



CMUA
CALIFORNIA MUNICIPAL UTILITIES
ASSOCIATION



**Modesto
Irrigation
District**



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RE: Coalition Comments on the September 18, 2020 Advanced Clean Fleets Workshop

The signatories to this letter appreciate the opportunity to comment on the concepts presented at the September 18, 2020 Advanced Clean Fleets Workshop¹. The undersigned Coalition of entities have a common purpose to provide electricity, gas, water and wastewater service to the millions of Californians who rely on these services daily (for the purpose of this letter, each utility type is included when the term ‘utility’ is used). The customers who rely on these services have an expectation that the lights and stoves will turn on and taps will work 24/7. When an emergency hits California (or elsewhere), it is imperative these services resume as soon as possible. It is in that spirit that these comments are submitted.

CARB has been working with numerous stakeholders during this pre-rulemaking phase and we appreciate staff’s efforts to better understand the need to accommodate the utility sector’s unique operational challenges as entities transition to zero-emission truck fleets. This is not a question of supporting electrification where it can meet operational needs, but as discussed at the workshop, electrification may not be suitable for *all* categories of vehicles, including emergency response and specialized utility vehicles whose duty cycles go beyond standard working ‘shifts’.

Below we offer recommendations and rationale on how CARB can best accommodate different requirements for certain utility fleet vehicles – where electrification would not be a suitable option – to ensure or restore critical utility services. These utility vehicles are needed to support essential public services such as police and fire, as well as, impacts from loss of water, gas and electric service to communities, especially those at greatest risk such as the elderly and sick, or the public during a catastrophic natural disaster.

Coalition members operate diverse fleets of vehicles, including operating specialty vehicles long distance, in remote areas, on difficult terrain, and for extended operation—sometimes all at the same time. In addition, these vehicles are needed for rapid response/emergency scenarios. Some examples of such operation include:

¹ https://ww2.arb.ca.gov/sites/default/files/2020-09/200918presentation_ADA.pdf

- Storm situations (heat, cold, wind, rain) which instigate multiple consecutive outages, where crews are working 24/7 and the trucks are also considered health and safety shelters. Such events require the vehicles to idle/travel consecutive shifts and days.
- Snow removal in mountain areas (power and water assets). This is an example where the vehicles must keep up with rapidly changing weather patterns. Not just the plow trucks but the mechanic trucks that support the operation. Again, it is critical that these vehicles can perform multiple consecutive shift and days—for both operation and shelter.
- Regular daily use of Aerial equipment, Derricks, dump trucks, crew trucks, line trucks *need to run as long as each job lasts*, with unknown construction and repair times. Having these vehicles stopping to charge poses a safety, productivity and service reliability risk.
- Anytime when the vehicle needs to double as shelter, its power source needs to be reliable, readily available and quickly replenished. Many utility core fleet vehicles double as office space for the operator.
- Anyone who needs to respond to emergency issues and travel between the yard and the remote locations (i.e. Loon Lake in the remote Sierra) on a 24/7 duty cycle.
- Extended service duty cycles when water mains rupture is necessary to protect property from additional water damage.
- Vehicles are used to inspect, maintain and repair water infrastructure ranging from the Los Angeles Aqueduct intake in the Eastern Sierra to the Los Angeles Basin, and power infrastructure that spans five Western states (California, Nevada, Utah, Arizona, and Oregon).

Slide 56 of the workshop highlights these two concepts of “specialized vehicles” and “emergency use”, but it needs to be noted these two concepts are relevant for **both** public and private utilities. The key concepts of concern are 1) matching vehicle capabilities with fleet operational needs, and 2) avoiding unintended consequences. Non-local infrastructure for electrified utility-specific emergency support and restoration vehicles may not be available, or feasible to fuel these fleets.

Vehicles that are powered by fill and go fuels such as diesel, gasoline, or natural gas are able to operate for extended periods before they run out of fuel. These units are frequently refueled in the field minimize equipment downtime, thereby reducing the amount of time a community remains without water, gas, wastewater, power, or other life-sustaining critical utility services. When these same vehicles are powered by an all-electric platform, the vehicle must be taken out of service more frequently to facilitate battery recharging. Under this scenario, these vehicles may not have the capacity to protect essential workers from the elements, or be able to perform the required (and sometimes unexpected duty cycles). For successful batter recharge, the vehicle must leave the immediate service area, travel to a charging station, remain out of service during the recharging cycle, and return to the service area. This process will lengthen the amount of time it takes a utility to restore vital services to the community.

Investments have been made in low-emission conventional-fueled hybrid trucks with plug-in electric motors. These specialty trucks can provide an option for fulfilling operational needs in a ZEV-focused manner and to assist with restoration requests locally, regionally, statewide, and from around the nation. Additionally, Low NOx trucks powered by renewable natural gas reduce NOx emissions by 90 percent and can be carbon neutral or negative. Under an all zero-emission scenario, electricity is the only fuel source option, which could be an issue if the equipment is intended to restore the local electrical grid.

The coalition respectfully requests recognition of the critical role utilities play in keeping the lights on, stoves lit, and the water flowing throughout the California, as well as the unintended consequences that will result when there is a loss of power and coalition members are unable to fuel an all-electric fleet of specialty equipment.

