

Application No.: A.17-03-xxx

Exhibit No.: SDGE-01

Witnesses: David Geier

PREPARED DIRECT TESTIMONY

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

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

(Policy)

March 30, 2017

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1 **I. INTRODUCTION**

2 The California Public Utilities Commission (“Commission” or “CPUC”) has established
3 policies intended to help Californians obtain safe, reliable, environmentally responsible natural
4 gas and electricity. In its attempts to execute these policies in its company operations, San Diego
5 Gas & Electric Company (“SDG&E”) has developed intellectual property (“IP”) and related
6 products related to electric and gas utility functions. While SDG&E desires to commercialize
7 the IP and related products for the financial benefit of its ratepayers and itself, commercializing,
8 marketing and distributing IP products are not core competencies or areas of operational focus
9 for SDG&E. Therefore, SDG&E intends to create a new unregulated subsidiary (“NewCo
10 Sub”), which would be covered by the Affiliate Transaction Rules¹ (“ATRs” or “Rules”), except
11 for the waivers requested in the accompanying Application. The purpose of the NewCo Sub will
12 be to pursue commercialization opportunities of certain IP owned by SDG&E (“the Proposal”).

13 The Proposal is a win-win-win for the SDG&E ratepayers, SDG&E shareholders, and the
14 CPUC. Under the Proposal, SDG&E would establish the NewCo Sub to help commercialize IP
15 and related products. SDG&E could sell or license the IP to the NewCo Sub (or to another third
16 party). In exchange, SDG&E ratepayers would receive a portion of the NewCo Sub’s payment
17 for the IP (e.g., as a portion of revenues generated by on-going sales of the IP products or
18 perhaps as a one-time payment). SDG&E shareholders would also receive a portion of the
19 payment. By selling or licensing the IP to the NewCo Sub, SDG&E may limit its risks and
20 liabilities associated with the IP commercialization for itself and its ratepayers. Finally, the

¹ *Affiliate Transaction Rules Applicable to Large California Energy Utilities*, available at:
<http://docs.cpuc.ca.gov/PublishedDocs/PUBLISHED/GRAPHICS/63089.PDF>, approved by D.06-12-
029 (amending D.97-12-088), at Ordering Paragraph 1.

1 Proposal has the potential to increase the availability of IP and related products that support the
2 Commission’s policies and goals in California and across the country.

3 SDG&E does not need Commission approval to form the NewCo Sub. However, SDG&E
4 has determined that it requires waivers of certain Affiliate Transaction Rules to allow the NewCo
5 Sub to be competitive in the open market. Therefore, in its Application, SDG&E respectfully
6 requests that the Commission:

- 7 • Authorize waivers of certain Affiliate Transaction Rules concerning
8 interactions between SDG&E and the NewCo Sub;
- 9 • Approve a standardized sharing mechanism between SDG&E ratepayers
10 and shareholders for the financial compensation paid by the NewCo Sub
11 to SDG&E for the IP rights; and
- 12 • Approve a framework for future Section 851² filings for agreements
13 between SDG&E and the NewCo Sub for IP rights.

14 SDG&E’s testimony provides support for these requests. My testimony (Exhibit (“Ex.”) SDGE-
15 01) provides a general overview of the Proposal, the rationale of the Proposal, a description of
16 how the Proposal is consistent with Commission policies, and a review of the Proposal’s
17 potential benefits. The testimony of Stephen Johnston (Ex. SDGE-02) describes the Proposal in
18 greater detail, including the proposed process to transfer IP from SDG&E to the NewCo Sub, the
19 proposed standardized sharing mechanism, and the proposed framework for future Section 851
20 filings for agreements between SDG&E and the NewCo Sub. The testimony of Diana Day (Ex.
21 SDGE-03) describes the specific Affiliate Transaction Rules for which SDG&E seeks a waiver,
22 and the basis of each requested waiver.

² California Public Utilities Code Section 851.

