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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification.	Rulemaking 18-12-006

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) COMMENTS ON ADMINISTRATIVE LAW JUDGE'S RULING ADDING STAFF PROPOSAL FOR A DRAFT TRANSPORTATION ELECTRIFICATION FRAMEWORK TO THE RECORD AND INVITING PARTY COMMENTS

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Pursuant to the Administrative Law Judge's Ruling seeking party comments on the Draft Transportation Electrification Framework (TEF), issued on February 3, 2020 (Ruling), Southern California Edison Company (SCE) respectfully submits these comments and responses to the Ruling.

I.

INTRODUCTION

On December 19, 2018, the Commission issued an Order Instituting Rulemaking (OIR) to Continue the Development of Rates and Infrastructure for Vehicle Electrification, with the goal of, among other things, "ensur[ing] the investments and programs the Commission is authorizing to accelerate transportation electrification are aligned with other state efforts."[1] Pursuant to the Ruling issued on February 3, as revised by the February 14, 2020 ruling amending the comment schedule, SCE submits its comments on the Draft Transportation Electrification Framework (TEF) and its responses to "Questions for Stakeholders" for Sections 2, 3.1, 3.2, 3.3, 4 and 5.

[1] Rulemaking (R.) 18-12-006, Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification and Closing Rulemaking 13-11-007, December 19, 2018, p. 2.

II.

COMMENTS ON THE TEF

SCE supports the Commission's objectives of ensuring that the State's ambitious climate goals and infrastructure needs are met with robust utility strategies and programs that can address barriers and help accelerate progress toward the goal of widespread TE adoption. Additionally, SCE appreciates the objective to develop a strategic long-term framework for widespread adoption of TE. However, time is running out and comprehensive long-term planning will not matter if our climate and air quality goals, and the EV adoption targets needed to support them, slip out of reach. Unfortunately, the Draft TEF, if adopted as proposed, will not enable the scale and pace of EV infrastructure development and related programs necessary to achieve those goals. The Draft TEF will most certainly slow down the progress the State has made in transportation electrification in the last few years.

In its 2018 application supporting Charge Ready 2, SCE wrote:

> *2030 is just over 11 years away. The average passenger car life is 11.4 years. From this day forward, every time an internal-combustion engine ("ICE") vehicle is purchased and an EV is not, there is a missed opportunity to reduce emissions from the transportation sector.*[2]

Now we are less than ten years away from 2030, and the urgency of meeting the State's climate change and air quality goals is even more pressing. While the State, as a whole, has taken bold action to accelerate electric vehicle deployment—including the substantial utility programs authorized by the Commission—reaching California's decarbonization and environmental goals will require significantly more EVs than expected under current policies and State deployment goals. California has a goal of five million EVs by 2030, but the trajectory produced by current enabling regulations and policies puts the State on pace to see only 3.6 million EVs on the road by that time.[3] Moreover, five million vehicles is not enough. SCE's Pathway 2045 analysis concludes that the most cost-effective path to meeting the

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[2] A.18-06-015, Prepared Testimony in Support of Southern California Edison Company's Application for Approval of its Charge Ready 2 Infrastructure and Market Education Programs, June 26, 2018, p.18.

[3] CEC December 2, 2019 IEPR Workshop, *available at* https://efiling.energy.ca.gov/GetDocument.aspx?tn=230885&DocumentContentId=62525.

State's economywide decarbonization goal of 40% of 1990 emissions by 2030 will require 7.5 million light-duty EVs (and over 300,000 medium- and heavy-duty EVs) on California's roads. Meeting this transportation electrification target is essential to put the State on a path to reach its further goal of carbon neutrality by 2045, which will require over 28 million EVs.[4] Achieving 2045 goals is significantly more difficult if interim 2030 goals have not been met.

Missing these EV targets—or pushing them out further into the future—not only jeopardizes our climate goals, but also means electric customers will have to wait longer to see benefits, such as the potential downward pressure on future rates, from increased efficient grid utilization by EVs. Likewise, the State would not be sending the market signals that can encourage additional sustained private investment in EVs and charging infrastructure. In short, the longer we wait to accelerate EV adoption, the longer it will take for customers to receive the direct benefits from the downward rate pressure, as well as societal benefits, which include cleaner air, reduction in greenhouse gas emissions, and reduced expenditures on gasoline.

The Commission is uniquely situated to ensure EV infrastructure development accelerates to meet the pace of needed EV adoption in California. The TEF, if properly structured, can be highly beneficial in both the near- and long-term to help the State meet its climate, air quality, and related TE goals. Critically, as directed by SB 350, the focus of the TEF should be on "accelerat[ing] widespread transportation electrification,"[5] by both: (i) providing a prompt path to authorize near-term large-scale utility TE programs for existing market needs and (ii) creating a durable structure for streamlined submission, review, and approval of future infrastructure programs aligned with achieving needed TE adoption.

To promptly and comprehensively address the need to restructure the focus of the TEF in a manner that will effectively support achieving our State's urgent climate and air quality goals and requirements, SCE supports the Motion of the Joint Parties to Stay the Draft Transportation

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4 Total includes light-duty, medium-duty, and heavy-duty vehicles and buses.
5 Cal. Pub. Util. Code § 740.12.

