BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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To Establish Energization Timelines

Rulemaking 24-01-018
(Filed January 25, 2024)

OPENING COMMENTS OF PILOT TRAVEL CENTERS LLC, CLEAN ENERGY, AND THE CALIFORNIA HYDROGEN BUSINESS COUNCIL ON ASSIGNED COMMISSIONER'S SCOPING MEMO AND RULING

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Table of Contents

BEFORE THE PUBLIC UTILITIES COMMISSION
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Order Instituting Rulemaking To Establish Energization Timelines	Rulemaking 24-01-018 (Filed January 25, 2024)

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I. Introduction

Pilot Travel Centers LLC ("PTC")[1], Clean Energy, and the California Hydrogen Business Council (CHBC) appreciate the opportunity to submit the following reply comments on the California Public Utilities Commission ("Commission") *Assigned Commissioner's Scoping Memo and Ruling* ("Scoping Memo") in the above-entitled proceeding.

In recognition of legislative deadlines that must be addressed by September 2024, the Scoping Memo adopts a phased schedule in which legislative priorities will be addressed in Phase 1 and additional issues related to improving energization timelines will be addressed in Phase 2. PTC, Clean Energy, and CHBC provide recommendations on several issues in each phase with a goal of eliminating unnecessary complexities, costs, and delays that uniquely impact entities that seek to install or upgrade refueling infrastructure for zero emission medium- and heavy-duty zero

[1] https://www.pilotcompany.com/.

emissions vehicles (MDHD) in California, and particularly hydrogen refueling stations, which have been under-addressed in Commission rulemaking.

PTC, Clean Energy, and CHBC's comments are summarized below, with a more detailed explanation in the Comments section of this document:

a. **Phase 1, Questions 1(b)(i) and (i).** Service line upgrades for MDHD hydrogen refueling stations are unnecessarily cumbersome and costly because utilities do not currently allow for the installation of a separate meter or provide for a unique tariff for providing electricity service to hydrogen refueling facilities, significantly increasing the cost of energization by utilities of these facilities.

b. **Phase 1, Question 4.** If the Commission decides to adopt unique energization timelines for infrastructure needed for California to achieve its zero emission vehicle goals, particularly in the MDHD market, the adopted energization timelines should address both electric and hydrogen vehicle refueling facilities because both will be needed to achieve the state's ZEV goals.

c. **Phase 2, Question 4.** The most effective way to reduce the most significant cause of energization delays that is within the control of utilities would be to require that: (1) the distribution planning process should be updated to ensure proactive distribution planning that considers all "Pending Load" that will be needed to achieve the state's ZEV goals; and, (2) the updated distribution planning process be based on a planning horizon of sufficient duration to ensure that needed capacity is available when needed (e.g. 10 years instead of the current 5 years).

d. **Phase 2, Question 7.** Expeditious energization of MDHD ZEV charging and hydrogen refueling infrastructure is one of the most critical actions the Commission can take to

protect environmental justice communities from criteria pollution caused by conventional freight vehicles, which has long disproportionally impacted these communities.

PTC, Clean Energy, and CHBC submit that both electric charging and hydrogen refueling facilities will be necessary to achieve the state's ZEV goals and failure to ensure timely energization of both types of refueling facilities would result in failure to achieve these goals. In recognition of this fact, the Commission has instituted a number of proceedings to further this goal for the electric vehicle market. PTC, Clean Energy, and CHBC support these efforts. Unfortunately, however, equal attention has not been placed on issues that must be addressed to energize the hydrogen fuel cell electric vehicle refueling facilities that will be needed to achieve California's MDHD ZEV goals to date. PTC, Clean Energy, and CHBC's comments are intended to help ensure the state's utilities are prepared to provide the services that will be necessary to achieve all of the state's ZEV goals.

II. Comments

a. Response to Phase 1, Questions 1b. i. and ii: Upgrades to service lines for MDHD hydrogen refueling stations are unnecessarily delayed and costly because utilities do not currently allow dedicated meters for hydrogen refueling facilities.