1 **II. GENERAL OVERVIEW OF THE PROPOSAL**

2 SDG&E proposes to form a separate legal entity, the NewCo Sub, as a subsidiary
3 company to SDG&E. The primary purpose of the NewCo Sub is to try and maximize the value
4 of utility-developed IP for the benefit of SDG&E ratepayers and shareholders while limiting the
5 risk exposure to SDG&E ratepayers associated with those commercialization activities. If the IP
6 is sold or licensed by SDG&E to the NewCo Sub, then the NewCo Sub (and SDG&E
7 shareholders) will assume the costs and benefits associated with subsequent commercialization
8 activities, while simultaneously limiting the risk to SDG&E ratepayers.

9 The NewCo Sub would be funded by SDG&E shareholders and staffed with its own
10 NewCo Sub employees and possibly loaned labor, as appropriate under the ATRs.³ If SDG&E
11 and the NewCo Sub agree to sales or licensing terms for IP, the NewCo Sub would pay SDG&E
12 in the form of financial compensation. The financial compensation for the IP transfer or
13 licensing would be shared between SDG&E ratepayers and shareholders, as described in Ex.
14 SDGE-02. Any sales or licensing agreements between SDG&E and the NewCo Sub will be
15 subject to Commission approval through a Section 851 filing. Once the agreement is approved
16 and the IP is transferred, the NewCo Sub may commercialize the IP as it believes is most
17 appropriate. This could include manufacturing, selling or distributing the IP product or service
18 directly, or contracting with third parties to do so. Additional specifics of the NewCo Sub, its
19 relationship with SDG&E, and the proposed sharing mechanism are described in more detail in
20 Ex. SDGE-02.

³ SDG&E is seeking a waiver to allow shared officers or directors, as explained in more detail in Ex. SDGE-02 and Ex. SDGE-03.

1 **III. RATIONALE FOR THE PROPOSAL**

2 The Commission has established policies and programs with the intent of helping
3 Californians obtain safe, reliable, environmentally responsible natural gas and electricity.
4 Examples of such Commission policies and programs include the Renewable Portfolio
5 Standard,⁴ rooftop solar incentives,⁵ Net Energy Metering,⁶ Time of Use rates,⁷ and Electric
6 Vehicle goals.⁸

7 The Investor Owned Utilities (“IOUs”) have a significant role in implementing these
8 policies and programs. Their pursuit of these policies and programs often involves solving new
9 implementation challenges, which sometimes results in the development of IP and related
10 inventions. Through its implementation of various Commission policies and programs, SDG&E
11 has developed creative solutions in the areas of integrating renewables, electric vehicles, smart
12 grid and distributed energy resources technologies, as well as innovative operating methods to
13 deliver regulated electric distribution and transmission service within SDG&E’s service territory.

⁴ R.15-02-020, *Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program*. Established in 2002 under Senate Bill (“SB”) 1078 (Ch. 516), California’s Renewables Portfolio Standard (“RPS”) was accelerated in 2006 under SB 107 (Ch. 464), and SB X1-2 in 2011 (Ch. 1) set the RPS target at 33% by 2020. The RPS was expanded further under SB 350 in 2015 (Ch. 547) requiring retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030.

⁵ California solar-related legislation can be found at:
<http://www.gosolarcalifornia.ca.gov/about/gosolar/legislation.php>.

⁶ R.14-07-002, *Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering*. The Net Energy Metering Successor Tariff was mandated by Assembly Bill (“AB”) 327 (Ch. 611).

⁷ R.15-12-012, *Order Instituting Rulemaking to Assess Peak Electricity Usage Patterns and Consider Appropriate Time Periods for Future Time-of-Use Rates and Energy Resource Contract Payments*.

⁸ SB 350 (Ch. 547), R.13-11-007, *Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Programs, Tariffs, and Policies*.