Electrification Framework, Revise the Procedural Schedule, and Provide for Alternative Proposals ("Motion of the Joint Parties"). Irrespective of the avenue for ensuring the TEF appropriately supports the State's climate and TE goals, SCE offers the following overarching recommendations: (1) the Draft TEF's limits on near-term programs will jeopardize the State's goals and must be modified to support near-term, significant investor-owned utility (IOU) programs to address well-known EV infrastructure gaps and market barriers; and (2) IOU Transportation Electrification Plan (TEP) requirements should be refined to promote expediency and efficiency, by incorporating program and pilot proposals into the TEPs, modifying the TEPs to be five-year plans, applying a rebuttable presumption that TE market segments lack maturity, and limiting required information to what is useful and necessary for approval of the IOUs' TE programs.

A. The Draft TEF's Limits on Near-term Programs Will Jeopardize the State's Goals and Must be Modified to Support Near-term, Significant IOU Programs to Address Well-Known EV Infrastructure Gaps and Market Barriers

With less than ten years for the State to go from approximately 700,000 light-duty electric vehicles to at least 5 million,[6] we must remove all significant barriers to EV adoption including, but not limited to, charging infrastructure availability concerns. Immediate and significant support is also crucial in the medium- and heavy-duty sectors. Analysis by the South Coast Air Quality Management District puts the scale of near-term infrastructure needs in perspective; it estimates that 300,000 traditional internal-combustion medium- and heavy-duty vehicles will need to be replaced with zero-emission vehicles by 2030, with over 150,000 of those replacements occurring between 2021 and 2025, in order to attain local air quality standards.[7] There are currently less than 3,500 registered, electric

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[6] Quarterly Sales of Electric Cars *available at* https://www.veloz.org/wp-content/uploads/2020/02/12_Q4_2019_Dashboard_PEV_Sales_veloz.pdf.

[7] South Coast AQMD Staff Presentation to CEC Demand Analysis Working Group, Nov. 14, 2019, p. 14, *available at* https://www.energy.ca.gov/sites/default/files/2019-12/06%20MacMillan_South%20Coast_11.14.19%20DAWG%20Presentation_ada.pdf (also noting that, "If air quality standards are not met, the Clean Air Act requires federal sanctions including potentially: loss of

medium- and heavy-duty vehicles on the road in California today.[8] Air regulators and fleet owners consistently cite lack of infrastructure as a primary barrier.[9]

Improving air quality and reducing GHG emissions cannot wait, but pursuant to the proposed Draft TEF schedule, the parties and Commission Staff would devote at least the next 8-10 months commenting, holding workshops, and analyzing the framework for long-term IOU TE programs, followed by two years of TEP development and approval. Only then, would substantial new program applications, intended to support the State's widespread transportation electrification goals, be allowed to be submitted. Until that time, IOUs would be limited to pilot-sized programs of only one to two years in duration, less than $4 million each, with a total cap of $20 million per utility, and only in one of four categories arbitrarily prescribed by the Commission.

While "a new, holistic strategy for addressing how the IOUs will support the State's clean transportation and climate goals" is a critical long-term objective, action to overcome barriers that persist in the market is needed now.[10] SCE therefore supports an immediate focus in the TEF on identifying "no regrets" priority areas for IOU programs. However, the four proposed priority areas in the Draft TEF that would be eligible for pre-TEP programs[11] do not adequately address the numerous substantial barriers faced across EV sectors and segments. For example, the exclusion of workplace charging from the Draft TEF ignores a pressing need for increased available charging in this important segment that supports efficient, daytime charging opportunities when renewable energy is plentiful and provides access to charging for many individuals without at-home charging capabilities.

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billions of dollars in highway funding; substantially increased cost to obtain air quality permits; and loss of local control of air quality regulation").

8 Department of Motor Vehicles, *Statistical Record on Motive Power Body Type and Weight Division for Automobiles, Motorcycles, Commercial Trucks and Trailers Report,* November 2019.

9 State of California Air Resources Board, Public Hearing to Consider the Proposed Advanced Clean Trucks Regulation, Staff Report: Initial Statement of Reasons, October 22, 2019, at ES-6 and I-14, *available at* https://ww3.arb.ca.gov/regact/2019/act2019/isor.pdf.

10 Draft Transportation Electrification Framework (TEF), p. 4.

11 Draft TEF, pp. 43-44.

As such, the limited scope and scale of the pre-TEP programs would severely hamper the programs' ability to "serve as a bridge between the IOUs' current TE programs and their holistic TEPs."[12] The basis for these restrictions comes from applying the definition of "priority review projects" from the 2016 Assigned Commissioner Ruling (ACR),[13] which was limited because such projects were meant "to target pilots and experiments in diverse market segments to gain experience to inform the eventual design of scaled programs."[14] There is no need to continue to pilot activities in key priority areas where utilities have already demonstrated experience and market demand remains. Nor do we have time to continue only with pilot-scale activities. Utilities have proven, in the past five years, their competency in effectively running EV programs, that business models such as make-readies combined with rebates (*e.g.*, Charge Ready) do not adversely impact third-party competition, and that the start-stop nature of small, short-duration programs both disrupts utility implementation and is not helpful to third-party businesses who rely on stability. For example, interest in SCE's Charge Ready bridge pilot has exceeded that of the original Pilot by 75%, the bridge pilot is now fully subscribed and even has an interest list of 163 additional customers who are waiting for SCE's scaled light-duty program, Charge Ready 2, to be approved.

