Application: A.18-02-

Exhibit SDGE

Witness: Mayda Bandy

DIRECT TESTIMONY OF

MAYDA BANDY

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FEBRUARY 28, 2018

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DIRECT TESTIMONY OF MAYDA BANDY

I. INTRODUCTION

My testimony[1] describes San Diego Gas & Electric Company's ("SDG&E")'s proposed Energy Storage Incentive for the Expanded CARE[2] Pilot Program ("pilot program") serving low-income customers,[3] pursuant to Commission decision ("D.") 17-04-039[4] and Assembly Bill ("AB") 2868.

A. Pilot Program Overview

SDG&E proposes a $2 million, three-year pilot program designed to provide incentives for the purchase, installation and ongoing maintenance of up to 2 MW of energy storage to Expanded CARE facilities. One of the primary purposes of the program is to permanently shift load during peak periods. As outlined in a report by Clean Energy Group, California Housing

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1 References to "testimony" herein are to the prepared direct testimony served in support of this application.

2 California Alternative Rates for Energy ("CARE") helps-low income residential gas and electric customers afford their utility bills as outlined in Public Utilities ("P.U.") Code § 739.1. P.U. Code § 739.1(h)h added nonprofit facilities, where low-income ratepayers reside, to the CARE eligibility criteria (this modification for nonprofits is often referred to as "Expanded CARE," hence the pilot program's name). CARE provides a discount of 30-35% off a customer's total bill for low-income customers with annual household incomes no greater than 200% of the federal poverty guidelines (P.U. Code §§ 739.1(a) and (c)(1).

3 To identify eligibleparticipants, SDG&Eused the CARE program"low-income" criteria outlined in P.U. Code § 739.1, which defines low-income as households with income no greater than 200% of the federal poverty guidelines. Those eligible for this pilot program also meet the criteria set forth in AB 1550, as defined in the testimony of Stephen T Johnston. For illustration purposes, the two income guidelines are compared: to be eligible for Expanded CARE, a household of 1-2 must make $32,480 or less (*see* http://www.cpuc.ca.gov/General.aspx?id=976) and under AB 1550, a household of 1-2 must make less than $54,400 (*see* https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/hcd_2016_lowincome_limits.pdf)

4 D.17-04-039, *Decision on Track 2 Energy Storage Issues* (May 8, 2017).

Partnership, and the Center for Sustainable Energy,[5] additional incentives for storage are needed, and without them low-income customers will not be able to obtain energy storage and the benefits of resiliency, despite efforts to reserve funds for their use in programs such as the Self-Generation Incentive Program ("SGIP").[6]

Expanded CARE facilities include transitional housing (drug rehabilitation, half-way houses), short or long-term care facilities (hospice, nursing homes, children's and seniors' homes), group homes for physically or mentally disabled persons, or other nonprofit group living facilities. SDG&E's proposed pilot program is designed to complement and serve participants of the California Solar Initiative ("CSI") Multifamily Affordable Solar Housing ("MASH") program[7] and Solar on Multifamily Affordable Housing ("SOMAH") program.[8] SDG&E's proposed incentive would accelerate energy storage deployment at these Expanded CARE

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[5] Clean Energy Group, *et al.*, *Closing the California Clean Energy Divide: Reducing Electric Bills in Affordable Rental Housing with Solar + Storage* (May 2016). Available at: https://www.cleanegroup.org/wp-content/uploads/Closing-the-California-Clean-Energy-Divide.pdf

[6] SGIP offers incentives in a multi-step process to support existing, new, and emerging distributed energy resources. The incentives are geared for behind-the-meter and limited to qualifying technologies such as: wind turbines, waste heat to power technologies, pressure reduction turbines, internal combustion engines, microturbines, gas turbines, fuel cells, and advanced energy storage systems.

[7] The MASH program (http://www.cpuc.ca.gov/general.aspx?id=3752) is an incentive for solar distributed generation designed for qualifying affordable housing, as defined in P.U. Code § 2852. The MASH incentive was designed to cover a substantial amount of the costs of installing solar. D.08-10-036 and D.15-01-027 implemented the statutory program criteria and funding. The MASH program is now closed to new participants. D.17-12-022 established SOMAH as a successor program.

