BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of San Diego Gas & Electric Company (U902E) for Approval of SB 350 Transportation Electrification Proposals.

APPLICATION 17-01-020
(Filed January 20, 2017)

RESPONSE OF ENVIRONMENTAL DEFENSE FUND TO APPLICATION OF SAN DIEGO GAS & ELECTRIC COMPANY (U902E) FOR APPROVAL OF SB 350 TRANSPORTATION ELECTRIFICATION PROPOSALS

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I. INTRODUCTION

Environmental Defense Fund (EDF) thanks the California Public Utilities Commission (CPUC or Commission) for the opportunity to submit comments on the three separate utility applications – A. 17-01-020,¹ A. 17-01-021,² and A. 17-01-022 (Applications).³ Because there are overarching considerations that are applicable to all three applications, EDF submits comments that address considerations applicable to all three utility proposals, along with comments more specifically tailored to each application.

EDF is in strong support of the projects in the proposed transportation electrification (TE) proposals that, as a whole, make important no-regrets progress toward meeting greenhouse (GHG) caps. EDF’s primary points on the Applications are as follows:

1. Plans must more adequately consider benefits to and impacts on disadvantaged communities, as it is not currently clear that the proposal plans will facilitate increased access of TE resources in these communities;

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2. Utilities must go beyond a simple time-of-use (TOU) rate, and consider a more dynamic rate in order to prevent a price signal that does not adequately reflect grid conditions or successfully integrate renewable energy;

3. All three plans should be exploring vehicle-to-grid integration (V2G);

4. The utilities must give more detail as to their marketing, education, and outreach (ME&O) plans;

5. More detail about other sources of funding being leveraged should be given; and

6. The utilities should put more of a focus on installation of DC Fast Chargers (DCFCs).

As a threshold procedural matter, EDF asks the Commission for clarity on how they envision the “priority review” project approval process. In the ruling that lays out the process and requirements for these applications, it states that priority review projects deserve a “fast track review” process in order to “help expedite the authorization of certain non-controversial projects and investments to accelerate the adoption of TE [transportation electrification] to meet the goals of SB 350.” However, “non-controversial” can be interpreted a variety of ways, and may lead to unwarranted scrutiny of projects that could have important lessons for and impacts on advancing the promulgation of electric vehicles (EVs) in the state. As such, EDF contends the Commission should not preclude expedited review on any of the short-term projects proposed by the utilities, given that they all comply with the Commission’s cost and timeline requirements. Put another way, a project should not be denied on the off-chance that it could be classified as controversial by a given party.

II. OVERARCHING COMMENTS ON THE UTILITY APPLICATIONS

In general, EDF applauds the utilities for pulling together Applications that show ingenuity and a commitment towards advancing change in a sector that is critical to achieving important

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climate and clean energy goals – as San Diego Gas & Electric (SDG&E) aptly states, and which is echoed by both Southern California Edison (SCE)\(^5\) and Pacific Gas & Electric (PG&E),\(^6\) “…as reflected in SB 350, if California’s aggressive GHG reduction goals are going to be met, development of transportation electrification throughout the State is one of the immediate steps that must be taken.”\(^7\)

However, there are gaps that should be filled across multiple applications:

1) **Disadvantaged communities should be considered more robustly.**

SDG&E goes further than SCE and PG&E in its consideration of disadvantaged communities (DACs), in going beyond the requirement embedded into Senate Bill 535 requiring 10% of cap and trade revenue to be put into programs located in DACs. Indeed, it doubles the 10% minimum set forth in its EV pilot, “proposing to reserve 20% of the program’s enrollment to customers living in DACs” in its Residential Charging Program.\(^8\) However, it is not clear how other programs proposed by SDG&E are designed to facilitate “increased access for disadvantaged communities,”\(^9\) as required by Senate Bill (SB) 350. For example, SDG&E lists “GHG reduction benefits…resulting in air quality benefits for DACs and surrounding areas”\(^10\) as an anticipated outcome for both their “Fleet Delivery Services” and “Green

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\(^7\) Application of San Diego Gas & Electric Company (U902E) for Approval of SB 350 Transportation Electrification Proposals, A. 17-01-020 at 5 (Jan. 20, 2017).