A $20 million cap per IOU will not help move the needle on the State's goals. Because significant gaps remain in high-priority areas not limited to those identified in the Draft TEF, the market requires robust programs in areas where utilities have demonstrated experience. Therefore, an expansion to the scope, scale and funding of high-priority, immediate investment areas is critical to continue growth of the EV market.

To that end, the Commission should re-focus its and the parties' immediate efforts on enabling and encouraging a suite of near-term and significant IOU investments needed now, in those areas where

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[12] Draft TEF, p. 43. For pre-TEP programs to serve as a "bridge" to TEPs, a more significant funding amount is necessary. SCE's Charge Ready Pilot and Bridge programs have demonstrated that $20 million is not enough to bridge to scaled programs that require years of litigation before approval. Therefore, programs limited to $4 million each would be insufficient to bridge to TEP programs, which are still years away.

[13] Draft TEF, p. 44.

[14] R.13-11-007, ACR Regarding the Filing of the Transportation Electrification Applications Pursuant to Senate Bill 350, September 14, 2016, p. 19.

a lack of charging availability is a barrier, such as at make-readies and charging station rebates at workplaces, fleets, multi-unit dwellings, and destination centers. As noted above, SCE believes the process outlined in the Motion of the Joint Parties provides the most effective avenue to re-focus these efforts. However, in the absence of such a process for developing alternative TEFs, SCE urges the Commission to address the urgent need for significant near-term investments by, at a minimum, revising its schedule of workshops and party comments this year to prioritize: (1) quickly developing a full suite of near-term, "no-regrets" priorities, where IOU programs and activities are critical to stay on target for the State's goals, including all markets where the lack of charging availability is a barrier to adoption;[15] (2) determining program, term and funding parameters that enable the near-term priority activities to extend until the IOU TEP program applications are approved and deployed in order to minimize the disruption caused by starts and stops; and (3) identifying opportunities to accelerate the review and approval process to allow for a full suite of "at-scale" programs and activities to be filed by the end of 2020; and (4) ensuring the IOU suite of activities and funding are sufficient to support the State, regional, and local policy goals.

To accelerate the review and approval of near-term programs, the Commission should work with parties to identify and adopt findings from successful IOU TE programs to establish parameters and common principles/directives for near-term IOU programs that would help minimize the need for re-litigating certain issues (*e.g.*, market segments, percentage of market targets, utility ownership of make-ready infrastructure, rebate amounts, etc.).

B. **The IOU TEP Requirements Should Be Refined to Promote Expediency and Efficiency, through Modifications to the TEPs' Scope, Duration, and Content**

The Draft TEF proposes to require each IOU to develop and submit a holistic ten-year TEP that would consider EV adoption and TE infrastructure forecasts, projections of incremental load, priority market strategies, detailed program design and budget estimates for TE programs. However, this time-

[15] Such as workplaces, destination centers, fleets, multi-unit dwellings, and associated cost-effective fast charging that supports long distance travel and/or customers without access to home charging.

intensive process would not result in the approval of any IOU TE programs, but rather the draft TEF suggests that the approval of the draft TEP would simply authorize the IOUs to then submit program applications and pilot advice letters, previously identified and described in the TEP. This process is lengthy, redundant, complex, and requires data that is unnecessary and unlikely to be useful. Accordingly, as discussed below, IOU TEP requirements should be refined to include IOU program/pilot proposals in the TEPs, make the TEPs five-year plans, apply a rebuttable assumption that TE market segments lack maturity, and limit required information to what is useful and necessary for approval of IOUs' TE programs.

1. The Commission Should Support an Expedited Process and Authorize Large-Scale Programs and Pilots as Part of the IOU TEPs, Rather Than in Redundant Applications and Advice Letters

The Commission can expedite the process for authorizing future IOU programs and pilots by eliminating points of redundancy, which will also help conserve the Commission's time to focus on other important matters. Specifically, it is inefficient and unnecessary for stakeholders and the Commission to review the same IOU program designs and budgets in both the IOUs' TEPs and again in separate program applications. The Commission can expedite the process by establishing a structure in which the IOUs submit a single application for stakeholder review and Commission approval of each IOU's TEP, with up to five-year, large-scale programs as well as pilots. Consolidating this process will: (1) allow the Commission to approve the Plan and its corresponding programs at the same time, (2) eliminate the need for redundant applications and advice letters with their associated litigation, and (3) support timely deployment of infrastructure and other IOU support for increased TE adoption. Additionally, the Commission should establish an annual window for IOUs to submit applications for programs not identified within the IOUs' TEPs if needed in order to support significant new developments or requirements for the EV market.