In Phase 1, Question 1(b)(i) and (ii), the Commission asks whether the length of time it takes for a utility to complete each step in an energization request differs for new service line requests and upgrades to existing service lines across different customer types, and if so, how. Various parties have expressed the view that the timeline for upgrading service lines to support electric vehicle charging energization can be lengthy, complex, and urgent. PTC, Clean Energy, and CHBC add that the length of time to upgrade facilities to install MDHD hydrogen refueling stations is far more cumbersome, time consuming, and uncertain because, unlike EV charging

facilities, there is no tariff for providing service to hydrogen fueling stations, and these stations are not currently eligible for dedicated meters. As a result, hydrogen refueling facilities must furthermore undertake all the service line upgrade work themselves at a higher cost than the cost of doing this work by utilities, even if the Commission determines that this cost should be allocated to energization customers. By contrast, service line upgrades for electric vehicle charging stations are provided service pursuant to specific utility tariffs, are eligible for a dedicated meter, and service lines to the meter are designed and constructed by the utility and paid for by ratepayers. The cost to PTC to upgrade the service line at its existing travel centers to energize hydrogen refueling stations can range from $500,000 to over $1,000,000/station, a cost that is prohibitive and counter-productive to the adoption of hydrogen ZEVs that are needed to achieve the state's ZEV goals. This cost would be significantly reduced if the work was performed by the utility and the service line could connect to a dedicated meter at the hydrogen refueling station instead of to the main facility meter, as is currently required.

b. Phase 1, Question 4: If the Commission decides to adopt unique energization timelines for end-use categories such as infrastructure needed to achieve California's zero emission vehicle goals, particularly in the MDHD market, the adopted energization timelines should address both electric and hydrogen vehicle refueling facilities.

Scoping Memo Question 4 in Section 2a. Phase 1 asks "Are there end-use project types that justify unique energization timelines pursuant to Pub. Util. Code § 933.5(a)(1)(B)? If so, what types of end-use projects, and for which electric tariffs?[2,3] As Volvo pointed out in their

[2] Scoping Memo, footnote 6, herein clarifies: "For this proceeding, 'project types' are defined as customer requests for energization for different types of end-use project requests, such as upgrades to support electric vehicle.infrastructure, residential subdivision construction, or other building-electrification projects."

[3] Scoping Memo, p. 5.

presentation at the February 2, 2024 workshop hosted for this proceeding by Energy Division staff, MDHD vehicle manufacturers are obligated to California's Advanced Clean Truck and Advance Clean Fleet regulation timelines that started in January of this year. Therefore, delay in energizing associated infrastructure risks truck OEMs and fleets struggling to meet their compliance obligation timelines and a threat to reaching state goals.[4] In light of these facts, a number of parties have argued that energization timelines for EV charging infrastructure should be expedited to ensure regulatory timelines are met and public and private investment is protected. PTC, Clean Energy, and CHBC agree with this opinion.

However, both hydrogen refueling and electric charging stations will be needed to meet state mandated ZEV transition timelines in the MDHD sector. Furthermore, public and private investment in the MDHD ZEV commercial market is occurring not only in battery electric but also in hydrogen fuel cell electric technologies. In addition to battery electric truck orders mentioned in Volvo's presentation, as of April 2024, hydrogen fuel cell electric heavy-duty trucks operating commercially in California included 30 Hyundai trucks delivered for the NorCal Zero project at the Port of Oakland[5] and 16 Nikola trucks mostly deployed ports, with 20 Nikola trucks to be delivered later this year.[6] PTC is also planning to purchase five fuel cell electric trucks in the near-term. Five thousand fuel cell electric trucks are also planned by 2030 by the federally funded ARCHES hub.[7] PTC, Clean Energy, and CHBC therefore submit that, if the Commission decides

[4] *Energizing Electric Truck transport*, Aravind Kailas, Ph.D., Volvo Group (February 2, 2024). At slide 79 of workshop presentation slides: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/infrastructure/energization/ab50_sb410-energization-workshop_02022024.pdf.

[5] *See*, https://www.hyundai.com/worldwide/en/newsroom/detail/hyundai%25E2%2580%2599s-xcient-fuel-cell-hitting-the-road-in-california-0000000494.

[6] As reported by the company. More details about their plans can be read here: https://nikolamotor.com/nikola-corporation-reports-fourth-quarter-and-full-year-2023-results.

[7] *See,* https://www.portoflosangeles.org/references/2023-news-releases/news_101323_hydogen_hub.

to adopt unique energization timelines for end-use categories such as infrastructure needed to achieve California's zero emission vehicle goals, particularly in the MDHD market, the adopted energization timelines should address both electric and hydrogen vehicle refueling facilities to ensure California is able to meet its mandated MDHD ZEV goals.