\(^9\) California Public Utilities Code Section 740.12(a)(1).

Taxi/Shuttle/Rideshare” priority review projects. However, it is not clear how these benefits will be achieved – focusing on, for example, “delivery vehicle hubs that are located within or adjacent to DACs”\(^{11}\) does not present a strong enough assurance that these communities will receive the advertised positive impacts.

Similarly, PG&E states its “program also aims to increase access to EV charging infrastructure in disadvantaged communities through targeted incentives and programs,”\(^{12}\) and SCE, through its light-duty sector-focused projects, states it “will specifically target customers in disadvantaged communities to invite them to participate in the pilot.”\(^{13}\) These goals and aims are attractive on their face, but little detail is given as to how these utilities will actually pursue deployment in these communities. As such, EDF would like to see a concrete commitment to a minimum deployment percentage where appropriate – similar to SDG&E’s proposal, but expanded more broadly throughout the different projects.

2) **PG&E and SCE should use dynamic rates in order to effectively integrate renewable energy, and should provide locational incentives based on findings from locational net benefits analysis studies.**

One of the central tasks set forth in Commission guidance to inform these applications is the idea that “rate design proposals should encourage TE charging to maximize the use of renewable energy or to charge at times that resolve conflicting capacity constraints at the transmission and


distribution levels." EDF believes this will be efficiently and equitably accomplished with dynamic rates that reveal variation in utility service costs in time and place. Whereas locational marginal prices (LMPs) reveal real time differences in energy prices, long term locational benefits of distributed energy resources are only revealed in costs pertaining to the transmission and distribution systems. Therefore, a second pricing component, reflected perhaps as subsidies or fees, will be based on findings from investor-owned utility (IOU) locational net benefits analyses (LNBA).\textsuperscript{15}

In its Application, SDG&E puts forth a variation of the vehicle-grid integration (VGI) dynamic rate first put forth in their EV pilot,\textsuperscript{16} a move that SDG&E makes to ostensibly “reflect cost-causation principles and support the deployment of…EVs in such a manner that ‘should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions.’”\textsuperscript{17} With certain exceptions to account for applications that will not be separately metered, SDG&E will implement some form of dynamic rate.\textsuperscript{18} As EDF has said in the past, there is abundant evidence suggesting that a dynamic rate is the best way to affect the directive referenced in the paragraph above. Such a price signal has the ability to provide a more

\textsuperscript{14} Assigned Commissioner’s Ruling Regarding the Filing of Transportation Electrification Applications Pursuant to Senate Bill 350, Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Programs, Tariffs, and Policies, R. 13-11-007 at 20 (filed Sep. 14, 2016).
\textsuperscript{16} Application of San Diego Gas & Electric Company (U 902-E) for Authority to Implement a Pilot Program for Electric Vehicle-Grid Integration, A. 14-04-014 at 1 (filed Apr. 11, 2014).
\textsuperscript{18} Id. at 5-6.
strengthened grid by rewarding flexibility, particularly important as we pursue a 50% Renewable Portfolio Standard (and potentially a 100% renewable standard)\textsuperscript{19}.\textsuperscript{20}

Given that flexibility will be needed to integrate variable renewable generation in a least-cost manner, it would behoove SCE and PG&E to follow a similar path for rate design. While SCE makes progress in setting a super-off-peak window during the winter and summer that is designed to facilitate the integration of solar that is abundantly available in the day-time, as well as to facilitate charging when demand is lower, a more sophisticated approach is appropriate. As well, PG&E’s plan to continue the same time-of-use (TOU) rate design that they currently have in place\textsuperscript{21} does not reflect the changing needs of a grid – and should be updated, if not to the level of granularity that SDG&E proposes, in a way that better reflects the need to integrate more renewable energy by shifting time periods.\textsuperscript{22}

