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*Comment Received From: Aravind Kailas  
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**Comment on 2023 IEPR Scoping Plan**

*Additional submitted attachment is included below.*

2023-04-07

California Energy Commission  
715 P Street  
Sacramento, CA 95814

**Re: Comments regarding Heavy-Duty (HD) Electric Vehicle Charging Infrastructure energization demand as addressed in the 2023 Integrated Energy Policy Report (IEPR) Scoping Order (Docket Number 23-IEPR-01)**

Dear Commissioners Monahan and Gunda,

Volvo Group North America (Volvo Group) welcomes the opportunity to provide comments to the California Energy Commission (CEC) 2023 Integrated Energy Policy Report Scoping Order (2023 IEPR). We write to address one of the most critically significant barriers to navigating the path of electrifying the freight movement system in California - the efficacious and timely rollout of heavy-duty (Class 8) electric truck charging infrastructure. With this in mind, we are working hand-in-glove with the state to reach a net-zero carbon economy on the timelines and milestones established by the Governor's Office and the state Legislature.

**Overall Comments**

- A proposed focus of the 2023 IEPR is to examine barriers and potential solutions to the decarbonization path in California with the stated goal of making "recommendations for policy." We strongly recommend that the policy recommendations stemming from this IEPR process be rapidly enacted policies that create alignment between the (the California Air Resources Board's Advanced Clean Truck (ACT) regulation (affecting original equipment manufacturers (OEMs)), the proposed Advanced Clean Fleet (ACF) regulation (affecting fleets), and the energization of charging infrastructure (affecting energy providers). In this regard, the roles of CEC (and the California Public Utilities Commission (CPUC)) cannot be overstated. There is an urgent need for the provision of power from energy providers to charging infrastructure deployed at public sites, truck stops, dealerships and fleet sites in order to meet the timelines established in those regulations. This is an institutional

barrier that can be overcome, but only if it is acknowledged and addressed by all California policymakers. The 2023 IEPR is where the policy change needs to begin with urgency.

- The success of the ACT and ACF regulations is predicated on the reliable and widely available Class 8 electric truck charging infrastructure, the “third leg of the stool” in electrifying California’s freight sector. The first two legs of the stool – OEMs and fleets – are required to electrify beginning in 2024. Conversely, there is no requirement to adopt the third leg, charging infrastructure. Unfortunately, both the ACT and the ACF regulations are at significant risk of failure because of this mandate gap, which is clearly identified in the 2023 IEPR, primarily interconnection delays.
- The delays and/or limitations in getting the required power supplied to charging infrastructure projects have caused CARB staff to recommend compliance “exemptions” of up to five years in the ACF rule for fleets that cannot get power for electrification of their charging infrastructure. At a recent CARB workshop on those ACF exemptions, one large energy provider testified that five years wouldn’t be long enough, given their other energization demands and priorities. This seeming lack of priority on the part of some energy providers must be addressed if the state’s carbon reduction goals are to be met on the current timelines. Additionally, it will be impossible for obligated OEMs and their fleet customers to meet compliance timelines established in the ACT and ACF without significant state intervention in the energization issue.
- Public charging sites that support Class 8 trucking fleets are essential for accelerating the penetration rate of zero-emission (ZE) trucks, especially among smaller fleets and independent owner operators (like drayage companies) that do not own properties where they can install chargers. As of today, there are only two public charging sites in California – one in Long Beach with 2 x 150 kW chargers and the other (recently opened) in San Diego with 4 x 62.5 kW chargers). Building and operating public charging stations is a complicated business with no guaranteed rate of return on the capital investments in these early days of the Class 8 electric truck market. Such projects have very long lead times, and require extensive planning, large real estate, lot of power (3+ MW), large financial commitments, multi-stakeholder engagement, and technology resources to maintain uptime and resiliency. For example, the public charging site in Volvo LIGHTS could not be built within the

project timeline of 3 years despite having the funding, real-estate, and all the necessary partners. For California to meet its decarbonization targets and timelines, it is imperative that the 2023 IEPR explicitly addresses Class 8 electric truck public charging sites by creating new programs, reallocating more funds to existing programs (like the Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles (EnergIIIZE) program), and prioritizing such projects within statewide plans (like California's National Electric Vehicle Infrastructure (NEVI) program). Finally, collaboration with the CPUC is essential to develop and implement competitively neutral policies that will encourage competitive private investment, ownership, and operation of publicly accessible charging stations.