2. The IOU TEPs Should be Five-Year Plans in Order to be Meaningful and Actionable

Due to the nascent TE market, changing regulations and technologies, it would be difficult if not impossible for the IOUs to develop accurate forecasts and plans over a ten-year period as proposed in the Draft TEF. While the IOUs currently provide ten-year forecasts for other programs, those markets are relatively mature. The Draft TEF does propose that the IOUs' TEPs would have different levels of detail between their five-year and ten-year outlooks, but given the rapid changes in electric vehicle technology, the less predictable release timing of new vehicle models, and changing consumer transportation habits, the data needed to forecast a ten-year portfolio is not useful or accurate. As such, the Commission should require the IOUs TEPs to provide five-year forecasts that will promote the development of meaningful and actionable plans.

3. The Market Maturity Assessment Should Presume Insufficient Maturity in the TE Market

The Draft TEF establishes a four-step process for determining the IOUs' role in accelerating TE infrastructure. The Draft TEF provides a high-level description of each step, but notes that key processes, such as the market maturity assessment, have yet to be developed.[16] SCE is concerned that this vague process will be complex, time-consuming, and confusing.

Rather than diverting precious time and resources to prove the current, wide-spread immaturity of the market in most if not all segments, the process should begin with the presumption that the TE market lacks sufficient maturity to meet State goals. Third parties, especially private market participants, will be in the best position to provide evidence of when and where the market has matured such that utility involvement should be scaled back or is no longer needed, and those parties should have the opportunity to provide that input during the TEP review process. Of course, the Commission and the IOUs should remain focused on ensuring IOU TE programs decrease as market segments mature and

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[16] Draft TEF, pp. 33-34.

third-party investments are meeting the need. But, at this stage in the market and with the substantial need across all segments to meet the State's 2025 and 2030 goals, SCE is concerned that the Draft TEF has created a presumption that utility investment is not needed unless and until a time-consuming market maturity analysis proves otherwise.[17] At this critical stage in EV adoption and infrastructure development, ending or precluding utility programs too soon can have significant, deleterious consequences.

4. The Commission Should Limit Data in the IOUs' TEPs to What is Useful and Necessary for Determining an IOUs' Role and Approving the IOU TE Programs

The Assigned Commissioner's Scoping Memo and Ruling directs the Energy Division staff to develop a TEF to "establish a common comprehensive framework for review of proposed investments by the IOUs to stimulate transportation electrification…"[18] However, in addition to requiring information necessary for the review of proposed IOU TE programs, the Draft TEF requires the IOUs' TEPs to include itemized lists and descriptions of potential transmission and distribution (T&D) upgrades to accommodate projected EV load, as well as estimated costs of providing the TE infrastructure needed to support EV adoption. It is unclear how including information on all potential EV infrastructure needs and costs at the level of detail requested is necessary for, or even facilitates, the Commission's review and approval of IOU-proposed TE programs, particularly when such costs would typically be adjudicated in the context of a general rate case.

Accordingly, SCE is concerned that these Draft TEF requirements are excessive, unnecessary and burdensome. Specifically, providing detailed T&D upgrades and forecast costs associated with TE load would require SCE to perform a duplicative grid planning activity in parallel with its already

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[17] The Draft TEF also asserts that segments that show "signs of private sector engagement, such as […] workplace L1 or L2 charging deployment" do not require near-term investment and are therefore excluded from the pre-TEP program priority list. Although private investment is taking place in the workplace charging sector, it is nowhere near a pace consistent with achieving State goals and, therefore, the workplace charging still requires utility support. For example, according the DOE Alternative Fuels Data Center, from October 2018 through February 2020, only 2,054 public Level 2 and 488 DCFC ports were added in California.

[18] R.18-12-006, Assigned Commissioner's Scoping Memo and Ruling, May 2, 2019, p. 2.

detailed annual capacity planning process, and will adversely impact SCE's grid planning process. Therefore, SCE respectfully requests that the Commission limit the level of data required in the IOUs' TEPs to information that is useful and necessary for determining the IOUs' role and approving the IOU TE programs.

III.

RESPONSES TO QUESTIONS FOR STAKEHOLDERS

Below are SCE's responses to the "Questions for Stakeholders" identified in the Draft TEF. Rather than responding to all questions, SCE has prioritized questions where SCE believes its responses will provide greatest value to the Commission.

A. Draft TEF Section 2. Transportation Electrification Framework Overview

Question 2: Recommend whether a full California Public Utilities Commission vote is necessary to approve each TEF update, or whether the Energy Division staff guidance is appropriate for each five-year update going forward.

The Commission should approve updates to the TEF. Additionally, the TEF updates and TEPs should both be on five-year cycles that are staggered, to allow time to complete any TEF updates, if needed, prior to the IOUs' preparing TEPs for the next cycle.

B. Draft TEF Section 3.1 Transportation Electrification Plans' Goals and Process

Question 2: What additional resources could be used if the outputs of the planning efforts described in the Transportation Electrification Framework are not available or useful for TEP development?

