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DTNA Comments on AB 2127 Assessment

Please find attached comments filed by Daimler Truck North America.

Additional submitted attachment is included below.

DAIMLER TRUCK
North America

September 20th, 2023

Michael Nicholas
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Re: Docket # 19-AB-2127 Assembly Bill 2127 Electric Vehicle Charging Infrastructure Second Assessment Draft Staff Report

Daimler Truck North America (DTNA) submits the following comments in response to CEC Staff's Draft Report docketed August 24th, 2023.

DTNA is the largest producer of medium- and heavy-duty (MHD) vehicles in North America. DTNA is fully committed to supporting the emerging zero-emission vehicle (ZEV) market; we expect these technologies to play a significant role in the future of commercial transportation, and know they are a vital contributor to lowering NOx and GHG emissions. DTNA is investing heavily in the development of electric vehicles. We currently offer battery electric school buses, walk-in van chassis (Class 5/6), as well as heavy-duty (Class 8) trucks for sale, and we are preparing for the market introduction of an all-electric medium-duty (Class 6/7) truck. DTNA – in partnership with Portland General Electric (PGE) – is proud to have built the first-of-its-kind public charging island for commercial ZEVs in Portland, Oregon. In addition, DTNA launched a joint venture focused on public charging & refueling (Greenlane) to help in the acceleration of infrastructure that meets the needs of MHD vehicles. Finally, DTNA has an expert eConsulting team dedicated to supporting fleets with all aspects of the ZEV transition, including site design and interfacing with utilities. Therefore, DTNA is uniquely positioned to offer insights into MHD transportation electrification (TE).

DTNA believes the successful transition to ZEV transportation will require a three-part "transformation equation"[1].

Vehicle Technology x Cost Parity x Infrastructure = Successful Transformation

Manufacturers have vehicle technologies available today suitable for a variety of fleet applications. A number of state and federal incentive programs exist to help fleets achieve cost parity. However, the infrastructure factor remains effectively zero, jeopardizing this transformation, the ability of obligated parties to meet CARB regulatory requirements, and the State of California's carbon reduction targets.

[1] https://www.youtube.com/watch?v=eY76BzcxeFc

DTNA Feedback on Modeling Assumptions

DTNA commends CEC staff for undertaking this detailed modeling approach to transportation electrification. It is critical that state agencies get these needs assessments right in order to support the state's vehicle regulatory requirements and carbon reduction goals. DTNA provides the following feedback on specific assumptions stated in this report:

1) **DTNA is concerned that the AATE3 Scenario, which underpins all of staff's projections, is significantly under projecting the number of medium- and heavy-duty plug-in electric vehicles in the state.**

   As stated by staff, this AATE3 projects there will be about 155,000 medium- and heavy-duty BEVs in 2030 and 377,000 BEVs in 2035. In Figure 11 of this report, the ZEV truck volumes projected by CARB as a result of the Advanced Clean Trucks (ACT) and Advanced Clean Fleets (ACF) regulations show approximately 200,000 MHD ZEVs by 2030, and over 500,000 MHD ZEVs by 2035. It is unclear what is driving this ~25% discrepancy, but DTNA believes it may be a result of over-projecting hydrogen fuel cell vehicle proliferation. DTNA strongly recommends CEC revise the BEV forecast to more closely align with CARB's ZEV projections, as FCEV technologies and infrastructure lag further behind BEV deployment.

2) **Additionally, DTNA is concerned that AATE3 may be significantly under-projecting energy needs of the MHD BEV fleet.**

   DTNA agrees with staff's assessment that the ACF may drive changes in the expected ZEV share by class, favoring lower weight class vehicles in the early implementation years, but is concerned with how other assumptions were derived. For example, DTNA does not believe the Average Daily Miles assumption shown in Table 10 is representative of medium- and heavy-duty applications. The Class 8 assumption of 88.1 average daily miles is not representative of Class 8 use cases. Drayage trucks are likely to be a significant share of the 2030 Class 8 BEVs deployed in California. CARB estimates 14,500 Class 8 drayage vehicles will be ZEV by 2029. CARB also references a 2018 Feasibility Assessment for Drayage trucks, where they found an average daily mileage of 238 miles for this application[2]. Under the ACT regulation, DTNA estimates approximately 4,200 battery electric day cabs will be added to the California fleet by 2030. Based on anonymized telematics data collected from real-world operations, DTNA's median estimate of day cab Average Daily Miles is 188 miles. Furthermore, the BEV value proposition lies in a total cost of ownership (TCO) benefit, where BEVs operate at a lower cost-per-mile compared to an internal combustion powered vehicle. Most TCO calculators show a benefit for Class 8 vehicles in the 200-300 miles range. Fleets are

[2] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/isor2.pdf

unlikely to adopt BEVs into applications that operate under 100 miles per day, as the operational cost savings does not offset the higher up front purchase cost of a BEV.