[8] The SOMAH program is a solar distributed generation project incentive for multi-family affordable housing sites designed to ensure benefits from solar generation, especially bill credits, are received by tenants. SOMAH was established by AB 693 and implemented by D.17-12-022. SOMAH is funded with GHG allowances from the investor-Owned Utilities ("IOUs"). SOMAH is a successor program to MASH with different funding sources, rules and eligibility.

facilities. SDG&E requests Commission approval of a $2 million budget with a $75,000 per project cap for up to 2 MW.

The following is a summary of SDG&E's proposed pilot program:

1. SDG&E proposes an incentive of $1.20/Watt hour to accelerate energy storage deployment at Expanded CARE facilities. The incentive will be capped at $75,000 or eligible costs consistent with SGIP (whichever is less) per facility to address the up-front costs of installation labor as well as the ongoing maintenance of the energy storage system for 10 years;

2. SDG&E proposes a $2 million budget for the three year pilot program for up to 2 MW. Under this budget, approximately 24 Expanded CARE facilities could participate; and

3. SDG&E anticipates issuing a solicitation to identify a third-party implementer to administer a turnkey solution for this pilot program

B. Eligible Participants

SDG&E's customer pilot program proposal is designed to provide incentives for energy storage to Expanded CARE facilities, who purchase energy storage to permanently shift load during system peak periods.[9,10] There are 683 Expanded CARE accounts in SDG&E's service area consisting of more than 100 unique customers.[11] Of the 683 accounts, 14 are in Orange County and 669 are in San Diego County; 285 are in the inland and mountain climate zones, and more than 80 are in disadvantaged communities as defined by CalEnviroScreen 25% most affected census tracts statewide.

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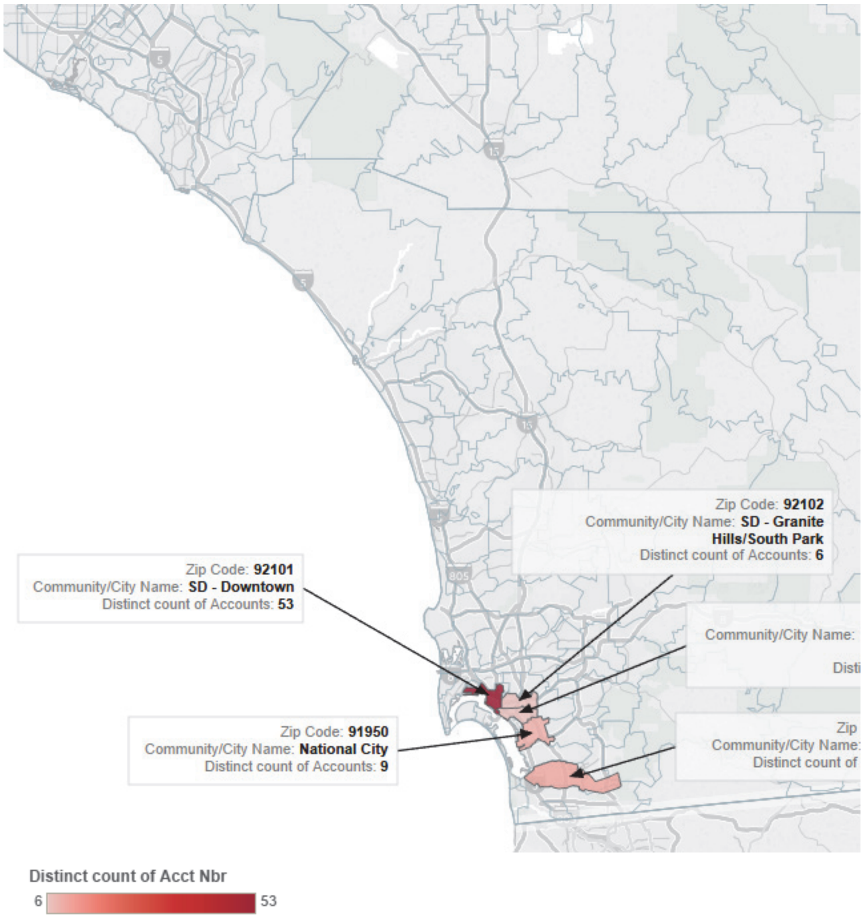
[9] *See* D.17-12-022 at 21 (original emphasis) ("To ensure that the SOMAH Program is consistent with our overall NEM policies, we continue the mandatory TOU requirement for *common area accounts* participating in the SOMAH Program to encourage property owners to participate in additional energy efficiency, demand response, and other energy management activities").