While the CEC's Infrastructure Deployment Strategy (IDS) and CARB's update to the Mobile Source Strategy (MSS) are important resources, they are far from the only resources available to help develop and inform TEPs. The best available information on the market and infrastructure need should be utilized, including information related to major changes in technology

and vehicle availability. Furthermore, the TEPs can and should be informed by State and local policies and regulations that drive EV adoption and infrastructure needs. Examples of additional state and local policies include but are not limited to: regional air quality plans and regulations (including air district incentive programs, which will encourage fleet turnover, and indirect source rules); Ports' Clean Air Action Plans; the California Sustainable Freight Action Plan; and municipal TE plans, which include zero-emission vehicle procurement targets and zero-emission zones (certain geographical areas where emitting vehicles are limited from operating). This additional information would be useful in the event that the CEC's IDS and CARB's MSS reports are unavailable and should also be used to supplement the CEC and CARB reports if and when they are available.

Question 5: Should TEP budgets be established as a cap on an IOU's investments or a forecast of the programmatic costs?

As described in SCE's general comments, the Commission should modify the TEP process to include its review of the IOU large-scale programs and pilots as part of approving the TEPs. Accordingly, the TEPs should provide a forecast of the program costs for Commission authorization, which would be a cap once authorized.

Question 6: Please identify any market, regulatory, or operational considerations that would justify defining a pilot program differently than it was previously defined in the 2016 Assigned Commissioner's Ruling, namely as one-to-two years in duration and with a budget less than $4 million.

The intention of the priority-review program structure in the 2016 ACR was "to target pilots and experiments in diverse market segments to gain experience to inform the eventual design of scaled programs."[19] Therefore, this definition is only appropriate for areas where new pilots are needed to test technology, competency, or market acceptance. With regard to the time limitation, SCE proposes that pilots could be conducted as the first year or two of anticipated longer-term

[19] 2016 ACR in R.13-11-007, p. 19.

programs, which could be adjusted in subsequent years based on pilot results. This would be more efficient and eliminate gaps inherent if pilots are only conducted as stand-alone projects.

In addition to pilots, Section 3 of the Draft TEF also applies the 2016 ACR funding and timing limitations to all pre-TEP programs. The ACR definition, however, is not appropriate for all pre-TEP programs for the reasons stated above in Section II.A.

Question 7: Should an application template for TE program proposals be adopted in addition to the template for pilot projects filed by advice letter? If yes, identify the process for developing this template.

Yes, a template should be developed to provide consistency and clarity with regards to the type and flow of information to be provided in support of the IOUs' TE programs and pilots. Developed as part of a collaborative workshop in this proceeding, the template should list general requirements and provide flexibility for additional information that may be useful for evaluation of particular programs or pilots. A template for program applications and advice letters filed outside of the TEP could also be beneficial.

C. Draft TEF Section 4. Investor Owned Utility Roles to Accelerate Transportation Electrification Infrastructure Deployment

Question 1: Do you agree that the investor-owned utilities' (IOU) Transportation Electrification Plans (TEP) should evaluate opportunities to address each of the barriers identified in Table 3? If not, what barriers should be excluded, or are missing, and why? Do you agree with the types of IOU roles that are appropriate to address each market barrier during the market and technology development lifecycle?

Utilities should evaluate opportunities to address market barriers to adoption and effective integration of vehicles onto the grid. However, Table 3 does not adequately identify market barriers in the context of accelerating adoption, does not prioritize the barriers and utility roles, and does not properly define how or when a market component is moving from "early" to "full deployment." As detailed above in Section II.B.3 above., the TEF, and the TEPs developed pursuant to it, should

begin with the presumption of that the market currently lacks sufficient maturity. Barriers to TE adoption will change over time as the market evolves and shifts in various ways. Therefore, the list should be not be confined to barriers identified today.

The process of identifying barriers should be nimble and allow for the addition or modification of barriers to TE adoption to best reflect current and future TE markets. As the market evolves, IOU roles may also have to be updated in order to best maintain support for the State's goals. Currently, Table 3 provides an incomplete list of examples of potential IOU roles and, consequently, should be adjusted through the public workshop process.

Question 2: Will the California Energy Commission's Infrastructure Deployment Strategy analysis and Assembly Bill AB 2127 (Ting, 2018) implementation process, the California Air Resources Board's Mobile Source Strategy, and the IOUs' existing planning processes provide a complete foundation for defining IOU infrastructure roles to be included in TEPs (What, When, How, How Much and Where)?

