SOUTHERN CALIFORNIA EDISON®

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March 30, 2020

Honorable Chair Mary D. Nichols
Honorable Board Members California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Submitted online to the truregulation-ws online comment submittal form

Re: Support for the Transportation Refrigeration Unit rule

Dear Chair Nichols and Honorable Board Members:

Southern California Edison (SCE) appreciates the opportunity to comment on the proposed Transportation Refrigeration Unit (TRU) rule.

SCE supports the State's air and climate goals and customers in transitioning to zero-emission operations.

SCE supports the TRU rule and the goals of improving air quality for our region and cutting greenhouse gas emissions. SCE stands ready to support customers with fleets and applicable facilities where TRUs operate through the transition to zero-emission modes of operation. TRUs are currently eligible for SCE's Charge Ready Transport program, which can help offset the cost of electrical infrastructure for some of the facilities and fleets that meet the program criteria.

A phased-in approach to the infrastructure requirement can minimize overall costs, reduce the risk of stranded assets, and better accommodate increased medium- and heavy-duty vehicle electrification.

The current proposed regulation requires all applicable facilities to have 100% of the required infrastructure completed and fully operational by the end of 2023. Currently, truck and trailer TRUs utilize a 480 VAC shore power plug for operations, and there are not market ready TRUs that utilize EV chargers. However, as technology and the make-up of fleets evolves over the coming years, it is critical that we plan and build infrastructure accordingly. Rather than relying exclusively on a 480 VAC shore power plug to operate in a zero-emission mode, we anticipate that infrastructure will need to be able to accommodate new technologies that will arise, including trailers that have onboard batteries and charge much like an electric truck (e.g. using the automotive industry standard EVSE and J1772 AC or CCS DC plugs). Further, with increasing

numbers of electric medium- and heavy-duty (MDHD) trucks in the coming five years – spurred by, among other drivers, the Advanced Clean Truck and Zero-Emission vehicle fleet rules, which would yield significant adoption of MDHD EV trucks on the road by 2030, including class 8 vehicles – many of the facilities required to install infrastructure to support TRUs, such as ports, railyards, and warehouses are also likely to be electrifying their trucks.[1]

It is important for the infrastructure requirements to take this market evolution into account and ensure that it cannot only support shore power for traditional TRUs, but also allow for the flexibility to support future electric equipment and vehicles onsite. Given the status of the technologies for market ready TRUs, requiring all the infrastructure at all applicable sites to be completed by the end of 2023 will result in a reliance on infrastructure to accommodate 480 VAC plugs, rather than infrastructure to support the holistic set of needs we anticipate in the future, including facilitating TRUs operating in a zero-emission mode, charging batteries in the trailer to operate the TRU or serve as a range extender, and directly charging an EV truck and other off-road MDHD electric vehicles or cargo handling equipment onsite.

A phased approach to infrastructure can better accommodate market evolution at a critical time of sectoral transformation. A more holistic approach to transportation electrification infrastructure needs can reduce overall infrastructure costs across the system as well as at customer sites. Installing infrastructure that can serve a variety of functions (from serving cooling needs to charging equipment and vehicles) can help increase the overall return on investment of the infrastructure cost and, with better utilization, support consistent load on the system.

As SCE customers in the goods movement industry develop plans to meet CARB and air district regulations focused on reducing emissions from the freight sector, we are committed to helping them identify electrical infrastructure solutions that meet all compliance objectives and support CARB's objectives while minimizing costs. Construction can be the largest cost driver for an infrastructure project at a customer's site. Future-proofing and opening ground once to serve multiple infrastructure needs and objectives can minimize overall infrastructure costs in the future.

Pilots, a segmented approach, and load management solutions can minimize infrastructure impacts.

