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Staff Workshop on Grid Modernization Research

Additional submitted attachment is included below.



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August 25, 2023

California Energy Commission Docket Office
1516 Ninth Street
Sacramento, CA 95814-5512
Docket #23-ERDD-01: Grid Modernization Research Scoping Workshop

RE: San Diego Gas & Electric Company Comments on the Grid Modernization Research Scoping Workshop

Dear California Energy Commission Staff:

San Diego Gas & Electric Company (SDG&E) appreciates the opportunity to submit comments regarding the July 21, 2023, Grid Modernization Research Scoping Workshop for the Electric Program Investment Charge (EPIC) program. Within the workshop, California Energy Commission (CEC) Staff asked for input to inform the solicitation development which will accelerate technology advancements to meet Senate Bill (SB) 100 goals. Within the workshop, staff specifically asked what research gaps or technology advancements should be prioritized to enhance grid reliability, resiliency, and flexibility to meet the SB 100 goals.¹ As the operator of the distribution grid, SDG&E offers a few recommendations. Below are the three gaps that should be prioritized to enhance the grid to meet the SB 100 goals:

a. Grid Reliability

As noted in SDG&E's Test Year 2024 General Rate Case Grid Modernization Plan, as of April 2022 one in six households in SDG&E territory represent a distributed energy resource (DER) installment.² As noted in Southern California Edison's (SCE) presentation at the workshop, the distribution system is evolving from one-directional power flow (source to load) to bi-directional power flow (source anywhere in the distribution circuit).³ To support independent DER proliferation and enhance reliability, SDG&E plans to modernize and innovate to maintain a safe and reliable grid.

¹ Grid Modernization Research Scoping Workshop presentation at slide 17.

² SDG&E 2024 General Rate Case Prepared Direct Testimony of Tyson Swetek, Appendix C at 1: Grid Modernization Plan Overview: https://www.sdge.com/sites/default/files/regulatory/SDGE-12-R-E_Errata_Revised_Direct_Testimony_of_Tyson_Swetek_Elec_Dist_OM_0.pdf.

³ SCE presentation: *CEC Grid Modernization Research Workshop* at slide 2.

Independently operating DERs versus those participating in aggregation require increased investments to forecast behavior, and to ensure proper communication and cyber security checks are in place. Greater research and technology advancements in independent DER integration is critical to maintaining an innovative and safe grid, and should be prioritized to meet SB 100 goals. For example, as solar penetration increases, there needs to be a way to control the generation to the grid and maintain a universal communication protocol for ease of operation. There is also a need to keep costs low. Researching new technological advancements to extend the life of assets, diversifying the resource types and reducing maintenance costs would enhance affordability for customers.

b. Electric Vehicles

Below is noted the gaps or technology advancements that should be prioritized to enhance grid reliability regarding electric vehicles (EV):

- EV customers' charging dynamics need to be researched to manage the load;
- The need for additional R&D for automated load management systems and cyber security applications;
- Electrifying the medium-duty/heavy-duty (MD/HD) fleet;
- Building out California's EV charging infrastructure to make it reliable and accessible.

c. Mobile Homes

Additionally, SDG&E finds that there could be an advancement to prioritize grid resiliency to meet SB 100 goals by addressing electrification in mobile homes to focus on transitioning these residences from gas to electricity use. Mobile homes could be considered a "hard to reach" electrification effort and research into how to propel this forward and make it affordable could be insightful and beneficial in finding a feasible, equitable, and sustainable solution.

Conclusion

SDG&E appreciates the opportunity to comment on the CEC's EPIC Grid Modernization Research Scoping Workshop. SDG&E is available to support CEC and can be available to answer additional questions.

Sincerely,

/s/ Cynthia Carter

Cynthia Carter
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