[10] Pairing with SOMAH is not required, but taking service under a TOU rate will be required for common areas consistent with the SOMAH requirements, regardless of participation in SOMAH.

[11] SDG&E Billing Data Extract dated December 5, 2017.

Figure 1 - Expanded CARE within Disadvantaged Communities



Community/City Name	Number of Accounts
Chula Vista	10
National City	9
SD - Downtown	53
SD - Granite Hills/South Park	6
SD - Southcrest/Logan Heights	6

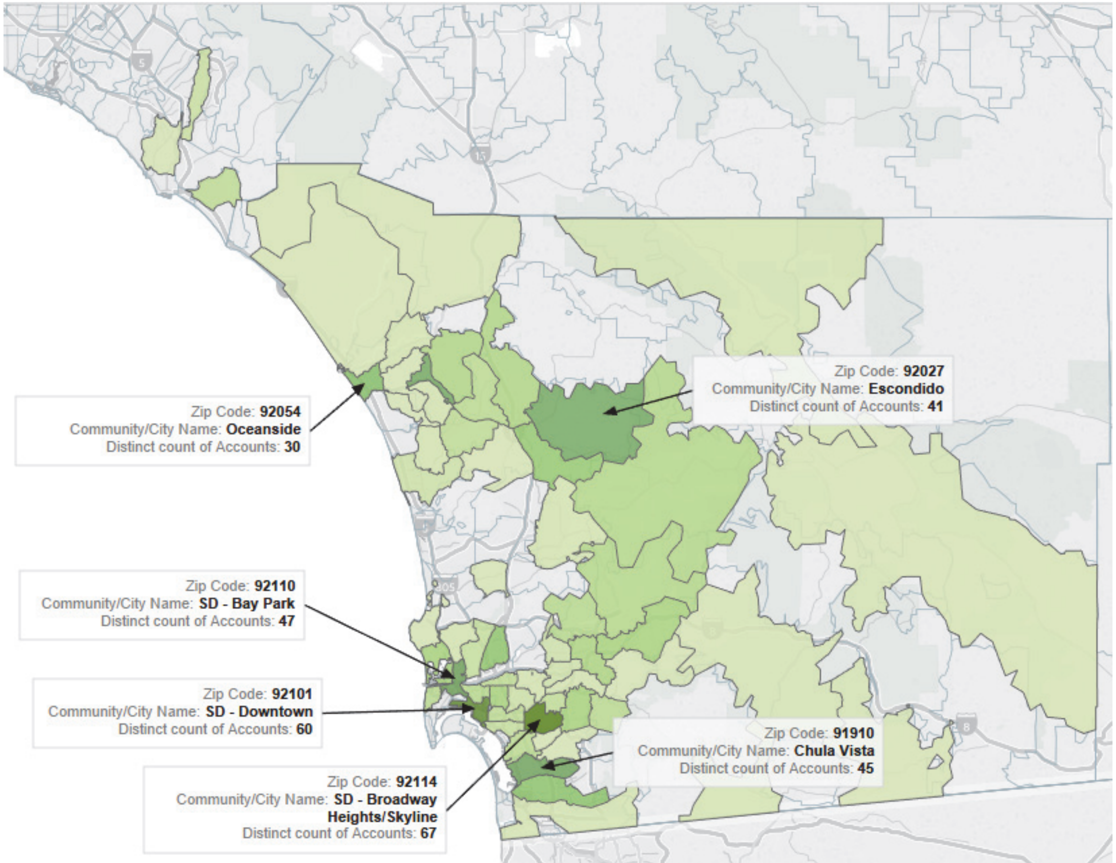
The breakout of eligible accounts by climate zone and concentration of sites by geographical area is provided as follows:

Eligible Expanded CARE Accounts by Climate Zone in SDG&E

Climate Zone	Number of Accounts
Inland	280*
Mountain	5**
Coastal	399
Total	683

*Includes sites in Escondido, Ramona, El Cajon and Lakeside
**Includes sites in Warner Springs, Campo, Julian and Alpine

Figure 2 - Expanded CARE Accounts in SDG&E Service Area



Some of the fire-prone areas in San Diego County such as Campo, Fallbrook, Warners Springs and Julian have Expanded CARE facilities that would be eligible for the pilot program.

The eligible Expanded CARE facilities are not homogenous and are served under various rates depending on their classification. These facilities are classified as both residential and/or commercial and hence, some may or may not have demand charges, grandfathered peak periods and other intricacies associated with their accounts. When evaluating potential eligible participants, an analysis will need to be conducted to identify those who would most benefit from the pilot program. Of the 683 accounts, 100 accounts are already taking service on a Net Energy Metering ("NEM") rate and would also be eligible to participate.

The usage profile for the Expanded CARE facilities varies, depending on the type of services they offer to low-income customers in addition to housing. Average monthly kW and monthly kWh for the eligible facilities are 11.7 kW and 2,928 kWh, respectively. The optimal size for storage for each customer will depend on peak usage, existence of demand charges, and rates utilized.

C. Eligibility Criteria

To be eligible for the pilot program, SDG&E proposes the following criteria to minimize the burden on ratepayers and ensure that funds are maximized:

- ✓ Must be able to pair energy storage with an existing or new solar system;
- ✓ For new solar installations, must be a participant in MASH or SOMAH,[12] which requires: an energy efficiency audit, tenant notifications regarding the Energy Savings Assistance Program ("ESA"),[13] allocation of bill credits to tenants, and adherence to the low-income rental definition in P.U. Code § 2852;
- ✓ Must take service under TOU rate for common areas.

D. Program Budget

SDG&E proposes a budget of $2 million for the pilot program to be spent over a 3-year period. There are total of 683 eligible accounts. For purposes of the pilot program, SDG&E intends to target approximately 24 accounts, which is roughly 4% of the eligible accounts in SDG&E's service territory to identify best practices, current costs, calibrate incentives and scaling, and to determine whether expanding the pilot program is a viable option for Expanded

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[12] Existing installations do not require participation in MASH or SOMAH.

[13] The ESA Program provides no-cost weatherization and energy efficiency upgrades to reduce bills and improve health, comfort and safety for eligible customers who meet the same criteria as the CARE program. *See* http://www.cpuc.ca.gov/esap/

CARE facilities. It is anticipated that costs for storage will continue to decline as production of energy storage expands, resulting in lower costs and the ability to serve more customers.

SDG&E proposes a $1.20/Wh incentive, in addition to the Investment Tax Credit ("ITC"),[14] to cover the full cost of energy storage for Expanded CARE facilities. The costs used to calculate the proposed incentive along with other key assumptions were obtained from the report *Closing the California Clean Energy Divide: Reducing Electric Bills in Affordable Rental Housing with Solar + Storage*.[15]

SDG&E's proposed incentive assumes that SGIP funds will not be available to its pilot program participants, as stated in Section 3.2.6 of the SGIP Statewide Handbook:[16]

> For other incentives funded 100% by Investor-Owned Utility (IOU) ratepayers, the total SGIP incentive will be reduced by the full amount of the other incentive.[17]

SDG&E sought clarification regarding this rule from the SGIP working group, which verified that SDG&E pilot program participants would likely be subject to this handbook provision, and

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14 The ITC is a 30% tax credit via the United States Internal Revenue Service for solar, battery storage, fuel cells and wind. *See* https://energy.gov/savings/business-energy-investment-tax-credit-itc

15 *See* n. 5, *supra*.