PTC, Clean Energy, and CHBC submit that because both types of ZEV infrastructure will be needed to meet state ZEV requirements for the MDHD sector, energization policies adopted to support the state's MDHD ZEV goals must be applied equitably to both MDHD electric charging and MDHD hydrogen refueling stations. While electric charging stations have the ability to use a dedicated Rule 29/45 EV energization tariff as an alternative to the standard Rule 16 energization tariff, there are no similar energization tariffs for hydrogen refueling stations. Instead, hydrogen refueling facilities like PTC's travel centers that are seeking to install hydrogen refueling do not have the ability to obtain a dedicated meter for the hydrogen refueling station or a service drop to that dedicated meter. This is a significant impediment that threatens development of the hydrogen refueling stations that will be critical to the state's ability to achieve its ZEV goals in the MDHD sector.

c. Phase 2, Question 4 in Section 2b: The most effective way to reduce the most significant cause of energization delays that is within the control of utilities would be to require that distribution planning include a "Pending Load" category to enable all capacity additions that will be required to meet California's legal mandates and policy goals and adopt a planning horizon of sufficient duration to ensure that needed capacity is available when needed (e.g. 10 years instead of the current 5 years).

Phase 2, Question 4 asks: "4. What actions can expedite energization projects, including when upstream upgrades are necessary?"[8] The Joint Utility response to the Scoping Memo

[8] See, Scoping Memo, at p..6.

provides significant insights that can help answer this question. The utilities have identified five steps that are taken as part of the energization process, as well as the length of time it takes to complete each step and the party responsible for each. The Joint IOUs identify the following standardized list of steps to complete the energization process:[9]

1. Customer Initiation/Intake,
2. Engineering & Design,
3. Dependencies,
4. Site Readiness, and
5. Construction.

The joint utilities state that upstream distribution capacity upgrades typically would be initiated in "Step 2: Engineering & Design." Their response also indicates that Engineering and Design is the most time-consuming step to complete the energization process that is under their control.[10] These delays would be avoided if, as a result of a proactive utility distribution planning process, upstream distribution capacity upgrades were not necessary during the energization process.

More specifically, PTC, Clean Energy, and CHBC submit that if utilities are directed to implement a proactive utility distribution planning process (DPP) that considers capacity additions that the utility knows will likely be necessary to meet state legal mandates, this delay would be avoided. For this reason, PTC, Clean Energy, and CHBC submit that the single most effective way to reduce the most significant cause of energization delays within the control of utilities would be to require that the DPP include all capacity additions that will be required to meet California's

[9] *San Diego Gas & Electric Company (U 902-E), Pacific Gas and Electric Company (U 39 E), and Southern California Edison Company (U 338-E) Response to Administrative Law Judge Ruling Directing Utility Responses to Questions Regarding Energization Timelines* (R.24-01-018), April 22, 2024, at p. 4; https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M530/K252/530252757.PDF.

[10] Ibid., at pp. 16-18.

legal mandates and policy goals and be based on a planning horizon of sufficient duration to ensure that needed capacity is available when needed.

This recommendation is aligned with the staff proposal in the High DER Proceeding (R. 21-06-017) to improve the DPP and execution of distribution upgrades. In that proceeding, Commission staff has proposed two mechanisms that would significantly reduce delays in the Engineering and Design step of the energization process: (1) extending the planning horizon from 5 years to 10 years, and (2) creating a "Pending Loads" category in the DPP.[11] Commission staff reasons that a 10 year planning horizon would address the need to plan for large future loads, such as those related to vehicle electrification that risk acute local capacity constraints without a longer planning horizon, and this would also enable better integration between distribution capacity work and other distribution work. Advancing its recommendation of a new "Pending Loads" category, Commission Staff explains:

> *"Pending Loads are a proposed category of load that is less certain than a 'known load'… The purpose of creating this category is to increase utility awareness of where load will likely appear in the mid-term years of the DPP without known loads…The goal of the Pending Loads category should be to estimate future load growth from any source outside of known loads in a way that balances the reliability of current information with the importance of proactive planning and investment."*[12]

PTC, Clean Energy, and CHBC assert that both these Commission staff recommendations ought to be integrated into all relevant Commission proceedings, including this one on energization timelines, in order to reduce energization delays such as those related to building out zero

[11] CPUC, *Staff Proposal for the High DER Proceeding,* at pp. 68-70, 73-77 (March 13, 2024); https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M527/K221/527221491.PDF.

[12] Ibid., at p. 74.

emissions vehicle (ZEV) infrastructure. This is particularly urgent in the MDHD sector due to the significant expected load growth driven by regulations and the need for adequate electric infrastructure to serve this load. PTC, Clean Energy, and CHBC submit that this Pending Loads category should include the load that will be added to serve the electric vehicle charging stations and hydrogen vehicle refueling stations necessary to achieve California's mandated ZEV goals.