- As the leader in serial production and deployment of battery-electric Class 8 trucks, the Volvo Group has been at the front lines and seen deployment issues firsthand. While we could share several anecdotal stories, the cumulative result of our experience points to the need for exemptions within both the ACT and ACF regulations related to grid and infrastructure readiness. For example, a 50-truck order for VNR Electric trucks was shelved because charging infrastructure could not be approved and built in a reasonable timeframe. Another 5-truck order was put on hold because of the inability to get easement on a leased property. Additionally, there have been many heavy-duty vehicle incentive program (HVIP) vouchers for our VNR Electric trucks that have not been redeemed due to charging infrastructure construction delays or other issues with site electrification, impeding the deployment of ZE trucks that could be in service today, and future sales.
- We respectfully urge the CEC in the 2023 IEPR to take up the gauntlet laid down in the Scoping Order to solve the critical problem that “chargers will need to be connected to the grid” for the state to meet its decarbonization goals. The state needs to move beyond the stage outlined where agencies are “working together” to active, enforceable requirements to address interconnection delays. We have reached the point where the state must adopt legislation – or an executive order from the Governor's Office – requiring CPUC to adopt a companion regulation to its recently adopted E-5247, which requires energy providers to energize charging infrastructure projects of 2MW or less within 125 days of service request. We have the following two suggestions.

- We suggest the companion regulation require energy providers to supply the requested power and complete energization to charging infrastructure projects of 3MW or greater within six months of service request or risk penalties as developed by the CPUC after a public process.

Furthermore, we suggest this regulation be expedited for adoption by the end of 2023 so that it takes effect on Jan. 1, 2024. This is critical if OEMs and fleets are to begin complying with the ACT and ACF rules beginning in 2024.

### **About the Volvo Group**

Volvo Group drives prosperity through transport and infrastructure solutions, offering trucks, buses, construction equipment, power solutions for marine and industrial applications, financing and services that increase our customers' uptime and productivity. Founded in 1927, the Volvo Group is committed to shaping the future landscape of sustainable transport and infrastructure solutions. The Volvo Group is headquartered in Gothenburg, Sweden, employs some 100,000 people worldwide, and serves customers in more than 190 markets. Volvo Group North America, with headquarters in Greensboro, NC, employs more than 13,000 people in the United States and operates 11 manufacturing and remanufacturing facilities in seven states. In 2022, the Volvo Group's global net sales amounted to about \$47 billion.

In California, the Volvo Group and its dealers employ more than 1,000 people with locations in Costa Mesa, Mountain View, Corona, Hayward, Fontana, Stockton, Fresno, La Mirada, and other locations. Volvo Group is in the process of training and certifying dealers to sell and service its electric products. Currently, dealers at four locations in California have been certified as Class 8 electric vehicle dealers, with more expected to be added soon.

### **Volvo Group's Electromobility Solutions**

The Volvo Group has spent years developing complete solutions for electromobility, and today – in North America – we are selling five configurations of the Volvo VNR Electric<sup>1</sup> truck, the Mack LR Electric<sup>2</sup> waste hauler, the Mack MD Electric<sup>3</sup>, five electric Volvo Construction Equipment models<sup>4</sup>, and the Nova Bus LFSe+ electric

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<sup>1</sup> <https://www.volvotrucks.us/trucks/vnr-electric/>

<sup>2</sup> <https://www.macktrucks.com/trucks/lr-series/lr-electric/>

<sup>3</sup> <https://www.macktrucks.com/trucks/md-electric/>

<sup>4</sup> <https://www.volvoce.com/global/en/our-offer/emobility/>

bus<sup>5</sup>. Both Class 8 truck models are assembled exclusively in the U.S. for the North American market. While battery-electric vehicles are a suitable solution for local goods distribution, city buses, regional haulage and similar applications, hydrogen fuel cells (to power the electric driveline) will be a viable option for heavy transport and challenging long-haul applications. For use cases involving heavier loads and/or longer distances, the weight of the batteries themselves becomes a limiting factor, and hydrogen fuel cells are likely to be an interesting alternative.