16 Center for Sustainable Energy, *et al*., *Self-Generation Incentive Program Handbook* (December 18, 2017) at 30. Available at https://www.selfgenca.com/home/resources/

17 This section of the Commission-approved handbook is consistent with D.04-12-045, which states : "The Working Group makes the observation that current rules permit projects to receive funding from multiple sources. Such incentives are available from several agencies and organizations. Because we herein eliminate the maximum percent of eligible project costs, we need to address how the incentives adopted herein will be calculated where a project receives other funding. We agree with the Working Group's recommendations to calculate the SGIP as a 'last rebate' applied after taking into account any other rebates and that total rebates cannot exceed the payments made by the system owner to purchase the system. We also agree that where a project accepts payments based on future performance, the project should not be granted SGIP payments. These restrictions are intended to protect ratepayers from paying projects more than they cost, and to assure that funding is available to promote as many projects as possible. We ask the Working Group to monitor SGIP payments to projects that receive other incentives, and to recommend changes, if any, to the rules that protect ratepayers and funding sources while continuing to promote development of good projects". *Id.*, section 3.3 at 10.

therefore SDG&E would not be able to leverage SGIP incentives for its pilot program. As a result, SDG&E has proposed an incentive that assumes the absence of SGIP funding.

The distribution between incentive and non-incentive budget for the pilot program is proposed at 87.2% and 12.8% respectively, leaving $1,745,000 for incentives and $255,000 for administration, marketing and workforce education and training. The proposed administration cap of 10% of the budget is consistent with the administrative cap used in other proceedings such as energy efficiency.[18] The costs for marketing and workforce education and training are under 3% of the project costs. Table MB-1 summarizes the budget inputs and assumptions:

Table MB – 1 - Expanded CARE Energy Storage Pilot

Estimated Expanded CARE Energy Storage Pilot Budget			
Estimated Total Budget	**$**	**2,000,000**	**3 years**
Incentive Budget	**$**	**1,745,000**	**87.2% of Budget**
Non Incentive Budget	**$**	**255,000**	**12.8% of Budget**
Administration	*$*	*200,000*	*10% of Budget*
Marketing	*$*	*25,000*	*1.3% of Budget*
Workforce Education & Training	*$*	*30,000*	*1.5% of Budget*
Incentive (Up to)	$	1.20	/Wh
Avg Storage Capacity/Project		30	kW
SDG&E Incentive Cap	$	75,000[19]	/project
Estimated Proposed # of Installations		24	of Installations

SDG&E is proposing to recover the costs for the pilot program through SDG&E's Public Purpose Programs ("PPP") surcharge. Since PPP funds are designed for programs that meet low-income objectives among other objectives,[20] SDG&E believes recovery of the costs for the

18 D.09-09-047 established a 10% cap for IOU administration activities in energy efficiency.

19 Not to exceed SGIP eligible costs or $75,000, whichever is less

20 *See* P.U. Code § 381, 382(e) and (f).

pilot program should be through the PPP surcharge. The authorized revenues and costs associated with the pilot program will be recorded in a balancing account as described in the testimony of Norma G. Jasso. The rate recovery for the pilot program is described in the testimony of Kellen C. Gill. The term of the recovery is 2019 – 2021. Should a decision on this proceeding be delayed, modifications to the recovery period would be necessary.

E. Administration, Marketing & Workforce Education & Training

SDG&E proposes to allocate 12.8% of budgeted funds towards administration, marketing and workforce education and training to support the pilot program. As outlined in the budget section, the estimated budget for the three categories are as follows:

Estimated Non Incentive Budget[21]	**$**	**255,000**	**12.8% of Budget**
Administration	*$*	*200,000*	*10% of Budget*
Marketing	*$*	*25,000*	*1.3% of Budget*
Workforce Education & Training	*$*	*30,000*	*1.5% of Budget*

Marketing will be focused to the eligible customers (683 accounts) and will be conducted by SDG&E's Marketing & Communications team, in collaboration with the selected provider, to maximize efficiency. Marketing efforts will likely include email, flyers and direct outreach. Workforce education and training can be administered by SDG&E or outsourced, or by a combination. The goal for workforce education and training is to develop an energy storage training module for the pilot program. SDG&E intends to provide 1-2 classroom trainings to the community within and surrounding the Expanded CARE facility sites in the first year and leverage local partners. Additionally, SDG&E plans to integrate the training with existing SOMAH training to maximize efficiency.