1 Many of these solutions are best described as IP.⁹ SDG&E has received patents for its IP in the
2 fields of renewables integration, electric vehicles, and electric distribution safety and reliability.¹⁰

3 SDG&E customers benefit from the on-going deployment of many of these inventions
4 and IP within SDG&E's service territory through its operations.¹¹ Providing the IP and related
5 products to only those customers in SDG&E's service territory does not maximize the financial
6 potential of the IP and related inventions, however. Therefore, SDG&E is now looking at how to
7 best make these innovative products available beyond the SDG&E service territory. Most, if not
8 all, of the SDG&E IP is for products related to the energy industry. Other energy companies and
9 utilities may want, and benefit from, access to the IP. Commercialization of the IP and related
10 products and services to these potential customers could financially benefit SDG&E ratepayers
11 and shareholders. In addition, the beneficial effects of the Commission's environmental and
12 other policy goals could be spread throughout California and the country by adoption of
13 SDG&E's inventions by other utilities and energy companies.

14 Currently, SDG&E has two regulatory options to pursue IP sales opportunities outside of
15 its service territory. First, SDG&E can transfer the rights to the IP to third parties in exchange
16 for financial compensation, subject to Commission approval under Section 851. Second,
17 SDG&E can manufacture, market and distribute the IP product or service beyond its service

⁹ The term intellectual property refers to creations of the mind - creative works or ideas embodied in a form that can be shared or can enable others to recreate, emulate, or manufacture them. There are four ways to protect intellectual property - patents, trademarks, copyrights or trade secrets. (United States Property and Trademark Office website's glossary, available at: <https://www.uspto.gov/learning-and-resources/glossary#sec-i>).

¹⁰ Examples of SDG&E-developed IP include the Renewable Meter Adapter ("RMA") patent application 14/472,269, the falling conductor algorithm patent 9,413,156, and the smart transformer patent 8,024,077.

¹¹ For example, the RMA is offered under Rule 2 and the falling conductor protection is also available in SDG&E service territory.

1 territory using its own resources, subject to Commission approval of a Non-Tariffed Product and
2 Service Advice Letter. While both options provide SDG&E with the ability to commercialize the
3 IP, they also have their limitations.

4 For example, with the first option, SDG&E has pursued and in some cases, entered
5 agreements with third parties pursuant to Section 851 for some of its IP.¹² These agreements
6 have provided the prospect of financial compensation to SDG&E ratepayers and shareholders.
7 However, the pool of third parties that have the experience and desire to commercialize utility-
8 specific IP and related products is relatively small. In the past, SDG&E has been unable to
9 identify a viable third party to license certain IP, or has not received accepted offers for licensing
10 or sales of certain IP.¹³ In those cases, SDG&E has not been able to commercialize the IP, and
11 thus, its ratepayers have not been able to optimize their investment in the IP.

12 The second option – the commercialization of IP by an internal SDG&E department for
13 opportunities beyond SDG&E territory – also has its limitations. SDG&E operates within a
14 regulatory environment with a traditional focus on its duty to serve its customers. Managing
15 business development efforts, commercialization of IP and patents, and marketing and
16 distributing IP products nationwide are not core competencies or areas of current operational
17 focus for SDG&E. Commercializing IP directly could also increase the risk of potential
18 liabilities for both SDG&E ratepayers and shareholders.

¹² Examples include Advice Letter 2425-E (approved May 8, 2013) and Advice Letter 2982-E (pending approval).

¹³ For example, SDG&E has encountered situations where third parties value the IP differently (*i.e.*, less) than SDG&E or no acceptable offers by third parties materialized. SDG&E has also encountered situations where third parties made an acceptable offer, but then failed to complete negotiations for the IP licensing agreement. Finally, SDG&E has licensed certain IP to third parties, and those parties have discontinued operations or failed to perform in the market.

1 The limitations of both options have thus far frustrated SDG&E’s ability to derive
2 additional ratepayer and shareholder value from its IP. The NewCo Sub Proposal provides
3 several advantages over the two current commercialization options. The NewCo Sub can focus
4 on the niche area of IP and related products for utilities and energy companies to develop core
5 competencies in marketing and sales within and beyond SDG&E’s service territory.¹⁴ Because
6 the NewCo Sub will be a separate corporate entity from SDG&E, it may also help insulate
7 SDG&E ratepayers (and SDG&E) from liability risks associated with the IPs’
8 commercialization. It may also make SDG&E’s IP available to more consumers in California
9 and across the country to further Commission policies and goals. For these reasons, SDG&E is
10 pursuing a new option to commercialize the IP through a NewCo Sub company.