A segmented approach for larger sites – such as ports, railyards, and large warehouses – that allows for a less than a one-to-one ratio for TRU parking spots to required plugs and utilizes load management technologies can mitigate infrastructure impact. For example, sites with up to 25 combined dock doors and parking spots dedicated to TRUs may have a one-to-one requirement for accessible plugs for each TRU parking spot, whereas larger sites may utilize an

[1]With technology evolution wherein the trailer becomes housing for a battery that functions as a vehicle range extender and manages cooling in the trailer, the infrastructure needs are very likely not to be a traditional 480 VAC, but rather a different plug interface more akin to an electric vehicle plug interface (CCS1 or J1772) with different infrastructure implications.

algorithm to determine the number of required accessible plugs. A declining percentage could be applied to growing levels of TRU fleet sizes as represented by dedicated TRU parking spots (combined dock doors and onsite parking) for TRUs as a metric. As facility sizes increase, requirements increase too, but at a slower rate to allow time and space for facilities to test and integrate load management technologies that help transition the additional remaining TRU population in operation at a facility to zero-emission operations. This also provides greater flexibility for installing future-proofed infrastructure that serves the needs of TRUs and other electrified vehicles and equipment onsite, thus increasing utilization and cost efficiency. Preliminary estimates for SCE's service territory indicate approximately 20% of applicable sites would utilize this alternative ratio, but these sites would benefit greatly from having the opportunity to limit significant infrastructure additions and being afforded the opportunity to employ emergent load management technologies.

TRUs in various stages of operation at a facility will require varying levels of power. Technology are needed to adjust loads to pre-cool empty containers preparing to load and to maintain temperature for loaded containers or containers waiting to offload. Rather than designing and building for the simultaneous peak demand of the plugs to cover all dock doors and onsite parking locations, load management technologies can be deployed to minimize the overall infrastructure requirements. Technology and software solutions that manage the plug load at sites with significant TRU operation can help ensure that the utility is not overcommitting circuit capacity. Solar and storage may also help manage peak loads and minimize new infrastructure construction at larger sites. As these solutions mature and become commercially tested and available, it is expected that sites that host hundreds of TRUs could manage zero-emission operational needs without significant infrastructure upgrades.

Technology pilots and demonstrations can drive investment and allow competing firms to advance technologies to commercial readiness with testing under real-world conditions. A pilot testing large-scale zero-emission TRU operations at a port, railyard, or large warehouse could employ emerging technologies such as load management for large numbers of TRUs and provide a test-bed for an ecosystem of technology solutions to achieve zero-emission operations while addressing the needs of customers. These technologies can include "TRUs of the future" including TRU trucks and trailers with better insulation, battery electric TRUs, TRUs embedded with electric trucks or trailers with integrated battery capacity or solar arrays, and solar and storage at large facilities. Such a pilot located at a site with significant operational needs can spur advancements and yield important insights about how to manage large-scale zero-emission TRU operations at a large facility.

Integrating the utility reporting requirement on infrastructure into facility-reported compliance plans can streamline the process and reduce the reporting burden on all parties, while ensuring CARB receives required vital information on status of infrastructure.

SCE will be partnering with customers who are applicable facilities to identify potentially necessary infrastructure upgrades. This process will yield important information regarding infrastructure timing and challenges, and SCE supports equipping both our customers and CARB

with this important information. However, requiring the utility to provide customer information directly to CARB, without customer consent and involvement in the process, presents privacy, confidentiality, and process concerns and challenges. The information requested in Section 2478.19 is already known by the customer or is received by the customer through its engagement with the utility. Requesting the information directly from customers as a part of the required reporting compliance plans would streamline the process.

Thank you for your consideration of these points. We are committed to doing our part in ensuring a successful and orderly transition to zero-emission technologies. We look forward to working with CARB and our customers on the solutions that set us on a path to achieving our air quality and climate goals.

Thank you for considering our comments regarding this important regulation.

Sincerely,

Vazken Kassakhian
Senior Advisor, Air & Climate Policy
Southern California Edison