SCE agrees that the CEC's Infrastructure Deployment Strategy (IDS), CARB's update to the Mobile Source Strategy (MSS), and the IOUs' existing planning process serve as a solid foundation for defining IOU infrastructure roles. However, to ensure TEPs are capturing existing available data related to the market and need, these sources should be supplemented with additional State and local polices that are driving EV adoption and infrastructure needs. Section 3.1 of the Draft TEF highlights a number of these additional regulatory drivers and policies that have the potential to significantly impact the "what, when, how, how much, and where," and SCE recommends that the TEPs should also be informed by, among other things: regional air quality plans and regulations (including air district incentive programs, which will encourage fleet turnover, and indirect source rules); Ports' Clean Air Action Plans; the California Sustainable Freight Action Plan; and municipal TE plans, which include zero-emission vehicle procurement targets and zero-emission zones. Furthermore, the TEPs should also be informed by advances in standards and technology in the TE industry as they become available, including: higher power charging, direct current charging sites, vehicle-to-grid and vehicle-to-building/home capabilities, autonomous capabilities, ride share and

micromobility solutions, and the resulting changes to vehicle utilization. The CEC's IDS and CARB's MSS will capture many, but not all, of the primary regulatory and policy actions driving electrification, and new policies are developed and enacted frequently. To ensure TEPs truly capture a comprehensive picture of the need, they must be responsive to the evolving and growing regulatory, policy and technology landscape.

Question 3: Market Maturity Assessment - a)Will the proposed metrics for determining the level of market competition provide the appropriate information to evaluate market maturity across various TE industries and business models? b) What resources can be used to provide data for these market maturity metrics, and what is the best way to collect this data? c) Should the Market Maturity Assessment be developed by a third-party consultant or workshopped and finalized by Energy Division staff for CPUC consideration in the final Transportation Electrification Framework?

As described in above in section II.B.3., SCE believes that the four-step process for determining the IOU role is overly complicated, and the Commission should simplify the process by beginning with the rebuttable presumption that the market currently lacks sufficient maturity. Third parties, especially private market participants, should have the opportunity to provide evidence of where and when the market has matured such that utility involvement should be scaled back or is no longer needed, and those parties will have the opportunity to provide that input during the TEP review process. This presumption can be revisited in subsequent TEP updates, when the State is closer to achieving its EV adoption and EV infrastructure goals. Until then, the process, including requiring the utilities to develop a market maturity assessment, should be replaced with a rebuttable presumption of market immaturity, which can be tested in the TEP review process.

D. Draft TEF Section 5. Near-Term Investor-Owned Utility Transportation Electrification Investment Priorities

Question 1: Should the investor-owned utilities' pre-Transportation Electrification Plan (TEP) program proposals be limited to these identified priority areas? Why or why not? If not, identify

any other program priorities that should be considered appropriate for pre- TEP programs and provide detailed information about why the investment would be "no regrets". Is $20 million per IOU an appropriate budgetary cap for pre-TEP programs? Why or why not?

The proposed pre-TEP limitations will significantly hamper the IOUs' ability to support the State's goals and objectives of SB 350 and should be revised as described in Section II.A above. Some examples of needed revisions and improvements include:

- Expansion of the "no-regrets" suite of activities to include efforts in all markets where a lack of charging availability is a barrier to adoption, such as make-ready infrastructure and charging station rebates at workplaces, fleets, multi-unit dwellings, and destination centers;
- Ensure term for near-term IOU activities extends until the IOU TEP program applications are approved and deployed, approximately 4-5 years from now, to minimize the disruption caused by starts and stops in IOU programs; and
- Allow for "at-scale" sized programs and activities to ensure efforts and funding are sufficient to support State, regional, and local policy goals that require significant near-term IOU support. For example, a program like SCE's Charge Ready 2 could serve as an example of a scaled program, where SCE would meet only about one-third of infrastructure needed in its territory.

E. Draft TEF Section 5.2 Electric Vehicles and System Resiliency

Question 1: Should the investor-owned utilities (IOU) prioritize projects that will test and validate resiliency strategies that utilize electric vehicles (EV) as grid resources and ensure EV drivers have adequate access to charging options during power outages?

The IOUs should prioritize the testing and validation of EV resiliency initiatives, including the use of EVs for backup power and providing appropriate resources for EV drivers to maintain necessary mobility during an outage. In the PSPS OIR (18-12-005), SCE recommended that all transportation resilience topics related to EVs be addressed in this docket to ensure consistency,

clarity, and efficiency in developing and implementing these initiatives. While projects that test and validate resiliency strategies should be prioritized, they should build upon and not come at the expense of projects known to accelerate and benefit the EV market as a whole, specifically, providing customers access to EV charging stations.

a. If yes, how should the IOUs design their pilot(s)? What sector(s) should the pilot(s) target? What use cases should the IOUs prioritize in their pilot(s)?

Specific pilots and programs should be designed and implemented to address the needs of EV drivers during power outages, caused by natural disasters or other disruptions to the distribution system, including Public Safety Power Shutoffs (PSPS). They should be designed to complement PSPS pilots and programs that exist for all customers, including communications and community resource centers (CRCs). Programs should consider the different needs of all customer types (residential, commercial, industrial, and agricultural), with an emphasis on Disadvantaged Communities (DACs) and High Fire Risk Areas (HFRAs). IOUs should monitor EV adoption and driver behavior and assess the needs of drivers based on their vehicle range, state of charge, and the distance of their home or workplace from public charging, CRCs, and non-HFRA areas to recharge.

