from Cornell University.

4           I have previously submitted prepared testimony to the Commission.