In the alternative, if the utilities’ respective rate designs are kept in place, EDF requests a much more robust discussion of load management plan. As stated in a study by MJ Bradley, benefits can “accrue to all electric utility customers in these states due to increased utilization of grid assets and PEV charging load management through off-peak charging…off-peak charging reduces the need for distribution system upgrades and avoids investments in additional peaking

\textsuperscript{19} Senate Bill 584 (de León, 2017), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB584.
\textsuperscript{22} Clyde Loutan, \textit{et al.}, \textit{CAISO’s proposed TOU periods to address grid needs with high numbers of renewables}, California Independent System Operator, Slide 6 (Feb. 26, 2016).
capacity.” This could take the form of what SDG&E had in their EV pilots, in which load management plans satisfactory to the utility were required if the driver did not receive a dynamic price signal. As an example relevant here, for those projects of SDG&E that will not be separately metered, EDF urges SDG&E and the Commission to require alternate proof of adequate load management.

3) **All three utilities should explore V2G.**

A topic that is a glaring omission across all three utility applications is further exploration of V2G capabilities. While managed charging is critical for ensuring that EVs are a benefit to the grid – and to the environment – the utilities should be striving to go farther. V2G – by actually dispatching energy back to the grid, can further facilitate the ability of renewables to replace traditional forms of energy, and therefore help ensure a cleaner, more reliable grid. As well, if customers can receive revenue for their contribution to the grid, such payment could offset the still high upfront cost of EVs, a major barrier preventing more adoption. Such a focus is particularly timely, given the inclusion of V2G in the recently released California Air Resources Board Scoping Plan Update.

However, much more research and development of V2G capabilities needs to be conducted. Drawing on and furthering research being conducted by the United States Air Force in Los

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Angeles on how to effectively integrate this dispatched energy, as well as working with car manufacturers to remove warranty constraints, are essential first steps. EDF suggests that one or more of the utilities have a priority review project that is focused on this.

4) **All three utilities should submit a revised, and much more robust and detailed, ME&O plan.**

ME&O is an important component of a full program to ensure these Applications achieve the goals they set forth, including meeting state goals at least-cost. As recognized by the Commission, “utility outreach and education of TE programs is fundamental to ensuring program uptake and customer satisfaction with the program and their experience with TE, both of which are necessary to ensure long term TE growth.” The Commission, while it does not require that the Applications contain ME&O components, sets a high bar if the utilities should choose to include such an element. The Ruling states,

...if proposed programs within the TE application contain an education and outreach component, the electric utility shall provide a logic model in its application why such an intervention is needed: i.e. what existing resources the utility will leverage to avoid duplication, the audience that the utility is trying to target, what types of messaging will be provided to customers, intended outcomes of education and outreach, and means to measure efficacy of the education/outreach activities.

Though PG&E has the most comprehensive discussion of their ME&O plan, neither PG&E nor SDG&E appears to delve into all of the considerations listed above (SCE does not put forth a

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28 *Assigned Commissioner’s Ruling Regarding the Filing of Transportation Electrification Applications Pursuant to Senate Bill 350*, Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Programs, Tariffs, and Policies, R. 13-11-007 at 24 (filed Sep. 14, 2016) (“The TE applications of the electric utilities will be permitted to include ‘education and outreach activities as part of the proposed programs and investments that the electric utilities are planning to make’”)(emphasis added).
29 *Id.*
EDF suggests that a more detailed plan be given to stakeholders, including, perhaps most notably, inclusion of the last two factors – “intended outcomes of education and outreach” and “means to measure efficacy of the education/outreach activities.” In the event the utilities have compiled an ME&O plan that is more comprehensive, those plans should be provided to stakeholders for evaluation.

5) **The utilities should give more detail about what other funding they intend to leverage.**

In the guidance Ruling, the Commission states “in order to alleviate some of the financial burden on ratepayers, the electric utilities in conjunction with potential TE hosts, should explore and propose how the proposed TE projects and investments can utilize and leverage other sources of potential funding.” EDF agrees the onus of financing these projects should not be solely on ratepayers. However, utility description of other funding they are planning to seek out is lacking. SCE discusses rebates and incentives that are currently available, as does PG&E and SDG&E in certain circumstances; however, the onus of securing additional funding is largely on the participant. EDF is concerned that having the participant seek out and apply for additional funding will deter participation in a particular pilot; we thus urge the utilities to ensure that they are there to assist participants and adequately educate them about the various options that exist.