As climate adaptation is an unyielding and ever-changing need, the TEF should equip IOUs with the necessary flexibility to design and implement new pilot(s) in this area on a yearly basis. Each wildfire season is an opportunity to evaluate and adjust, and new technologies that support transportation resilience are being brought online yearly. For example, in late 2019, Tesla tested a new "Megacharger" that provides mobile fast charging for up to ten EVs simultaneously. SCE expects more rapid, deployable solutions to enter the market in coming years and proposals should identify barriers and maturity issues that can be addressed by the IOUs, including leveraging nascent technologies. SCE also expects to see significant movement in the market for Vehicle-to-Building and Vehicle-to-Home backup power solutions coming from the automobile original equipment manufacturers (OEMs) and the makers of bi-directional EV Supply Equipment (EVSE). As this market matures, the

IOUs should have the flexibility to adapt and support the development and implementation of new solutions through pilots and programs that benefit our customers.

Question 2: Which local agencies and community organizations should the IOUs work with to identify resiliency challenges as more vehicles are electrified across their service territories?

SCE recommends working with stakeholders from resiliency and TE groups. This should include county governments, state emergency agencies, Community Choice Aggregators, state and local planning and transportation agencies, Environmental and Social Justice (ESJ) organizations, auto OEMs, EVSE companies, EV Charging Network companies, and other relevant stakeholders as appropriate.

F. Draft TEF Section 5.3 Customers Without Access to Home Charging

Question 1: Given the lack of California Public Utilities Commission regulation of end-use public charging pricing, how can we ensure equity in the cost of fueling between customers with access to home charging and customers without?

A workshop should be scheduled to allow parties to discuss this issue further.

G. Draft TEF Section 5.4 Medium- and Heavy-Duty Vehicle Infrastructure

Question 1: What gaps, if any, within existing investor-owned utility programs targeting medium- and heavy-duty vehicle electrification would be appropriate barriers to address within pre-Transportation Electrification Plan program applications?

As noted in SCE's overarching comments in Section II above, substantial near-term IOU TE programs are needed to accelerate EV adoption and ensure infrastructure is on pace to support California's climate and air quality goals and regulations. This is especially true for the medium- and heavy-duty sectors.

SCE's Charge Ready Transport program, which supports make-ready installations at a minimum of 870 sites and the electrification of at least 8,490 medium- and heavy-duty vehicles, is an important tool to support the acceleration of TE for goods movement and mass transit by

mitigating the cost and complexity of deploying charging equipment for medium- and heavy-duty vehicles for participating customers. But, in the next few years, and before the first TEPs are approved, many new near-term regulatory actions, measures, and other policy drivers will be implemented by State, local, and regional agencies in SCE's service territory, which are likely to significantly increase demand for medium- and heavy-duty vehicle charging infrastructure by a wider range of customers, some even more sensitive to upfront cost barriers and in need of more educational and technical support. As noted above, analysis by the South Coast Air Quality Management District (AQMD) estimates that in its region over 150,000 internal-combustion medium- and heavy-duty vehicles will need to be replaced with zero-emission vehicles between 2021 and 2025 in order to attain local air quality standards.[20] Thus, the 8,490 vehicles supported by Charge Ready Transport and any additional pre-TEP programs limited to $20 million would not come close to filling that gap.

A whole suite of regulations over the next three to five years will drive this rapid transition and require robust utility infrastructure programs. For example, in 2020, CARB is considering the Advanced Clean Truck rule, the Transportation Refrigeration Unit rule, and is developing concepts for a Zero-Emission Fleet rule. The South Coast AQMD has proposed a number of "Facility Based Mobile Source Measures" moving forward in 2020. These include plans to reduce emissions through electrification of trucks and cargo handling equipment at ports and ground support equipment at airports. Additionally, indirect source rules (ISRs), addressing emissions associated with warehouses and railyards, will focus on electric charging infrastructure and electric truck visits as compliance pathways.

Beyond traditional regulations, implementation of State and local procurement policies will also create near-term medium- and heavy-duty infrastructure needs (*e.g.*, State fleet procurement requirements mandating ZEV purchases by State fleets starting with 15% in 2025 for class 6-8

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[20] South Coast AQMD Staff Presentation to CEC Demand Analysis Working Group, Nov. 14, 2019, p. 14, *available at* https://www.energy.ca.gov/sites/default/files/2019-12/06%20MacMillan_South%20Coast_11.14.19%20DAWG%20Presentation_ada.pdf.

vehicles). Los Angeles's Green New Deal, for example, puts forth a policy of "zero-emission" first procurement for city vehicles, drayage, and delivery, among other segments.

In addition to government policies and regulations, the market may also experience faster than expected near-term improvements in battery technology, causing more rapid vehicle adoption. CARB estimates a range of battery electric medium- and heavy-duty vehicles achieving total cost of ownership parity with diesel by 2024. Another report by ICF evaluating medium- and heavy-duty vehicles in California found that by 2030, even without incentives, battery electric trucks and buses would reach overall favorable economics on a total cost of ownership basis across nearly all medium- and heavy-duty classes. Many major manufacturers also plan to enter the ZEV market with new medium- and heavy-duty vehicles prior to 2024, including Cummins, Ford, Freightliner, Mack, Navistar, Mitsubishi Fuso, Peterbilt, Tesla, and Volvo. Falling battery prices combined with increased product availability has the potential to accelerate TE adoption faster than regulations and policies alone.