11 **IV. THE PROPOSAL IS CONSISTENT WITH COMMISSION POLICIES,**
12 **DECISIONS AND RULES**

13 While SDG&E recognizes that that the formation of the NewCo Sub for IP
14 commercialization is a novel concept, it also recognizes that it is supported by current
15 Commission policy. The Commission encourages and is supportive of innovations in the energy
16 industry. Notably, the Commission states that its mission includes “stimulat[ing] innovation, and
17 promot[ing] competitive markets, where possible”¹⁵

18 The Commission also recognizes that innovations are now challenging the utilities’
19 traditional business models and the Commission’s regulations of the industry. Commission
20 President Michael Picker has stated “. . . innovations in technology, new businesses, and new

¹⁴ The commercialization of certain IP by the NewCo Sub may result in sales back into SDG&E’s service territory in competition with the same product or service offered by SDG&E directly. SDG&E views this as a desirable outcome because it may enhance availability of innovative technology at competitive prices.

¹⁵ *About the California Public Utilities Commission (CPUC): Our Mission*, available at <http://www.cpuc.ca.gov/aboutus/> (last accessed March 21, 2017).

1 legislation are allowing consumers more choices that make it ever more difficult for us to
2 manage our regulatory responsibilities with the tools that we have.”¹⁶ Commissioner Picker has
3 suggested that part of the solution of trying to encourage innovation while adequately
4 compensating the utilities may be to allow utilities to compete against third parties.¹⁷

5 The Proposal is also consistent with Commission decisions and rules. For example, the
6 Commission has a rule that “... new products and services shall be offered through affiliates.”¹⁸
7 This Proposal is explicitly aligned with that rule. The Commission has also previously expressed
8 support for adopting policies that encourage innovation.¹⁹ Other components of the Proposal are
9 consistent with past Commission practices. For example, the Application seeks Commission
10 approval of a sharing mechanism between SDG&E ratepayers and shareholders for financial
11 compensation resulting from the licensing or sale of the IP rights to the NewCo Sub by SDG&E
12 that is the same as other Commission-approved sharing mechanisms for IP.²⁰

¹⁶ Introductory Remarks, CPUC President Michael Picker, January 15, 2015, meeting. See <http://www.sandiegouniontribune.com/news/watchdog/sdut-cpuc-picker-full-statement-2015jan15-story.html>

¹⁷ Commissioner Picker State of CPUC, CPUC Meeting 3391, January 19, 2017, available at: http://www.adminmonitor.com/ca/cpuc/voting_meeting/20170119/ (see video at 1:16:27). (“And we’re gonna have to really investigate new models for compensating the utilities for providing those remaining monopoly functions: the poles, the wires, grid management, billing services, some of the reliability services, legacy expenses. We’re gonna have to really understand now, because we’re not gonna just see them disappear. There’s no magic solution to everything that’s there on the horizon. Should we allow them to compete with third-party providers to actually offer some of these services through our affiliate transaction rules? All these things are being driven by technology, but they are hollowing us out at the same time they hollow out the utilities.”).

¹⁸ ATR VII.A. General Rule, p. 19.

¹⁹ D.11-05-018 at 62; D.16-12-065 at Finding of Fact 27; D.07-10-032 at 85-86.

²⁰ See Ex. SDGE-02.

1 **V. POTENTIAL BENEFITS OF THE PROPOSAL**

2 The NewCo Sub is designed to potentially provide benefits to many groups, notably
3 SDG&E ratepayers (through potential financial compensation from licensing or sale of IP),
4 society in general (through improvements in safety, grid reliability, and environmental benefits),
5 and other electric utilities and the energy industry marketplace (by making new technologies
6 more widely available in California and across the country).