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30 *Id.* at 27.
6) **Utility applications should include installation of DCFCs.**

Currently, only PG&E contemplates large-scale deployment of DCFCs in its service territory (234 stations total) – stating “by lowering upfront installation costs for stations, PG&E will encourage broader deployment of DCFCs and improve access to fast charging, which will ultimately benefit drivers and foster greater adoption of Electric Vehicle (EV) passenger vehicles…”

On the other hand, SCE will only provide up to 50 DCFC ports in their “Urban DCFC Clusters Pilot,” while SDG&E is partnering with CalTrans to put Level 2 and DCFC chargers at 4 “Park-and-Ride” locations, with only 2 DCFC charging stations at least location.

As the demand for DCFCs grows along with the advent of larger batteries in second generation battery electric vehicles like the Chevrolet Bolt, it will be important to focus more on where to place these types of charging stations to ensure that they will be used and useful, and to monitor load from these charging stations in order to ensure that they do not produce a large spike in energy consumption when the grid can least afford it. Particularly because DCFCs were not included in any of the three previous utility pilots, EDF urges SCE and SDG&E to facilitate more deployment of DCFCs, and to study how load can be effectively managed, by, for example

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37 Only PG&E’s plan originally called for the inclusion of DCFCs, but their inclusion was struck by the Commission. Decision Directing Pacific Gas and Electric Company to Establish an Electric Vehicle Infrastructure and Education Program, In the Matter of the Application of Pacific Gas and Electric Company for Approval of its Electric Vehicle Infrastructure and Education Program, A. 15-02-009 at 42, 45 (issued Dec. 21, 2016).
ensuring that participants are enrolled in a demand response program, as SCE has done,\textsuperscript{38} or ensuring that EV drivers are aware of charging prices and given a proper incentive to charge at off-peak times, as SDG&E has done.\textsuperscript{39}

III. \textbf{RESPONSE TO SDG&E APPLICATION}

EDF has two additional comments and clarifications with respect to SDG&E’s Application, and reserves the right to make more detailed comments on the Application as the proceeding evolves.

First, SDG&E states in the context of its Green Taxi priority review project that it will

\textit{...provide an EV fueling credit of $4,000 per EV for 12 months to be used at an SDG&E project charging facility designed to encourage each driver to maximize the number of zero emission miles driven, as well as helping to make these fueling dollars go further by charging during lower-priced, off-peak hours.} \textsuperscript{40}

EDF understands the importance and appeal of this credit, but asks for clarification on how SDG&E intends to ensure the dynamic price signal is observed. Because the driver in this instance will potentially not be paying for electricity for a full year, there may be little incentive to charge at times that are most beneficial to the grid and the environment. As such, EDF requests SDG&E have a “Plan B” load management plan that helps to provide the same assurances as their proposed dynamic rate.

In addition, as stated more generally above, more details about how SDG&E plans to educate its customers. Particularly given the relative complexity of their dynamic rate, more detail about

\textsuperscript{38} Testimony of Southern California Edison in Support of its Application of Southern California Edison Company (U 338-E) For Approval of its 2017 Transportation Electrification Proposals, Application of Southern California Edison Company (U 338-E) for Approval of its 2017 Transportation Electrification Proposals, A. 17-01-021 at 40 (Jan. 20, 2017).


how SDG&E plans to communicate the specifics of the rate to participants are needed. SDG&E should plan to inform participants in an easily understandable and effective way, including, at a minimum, call center support, an informational page about the rate on their webpage, information delivered via e-mail, and availability in multiple languages.

IV. CONCLUSION

EDF thanks the Commission for the opportunity to provide a response to these Applications and looks forward to continued engagement in the proceeding.

Respectfully signed and submitted on March 6, 2017.

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