Given all these factors and the potential scope and scale of near-term action in a fast-evolving policy and market landscape, it is critical that the utilities be equipped to respond to with programs that match the scale and scope—even in these pre-TEP, near-term years.

Question 2: Should the CPUC direct one IOU to coordinate state-wide medium- and heavy-duty issues or direct the IOUs to propose an IOU coordinator?

This determination should depend on the scope of needs to be addressed by the IOUs. As proposed above, there should be a statewide assessment of priorities and solutions for near-term utility intervention in this proceeding. The medium- and heavy-duty issues would fall under that proposal and be a subset of focus.

H. Draft TEF Section 5.5 New Building Construction

Question 1: What, if any, coordination with existing energy efficiency new construction programs for the residential and commercial sectors would make a TE infrastructure program for new construction more effective?

Utility account managers already coordinate with customers on the suite of programs currently offered by utilities (*e.g.*, Onsite Solar Installations, Energy Efficiency, Energy Storage, Demand Response). TE rebates and other offerings are another topic to discuss with customers. This "add-on" requires account manager education but is the most efficient way to leverage current relationships between customers and their account managers. For new construction sites, educating customers about offerings as early as possible in the design phase can help incorporate infrastructure and any resulting changes (panel changes, layout, etc.) in the most economical manner. To this end, programs that are long in duration and open to all or most customers along with additional customer education will be essential.

To make TE infrastructure less costly and more widespread, SCE will continue to work with CalETC, CARB, and other environmental advocacy groups to update EV charging requirements for nonresidential buildings in both mandatory and voluntary sections of CALGreen codes so that Level 2 EV chargers would be required at spaces that current code only requires to be designated for EV (but without mandatory charging capability). Furthermore, SCE and SDG&E are jointly recommending the California Building Standards Commission consider additions and alterations as a trigger point for requiring EV Charing infrastructure for existing parking spaces.

Question 2: Given the fact that the CPUC has not yet approved an IOU TE program that focuses on new construction specifically, what program design elements would be reasonable to require up-front to maximize ratepayer benefit?

Up-front program design elements that would help maximize ratepayer benefits include expanding eligibility to include mixed-use sites and mixed parking configurations as well as mitigating complexity for developers to participate. New construction is different from previous utility programs and, therefore, design elements must accommodate long construction timelines and complex procedures before a site is completed. Because many developers will not be the eventual owners or operators, programs that limit the number of requirements (*e.g.*, reporting, usage restrictions, ownership timeframes, mandatory equipment, fees, rates) placed on the eventual owner will help reduce obstacles and increase participation. As a result, utilities should be responsible for

addressing reporting requirements to the best of their ability in order to limit the impact on site hosts.[21]

Question 3: Can fixed dollar per port incentives, with some case-by-case adders, be set at a level that motivates EVSE installation while also encouraging builder cost sharing?

A dollar-per-port incentive is an easy metric and reasonable way to design programs. Because builders are already spending money to meet code requirements, such as Section 4.106.4 of the Title 24 Part 11, IOU programs could provide the next incremental incentive to install chargers or make more spots EV capable than code requires. Further cost sharing will decrease participation because going above code, without tenants demanding it, is a difficult proposition for developers. By only incentivizing incremental costs above code requirements, programs would maximize deployment per dollar spend relative to the alternative of retrofitting a site after construction. Rebates could be set at a specific level and decline over time on a fixed schedule that will dictate the number of stations for a set total dollar amount as well as motivate early action in a long-duration program.

- ***If so, what data should be used to set these levels?***

  Each utility has TE program infrastructure installation costs from which to create estimates. Additionally, SCE's Charge Ready 2 program, if approved, would provide valuable data for others seeking to deploy new construction rebates.

- ***If not, should IOU programs cap rebates at a fixed percentage of costs to builders?***

  Determining and verifying builder costs is administratively complex and will drive developers away from the program. The program objective should be to incentivize developers who would otherwise not go above code requirements to increase access to charging infrastructure, which can be accomplished with a fixed rebate that declines over time as described above.

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[21] IOUs should only be required to provide data for which they have access to the information. IOUs should not be required to seek out data elements from customers or site hosts.

- ***Could IOUs verify builder self-reported cost estimates, and if so how?***

  Rebate amounts should be based on average estimated costs as opposed to actual site-by-site costs because actual cost data collection and validation would present an operational burden for participants and deter participation.

Question 4: How could new construction programs prioritize ESJ communities including affordable housing developments?

New construction programs could identify a target amount of funds reserved for affordable housing, DAC, and ESJ community sites or provide an increased rebate for locations identified as priority equity locatiRons.

IV.

CONCLUSION

SCE appreciated the opportunity to provide these written comments to the Commission.

Respectfully submitted,

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