7 The NewCo Sub has the potential to financially benefit SDG&E ratepayers. Licensing or
8 selling the IP to the NewCo Sub would create a new revenue potential. The Proposal is designed
9 to benefit SDG&E ratepayers by providing them with financial compensation for any IP rights
10 licensed or sold by SDG&E to the NewCo Sub.²¹

11 SDG&E ratepayers may receive this new financial benefit with limited risk. The NewCo
12 Sub would be funded by SDG&E shareholders. The separate legal entity status of the NewCo
13 Sub is designed to enable liability limits for SDG&E, and allow the NewCo Sub to assume risks
14 while limiting risk exposure for SDG&E ratepayers. The actual liability limitations would be
15 specific to each agreement: if SDG&E licenses or sells the IP to the NewCo Sub, then the
16 limitations of liability for SDG&E will be contained in the licensing or sales contract. The
17 Commission will have the opportunity to review the limitations of liability as part of the Section
18 851 filing process.

19 The Commission and society in general may benefit from SDG&E's innovations
20 becoming more commercially available through the NewCo Sub. The IP that SDG&E might
21 transfer to the NewCo Sub for commercialization could provide:

²¹ See Ex. SDGE-02.

- 1 • greater safety through smart grid technologies;²²
- 2 • better reliability through electrical distribution technologies;²³
- 3 • improved customer service for solar interconnections;²⁴
- 4 • environmental benefits;²⁵ and
- 5 • improved cyber security.²⁶

6 If the NewCo Sub could competitively offer IP products that provide the safety,
7 reliability, and environmental benefits mentioned above, other utilities and energy companies
8 may benefit from safer and more reliable operation.

9 **VI. CONCLUSION**

10 SDG&E is proposing to create a new unregulated subsidiary, the NewCo Sub, designed
11 to help commercialize SDG&E's innovative energy solutions for the potential benefit of SDG&E
12 ratepayers. SDG&E's IP has been developed in pursuit of Commission goals regarding safety,
13 grid reliability, environmental protections, customer service, and cyber security. The Proposal
14 would potentially benefit SDG&E ratepayers by creating the opportunity for financial
15 compensation from the commercialization of IP.

²² Such as the falling conductor protection technologies covered by U.S. patent 9,413,156 and patent application 15/213,223.

²³ Such as the smart transformer invention (U.S. patent 8,024,077) or non-conductive balloon materials (U.S. patent applications 14/067,878, 14/067,891, 15/094,916, and 15/094,884).

²⁴ Through methods such as the Distribution Interconnection Information System (DIIS) (U.S. patent application 14/622,359).

²⁵ Such as the RMA for customer-owned solar (U.S. patent application 14/472,269 and continuances and continuance in parts).

²⁶ Through mitigating spoof attacks on Global Positioning System (GPS) clocks, as covered by U.S. patent application 15/348,901.

1 For all the reasons stated above and in the concurrent SDG&E testimony, SDG&E
2 respectfully requests that the Commission approve SDG&E's requested relief, as stated in the
3 Application.
4

1 **WITNESS QUALIFICATIONS**

2 My name is David L. Geier. I am Senior Vice President of Electric Operations for San
3 Diego Gas & Electric Company (“SDG&E”). In my present position, I oversee the planning,
4 design and engineering of SDG&E’s distribution, transmission and substation facilities. I am
5 also responsible for operating the distribution and transmission grids.

6 I have held several previous management positions at SDG&E, including Vice President
7 of Electric Transmission and System Engineering, director of electric grid and distribution
8 services, manager of direct access implementation, and supervisor of several SDG&E operations
9 and facilities. Before joining SDG&E in 1980, I worked for Wisconsin Electric Power Co. in
10 Milwaukee. I hold a bachelor’s degree in Electrical Engineering and Power Engineering
11 curriculum from the University of Illinois, Urbana. I also hold a Master’s Degree in Electrical
12 Engineering and Computer Engineering curriculum from San Diego State University. I am a
13 registered professional engineer in California.

14 I have previously testified before the Commission.