With this in mind, the Volvo Group has formed cellcentric, a joint venture with Daimler Truck AG to accelerate the development, production, and commercialization of fuel cell technology for Class 8 vehicle applications in the second half of this decade. Volvo Group appreciates the efforts to develop a refueling infrastructure to support the future deployment of fuel cell Class 8 vehicles and sees this as an important investment. Fuel cell Class 8 vehicles will need demonstration projects to further prove their role in the commercial vehicle world.

Within the Volvo LIGHTS<sup>6</sup> project in California, we have successfully demonstrated the viability of electric Class 8 trucks in real-world applications, putting 30 battery-electric Class 8 trucks in commercial operations across 11 different fleets. Beyond Volvo LIGHTS, we have deployed 150+ battery-electric Class 8 trucks across the US and accumulated in excess of one million miles in customer operations.

The Volvo Group is the first traditional truck OEM to sell battery-electric Class 8 trucks to customers and is the current market leader with more than 48 percent of the battery-electric Class 8 truck market. Based on this experience, and our ongoing ZE product development efforts, our biggest concerns about the Class 8 truck market are not related to technology viability, but rather factors beyond our control that are critical to ensure a conducive market environment.

Last year, the Volvo Group released a guidebook outlining many key lessons learned from the Volvo LIGHTS project, many of which are similar to those encountered by other OEMs and stakeholders in similar projects. They include:

- Critical charging infrastructure deployment takes far more time than anticipated and therefore engagement with local utilities and permitting agencies should be done early.
- Issues such as property ownership can complicate, delay or even prevent infrastructure deployment.

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<sup>5</sup> <https://novabus.com/blog/bus/lfse-plus/>

<sup>6</sup> <https://www.lightsproject.com>

- Early stakeholder engagement and coordination are essential for infrastructure deployment. Local government planning and electric utilities can be allies or obstacles in the project implementation process.
- The entire charging ecosystem needs to be considered. A fleet's business goals must align with the vehicles' capabilities. That may dictate the type and cost of charging infrastructure. Options such as on-site energy generation and storage may need to be factored into project planning.
- Fleet operators may not know what charging infrastructure they need until after they conduct a thorough duty-cycle analysis. It is critical this is done well prior to placing a truck order to help manage misalignment between vehicle deliveries and infrastructure readiness.
- Workforce development is needed. Drivers, technicians, fleet staff, first responders, charging providers and utility companies need training to maximize electric vehicle efficiency and uptime.
- Companies will need to build relationships with a diverse set of stakeholders to minimize operational disruptions from the introduction of new, advanced technology vehicles.
- Higher vehicle purchase prices, plus new infrastructure costs, can be a cost impediment to a business. While these costs may be partially offset by government-sponsored programs, navigating those programs is another new, added complexity and cost for the business.

Volvo Group also has applied some of these lessons internally, which helped spur the development of a new division, Volvo Energy, to provide customers with infrastructure solutions for ZE vehicles.

We look forward to continuing our productive work with CEC and other state agencies, and other stakeholders to support the transition to the cleanest transportation in the Golden State while ensuring all communities benefit, especially those overburdened by air pollution.

Kind regards,



Aravind Kailas, Ph.D.  
Advanced Technology Policy Director



Volvo Group North America

T. 1 714 277 8172

[aravind.kailas@volvo.com](mailto:aravind.kailas@volvo.com)

Attn:

Commissioner Patricia Monahan

Commissioner Siva Gunda