Studies conducted by California state agencies pursuant to several state laws, including SB 643, SB 671, and AB 2127 clearly demonstrate the need to include hydrogen refueling station load in the utility distribution planning process and to ensure timely energization of these projects. More specifically, California agencies have developed estimates of the number of hydrogen refueling and electric charging stations that will be needed over the next decade to meet state requirements to transition to zero emissions in the MDHD transportation sector. In the *2023 Final Staff Report - Senate Bill 643* published earlier this year by the California Energy Commission (CEC), CEC staff presents data from the California Air Resources Board (CARB) and the California Transportation Commission (CTC) indicating that a total of approximately 1618-1797 public and an additional 539 private MDHD hydrogen refueling stations will be needed in the state by 2035, with more than 100 of those being funded by the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), the federal, state, and privately funded California hydrogen hub.[13] Although these scenarios exclude fuel cell electric buses in their 2023 mandated 2023 Innovative Clean Transit Plan updates, 41 transit agencies representing 5,500 transit buses (40% of the state's total)

[13] CEC, *2023 Final Staff Report – Senate Bill 643*, at pp. 40-44 (January 24, 2024); https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M527/K221/527221491.PDF. Note that this report also presents a low hydrogen station and demand scenario from the 2022 *Integrated Energy Policy Report* based in part on high hydrogen pricing, which we submit is likely an outlier given the multi-billion dollar public-private ARCHES investment commitment, among other programs focused on lowering the cost of clean hydrogen in California by the early 2030s.

stated their intent to purchase fuel cell electric buses.[14] The CEC's *Assembly Bill 2127 Second Electric Vehicle Charging Assessment* .projects 114,500 electric vehicle chargers will be needed by 2030 to support the anticipated number of MDHD battery electric vehicles in California by that year.[15]

While there may currently be uncertainty in estimating the number of MDHD electric charging vs. hydrogen stations that will be needed, given the early stage of commercial market development of both types of MDHD ZEVs, substantial distribution planning should still be feasible, given that freight corridors are well established within the industry. The electricity draw in hydrogen stations stems primarily from the high amounts of hydrogen that must be dispensed for large MDHD vehicles and the pumping required to refuel at a speed on a par with diesel, whereas for battery electric stations, the electricity is drawn primarily to charge large vehicle batteries. It must be noted that significantly more ZEV miles per kWh are gained with hydrogen refueling, which can fuel ~8-10 times the number of fuel cell electric trucks in the period of time needed to charge comparable battery electric trucks to fulfill their duty cycles.[16]

[14] *See,* https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit/ict-rollout-plans.

[15] See, https://www.energy.ca.gov/data-reports/reports/electric-vehicle-charging-infrastructure-assessment-ab-2127.

[16] Assuming a 350 kW DC fast charger takes about 2 hours to refuel a heavy-duty battery electric vehicle sufficiently to achieve the desired duty cycle for the truck, 350 kW is approximately what a heavy-duty hydrogen refueling station uses per lane for fueling. Assuming use of a liquid hydrogen hydraulic pump with a refueling rate of 4 kg/minute (the system Pilot will install), an average 40-50 kg fill will take approximately 10-12 minutes. This being the case, the hydrogen refueling lane could refill 4-5 trucks every hour, or 8 to 10 trucks in the 2-hour span it takes to recharge a single HD battery electric truck.

d. Phase 2, Question 7: Expeditious energization of MDHD ZEV charging and hydrogen refueling infrastructure is one of the most critical actions the Commission can take to protect environmental justice communities from criteria pollution caused by conventional freight vehicles, which has long disproportionally impacted these communities.

Phase 2, Question 7 asks: "What potential impacts on environmental and social justice communities should be considered or prioritized in the improvement of energization timelines and reporting processes to align with the Commission's Environmental and Social Justice Action Plan?"[17] According to CARB, "Diesel engine emissions are believed to be responsible for about 70% of California's estimated known cancer risk attributable to toxic air contaminants,"[18] and "(h)eavy-duty trucks comprise the largest source of NOx in the state, contributing nearly a third of all statewide NOx emissions as well as more than a quarter of total statewide diesel particulate matter (PM) emissions.[19] These impacts disproportionately disadvantage environmental justice communities. Therefore, enabling California to meet its ZEV transition timelines in the heavy-duty sector by ensuring the state can install the necessary charging and hydrogen refueling infrastructure in time to meet state mandates is one of the most important actions the Commission can take to support California environmental justice communities.

[17] Scoping Memo at pp 6, 7.

[18] https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts#footnote1_pw2usur.

[19] See p. 1, *Facts about the Low NOx Heavy-Duty Omnibus Regulation*, CARB.

III. Conclusion

PTC, Clean Energy, and CHBC appreciate this opportunity to submit comments and looks forward to supporting the Commission's efforts in this proceeding.

Respectfully submitted,

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