Furthermore, DTNA is concerned with the assumption that batteries are scaled so that vehicles in most classes need to charge at a depot every 1-3 days. Based on the higher daily VMT's noted above, DTNA expects most medium- and heavy-duty vehicles will need to charge every day. A number of DTNA's fleet customers with early ZEV deployment are charging multiple times per day, or cycling multiple trucks through a single charger. Additionally, the assumption that battery capacity will increase 2.5%-5% from 2023-2035 is likely to result in under-projecting capacity needs.

3) DTNA believes CEC is over-projecting depot charging access and underestimating the public charging need.

While many large fleets rely on depot refueling today, there are a variety of business models and scenarios where fleets are exclusively reliant on public infrastructure, and DTNA believes some unique electrification challenges may drive additional fleets to a public charging model.

The assumption that all medium- and heavy-duty BEVs will return to a yard with depot charging is unrealistic. There are a variety of business models where trucks do not return to a depots. Small business owner-operators often utilize public spaces rather than a dedicated depot location. In lease situations, leasing companies may have installed charging capacity, but it is infeasible for leased vehicles to return to depots overnight as they are operated elsewhere.

A number of fleets, especially in highly concentrated urban areas in California where available space is at a premium, will have difficulty installing charging infrastructure at their depot locations. The image below highlights one such California drayage operation. In order to install EVSE equipment, this fleet will either need to reduce the number of vehicles on the property, or purchase additional real estate, which may not be feasible. Fleets with these types of space constraints, especially around California's ports, may be increasingly reliant on public charging infrastructure.

There are additional scenarios where cost of EVSE installation, capital, utility timelines, permitting, etc. may drive fleets to a public charging model. DTNA recommends CEC increase the reliance on public charging in the model, or at a minimum perform a sensitivity analysis to understand what the grid impacts of such a scenario would be.

4) **DTNA urges CEC to consider that medium- and heavy-duty charging times are less flexible, and charging is not easily shifted to other times of day when demand is lower.**

DTNA acknowledges the goal for electric vehicle charging to occur with minimal impact on grid capacity, but notes that commercial needs and operations will dictate the needs of the MHD fleet and managed charging may often not be feasible. DTNA strongly encourages staff to consider the findings of the North American Council for Freight Efficiency's Run on Less initiative, which highlights how fleets are maximizing utilization of their vehicle assets by running slipseat operations[3].

Commercial vehicles are assets acquired by businesses to perform tasks and fulfill obligations to their customers. For freight customers, on-time delivery performance is critically important. For school and transit bus operators, daily route schedules dictate usage times and durations. For other vocational customers, specific tasks like snow removal, utility line work, and construction projects often must occur at specific times. In some cases, where business operations permit, it may be possible to manage the charging times and reduce the need to increase grid capacity to meet coincident peak loads, but commercial vehicle use cases are often unlikely to coincide with a utility's time of use (TOU) interests, because the vehicles must first and foremost perform the jobs for which they were purchased.

DTNA is concerned that if CEC overstates the flexibility of commercial charging demand, and heavily relies on dynamic pricing schemes instead of installing additional capacity, the cost benefits of commercial BEVs will be negated, leading to a stalling of California's regulated vehicle market and the inability of the state to meet its carbon reduction targets.

5) **DTNA is concerned with staff's Grid Capacity Analysis findings**, as they indicate many utility distribution feeders do not have sufficient capacity to meet the anticipated charging loads from MHD fleets to comply with ACT and ACF regulations, particularly in those areas most likely to see early deployment of electric trucks. DTNA strongly recommends CEC highlight these findings to the Legislature, and suggest action be taken to resolve these deficiencies.

[3] https://runonless.com/

DAIMLER TRUCK
North America

DTNA thanks CEC for the opportunity to provide feedback on the second AB 2127 staff report and looks forward to continued collaboration to enable widespread transportation electrification.

Sincerely,

Alissa Recker
Engineer, Compliance & Regulatory Affairs