[21] Breakout values between administration, marketing and workforce, education and training are estimates and may need to be modified in the future.

SDG&E anticipates issuing a solicitation to identify a third party implementer to administer the pilot program as a turnkey solution. The desired third party implementer will possess experience with energy storage installations in the residential sector and preferably have experience working with multifamily and/or nonprofits. SDG&E will work with the third party implementer to develop processes and procedures, outreach and marketing efforts, coordinate workforce education and training, identify data collection protocols, conduct reporting and reviews of applications. Furthermore, SDG&E will also ensure that the SDG&E Single Point of Contact for multifamily sites provides any and all other available resources and additional benefits to the customer. The desired third party implementer will also focus on pairing energy storage installations with solar and simplifying the process for customers. A third party implementer would be allowed to propose a turnkey solution that includes revenue streams as long as the following are adhered to:

- Bill savings are passed on to tenants and landlords; and
- Changes do not impact or require modifications to SDG&E's billing system

It is anticipated that seven to eleven months will be needed to initiate the program after a final decision by the Commission. The proposed schedule is:

Milestones	Timeline
Issue Request for Abstracts (RFA)	1-2 Months After CPUC Approval
Issue Request for Proposals (RFP)	1-2 Months After RFA
Sign Contract with Third Party Implementer	3-4 Months After RFP
Initiate Program	2-3 Months After Contract Signature

II. SDG&E'S PROPOSED PILOT PROGRAM ALIGNS WITH AB 2868 CRITERIA

SDG&E's proposed pilot program supports AB 2868's goal to accelerate the widespread deployment of distributed energy storage systems[22] by providing capacity behind-the-meter[23] and prioritizing low-income customers.[24] The pilot program targets Expanded CARE facilities that serve multifamily, low-income customers. The pilot program provides financial incentives for these facilities to deploy energy storage on the customer's side of (*i.e.*, behind) the meter. The pilot program requires these facilities to have renewable solar generation installed at the site where the energy storage will be deployed. This eligibility criteria incentivizes the deployment of renewable energy generation combined with energy storage, which can provide the following benefits, depending on how the energy storage is managed:

- reducing greenhouse gas ("GHG") emissions by only charging the energy storage from behind-the-meter renewable generation (primarily solar), which reduces GHG emissions from generation elsewhere; and
- reducing dependence on petroleum and meeting air quality standards for multi-family facilities that might otherwise use diesel or petroleum-based backup generators.

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[22] AB 2868, *codified at* P.U. Code § 2838.2(b) states, in part: "The commission, in consultation with the State Air Resources Board and the Energy Commission, shall direct the state's three largest electrical corporations to file applications for programs and investments to accelerate widespread deployment of distributed energy storage systems to achieve ratepayer benefits, reduce dependence on petroleum, meet air quality standards, and reduce emissions of greenhouse gases."

[23] P.U. Code § 2838.2(c)(2) ("No more than 25 percent of the capacity of distributed energy storage systems approved for programs and investments pursuant to this section shall be provided by behind-the-meter systems").

[24] P.U. Code § 2838.2 (d)(2) ("The commission shall prioritize those programs and investments that provide distributed energy storage systems to public sector and low-income customers").

SDG&E's pilot program for AB 2868 is also consistent with California Solar Energy Industries Association's written comments provided during the AB 2868 workshops,[25] including the following:

> One of the goals of AB 2868 implementation should be to provide funding for storage projects in coordination with AB 693 solar projects. AB 693 projects will seek out multi-family low-income projects and providing for storage simultaneously would be an efficient use of ratepayer funds.[26]

SDG&E's pilot program proposal also addresses the economic barriers for energy storage adoption and prioritizes reducing peak loads for low-income customers during peak periods which in turn reduces costs. The pilot program is designed to complement and serve participants of the CSI MASH and SOMAH Programs. Pairing the pilot incentives with SOMAH will ensure that bill credits are accrued primarily to tenants in affordable housing, subsequently reducing the CARE subsidy funded by other ratepayers. Allowing MASH customer participation will ensure that solar energy produced by their solar installations offsets customer costs during peak periods. The leveraging of these programs along with the SDG&E incentive focus on alleviating pressure on the grid during peak periods and decreasing customer energy costs.

III. WORKSHOP PROCESS AND STAKEHOLDER FEEDBACK

SDG&E participated in three workshops that allowed for industry and stakeholder input and feedback regarding potential areas of focus for AB 2868 investment and programs. The

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[25] *See* D.17-04-039, ordering paragraphs 2 and 3 at 67 (ordering the three investor owned utilities ("IOU's") to: "… host a minimum of two workshops by the end of 2017 for the parties to discuss and develop consistent definitions of terms, proposals for how to evaluate projects against the statutory criteria, and their plans for incorporating distributed energy storage systems into their 2018 energy storage procurement and investment plans" and "host a preview session of their 2018 applications in December 2017 to describe their 2018 procurement and investment plan for distributed energy storage systems, with specific emphasis on how feedback from the workshops was incorporated").

[26] California Solar Energy Industries Association, *Comments on the September 14, 2017 AB 2868 Implementation Workshop* (October 2, 2017) at 4, section II, Low-Income Customers.

workshops and comments from stakeholders helped develop consistent definition of terms, proposals for how to evaluate the projects against the statutory criteria, and plans for incorporating the proposed programs and investments for distributed energy storage systems in our energy storage and investment plans. Relevant feedback to the proposed pilot program highlighted in our preview session included:

- Maximizing ratepayer benefits is the most important statutory factor;[27]
- The roll-out of Energy Storage is critical to support California's GHG reduction goals;
- Low-income multi-family dwellings are hard to reach for energy storage; and
- Further support for low-income is suitable for utilities to offer.

SDG&E believes it has incorporated this feedback into the proposed pilot program proposal.

IV. CONCLUSION

With its $2 million Energy Storage for the Expanded CARE pilot program, SDG&E looks to close the gap for low income customers looking to attain resiliency and to reduce energy costs by pairing energy storage and solar. The $1.20/Wh incentive makes energy storage viable for low-income, Expanded CARE facilities. Although SDG&E's pilot program proposal is modest in terms of MW subscription (up to 2 MW), it intends to provide unique test cases and a model for expansion of this pilot at Expanded CARE sites that help seniors, homeless and other customers in need.

SDG&E respectfully requests that the Commission approve its pilot program proposal described in this testimony. This concludes my prepared direct testimony.

[27] SDG&E's AB 2868 Preview SessionPresentation.

V. STATEMENT OF QUALIFICATIONS

My name is Mayda Bandy. I am the Residential Customer Programs Manager within the Customer Services Department at San Diego Gas & Electric, located at 8335 Century Park Court, San Diego, CA 92123. My management portfolio includes: CARE, FERA, Medical Baseline, Energy Efficiency, Behavioral Programs, Green Tariff Shared Renewables, and the Energy Savings Assistance Program. I began work at SDG&E in June of 2011.

I graduated from Georgetown University with a Master of Arts in Public Policy/ Management and graduated from the University of California, Los Angeles (UCLA) with a Bachelor of Arts Degree in History and Minor in Public Policy.

I began my career as a research assistant in the Department of Geriatrics at UCLA. After graduating from UCLA, I served as the Policy and Budget Analyst for the Mayor of Los Angeles where I oversaw policy and budget for the city's General Services Department, Planning Department and the Commission on the Status of Women.

After earning a Master's Degree in Public Policy, I acquired expertise in water resource planning, conservation and efficiency while working at the San Diego County Water Authority as a Senior Water Resource Specialist. I have been with SDG&E for six years and worked on energy efficiency and demand response in the non-residential sector as well as worked on energy efficiency, renewables, bill assistance and low-income programs in the Residential sector.

I have not previously testified before the California Public Utilities Commission.