RECOMMENDATION

We urge CARB to recognize the unique public service role that electrical, gas and water utility specialty equipment play in emergency response situations. This recognition can come in many forms under the proposed Advanced Clean Fleets Regulation. At this time, the coalition is seeking further specific discussions with CARB to chart a feasible path forward that allows for both ZEV advancement and assurances that utility vehicles will be ready to respond to the myriad of scenarios they are faced with on a daily and year-round basis.

Many of these vehicles can be configured with hybrid electric or Low NOx technology, *but an all-electrification requirement is infeasible* at this time. Recognition of such a category of “emergency response specialty vehicles” would not be inconsistent with other ZEV regulations. It would also encourage utilities to retire their oldest fleet vehicles by allowing an option to replace specialized equipment used to electrify the grid or repair municipal water, wastewater, and gas systems after catastrophic events.² This recognition allows the furthering of California’s climate- and health-based emissions reduction goals while permitting utilities to procure vehicles that still meet their unique operational needs.

To avoid unintended consequences that would compromise resilient and reliable delivery of critical public services, the Coalition recommends that the following vehicle types be deemed “Emergency Response Specialty Vehicles”³ under any ZEV fleet rule and that efforts by utilities to procure within these *limited* specialty vehicles be allowed. Such a recognition would, by default and definition, be limited in scope and practical in implementation.

The vehicles listed are critically examples to ensure the safe and reliable delivery of utility water services to Californians. We believe that utilities should retain the ability to procure a limited “mixed fleet” of vehicles capable of responding to different demands and events.

Many ZEV and clean fleet investments have already been made. These investments include plug-in electric hybrids trucks, as well as, low NOx CNG trucks. Providing an agency the ability to keep a mixed fleet of vehicles would ensure that electric, gas, water and wastewater utilities/agencies are able to quickly and reliably respond to disasters, emergencies, mutual assistance requests, and operational demands when it matters most, and remain on station and working until the risk to human health and the environment is mitigated.

	Type of Truck	Example Emergency Restoration Activity
1	<i>Aerial Boom Truck</i>	Quickly replace overhead equipment.
2	<i>Excavation Trucks (Backhoe Trucks)</i>	Needed to transport backhoes for remote solid debris removal.
3	<i>Line Auger Boom Truck (Digger Derricks)</i>	Construction, maintenance, replacement, and repair of power poles, and power pole structures and components.
4	<i>Maintenance & Construction Trucks</i>	Transporting supplies, and tools for construction and maintenance work for emergency leak repair of water main breaks and water tanks. Crews travel to the job site with dewatering pumps and concrete breakers for use with the truck-mounted compressor. These tools are raised and lowered with the hydraulic tool lifter installed on the truck. The trucks are also equipped with a crane, pipe rack, acetylene tank holders, lightbars, and work lights for night operation.
5	<i>Stake Truck with Crane</i>	Replacing damaged water tanks and infrastructure, and transporting tools, service equipment, and materials.
6	<i>Truck-Mounted Water Filtration Truck/Water trucks</i>	On-site water filtration for water supply restoration activities
7	<i>Truck Tractor – 3-Axle</i>	Movement of off-road equipment, oversized equipment and materials—all the parts needed for overhead linework, such as cross arms, insulators, nuts, bolts, etc.
8	<i>Material/Stake Truck</i>	Transport of materials, tools, and heavy electrical infrastructure (transformers).
9	<i>Dump Truck</i>	Removal of debris to allow restoration activities.

² Earthquakes, wildfires, fires following earthquakes, heatwaves, floods, wind or ice storms, and/or other service disruptions.

³ Exact definition to be determined in rulemaking

ADDITIONAL BACKGROUND INFORMATION

Utilities need a diverse and reliable fleet of vehicles to maintain critical public infrastructure including both the electric grid and water supply system. When disasters strike, utility fleets are dispatched to repair vital infrastructure on a moment's notice locally and may provide support to areas far removed from their home service territory. Fungible fueling options are a critical necessity. Here are a few examples of such efforts and constraints:

- **General Nature of Emergency and Disaster Related Events.** Emergencies and Disaster Related events can be both local and remote, requiring a vehicle to travel long distances. Also, these events can last for long periods of time and may require equipment to be moved directly from repair site to repair site. The limited range of electric vehicles and need to recharge large vehicles poses a practical issue associated with requiring all vehicles to be electric. Victims of an emergency event cannot wait as response equipment travels hundreds of miles over a period of days, stopping to recharge along the way. Emergency repairs may need to be done in remote areas where recharging infrastructure is not available. A large vehicle which has fully discharged its power during travel is at risk of not having enough power to utilize its operating lights and provide auxiliary power at repair sites. In this situation the vehicle could not be moved and would have to be retrieved by mechanical means. Finally, it may well be that to deal with these realities; utilities may have to have duplicate fleets to be charging on standby which would fall at rate payer's expense.
- **Real World Examples of Regional Disaster Response.** Southern California experienced a severe windstorm in 2011. Over 10% of Pasadena's customers were without power as the utility lost all but one power supply line into the City and ~100 transformers were damaged. It took over 20,000 worker-hours to restore power over three days with the assistance of other utilities. When Riverside Public Utilities provided crews to the Imperial Irrigation District and the City of Redding for work after serious weather events in 2017 and 2019, respectively, they were specifically directed ***not*** to send alternative fueled equipment. In assisting Redding, Riverside rented standard line trucks for their crews to help with power system restoration efforts 600 miles to the north. The same directive applied when Riverside committed specialized crews to help PG&E with wildfire restoration efforts. Additional examples of recent emergency scenarios include:
 - January 2017 Storms
 - December 2017 Skirball Fire
 - January 2017 Creek Fire (mutual assistance to PG&E)
 - December 2018 55th Street Water main break
 - July 2019 Ridgecrest Earthquake
 - October 2019 Saddleridge Fire (in Sylmar threatened critical transmission lines that bring power into the L.A. basin)
 - October 2019 Getty Fire
 - December 2019 Mission Hills Water main break
 - August 2020 Sunset Water main break
 - September 2020 heatwave (Labor Day weekend record-breaking temperatures)
- **Catastrophic Wildfire Response.** The effects of climate change have dramatically increased the size and intensity of California wildfires. Specialized utility workers and certain utility fleet vehicles (*see table*) are needed to repair or rebuild damaged electric and water distribution systems.
- **Nationwide Mutual Aid Efforts.** Southern California-based utility crews collectively sent 122 vehicles and crews to the East Coast in response to former President Obama's request to assist with the 2012 "Superstorm Sandy" power restoration effort that left 6.2 million people in seven states without power. None of the vehicles sent were alternative-fueled because the Northeast did not have the fueling infrastructure available. Many regions across the United States lack the necessary fueling infrastructure that would justify long distance travel. Rancho Water District contributed two crews of 10 operators with multiple trucks for a month for the rebuilding of Paradise, CA after the fire in 2018 which devastated the town (and its electrical infrastructure).
- **Large/Expansive Rural Utility Service Areas.** Many utilities across the State are comprised of service territories that are inhibited by distinct weather, terrain or distance concerns that are problematic for access to electrification

opportunities. The distance between electrification infrastructure and the location where emergency support services are required could be expansive, in rural service territory, and will be a limiting factor in the duration of effective work time. This limitation will prompt reductions in field equipment availability during a response, and it will become necessary for utilities in this category to increase fleet sizes and duplicate specialty equipment in order to rotate them in or out of emergency support scenarios.

LADWP's Water System maintains over 7,000 miles of mainlines and trunk lines and 115 tanks and reservoirs, which are critical to reliably delivering high-quality water to Los Angeles residents and businesses. LADWP's Power System oversees 15,000 miles of power lines and cables that span five Western states (California, Nevada, Utah, Arizona, and Oregon). Vehicles travel to remote locations, sometimes experiencing severe off-road usage. The longest possible distance the utility vehicles may be required to travel is over 600 miles from Los Angeles, CA to Delta, UT.

- **Unique Terrain.** Steep hills are difficult to climb and add additional duty-cycle requirements. Additionally, reservoirs can have steep access driveways which need trucks that can make the grades, fully loaded, all the time, in order to keep the water lines repaired and the regions water safe to drink.
- **Wastewater and Water Repair Efforts.** The Plano Sewer Forcemain Break in Rancho Santa Margarita required a fleet of vacuum trucks from a variety of agencies in Orange County operating 24/7 with refueling available locally. The ability to quickly refuel and change the operators substantially reduced the environmental impacts. Rancho Water District also notes that responding to earthquakes in the past to repair water mains and lines has been a multi-day process that has proven to be difficult when relying upon electric fleet vehicles.
- **Unique Operational Needs.** Backhoe trucks are used to transport backhoes to job sites, including remote areas. These vehicles transport heavy-duty backhoes weighing in the range of 25,000 to 30,000 pounds including accessories, such as different size buckets and hydraulic hammers.

High reach aerial platforms are a special type of aerial boom truck necessary for crews to access, construct, inspect, service, and repair overhead transmission infrastructure, in support of the North American Electric Reliability Corporation reliability standards. These vehicles travel to remote locations, experiencing severe off-road usage, across California and other Western States. There is limited demand for this type of specialized equipment with high booms of 150 to 197 feet; therefore, alternative-fueled units may not be available. Additionally, the lack of fueling infrastructure along or near our overhead transmission infrastructure, would make the use of an alternative-fueled powered truck infeasible.

Specialty trucks, such as Line Auger Boom trucks that are domiciled and used in the Los Angeles Basin, but may be dispatched for extended periods to perform work on out-of-basin transmission lines. In the past, these trucks were dispatched to remote areas for several years to work on solar projects in Lone Pine and Owens Valley. These trucks are also used to maintain and repair hundreds of miles of high voltage power transmission line outside of California.

A mandate to procure *only* all-electric fleet vehicles would detrimentally harm these restoration efforts statewide as all-electric vehicles simply cannot operate continuously without a fully developed electric system. We appreciate the verbiage used by CARB at recent workshops acknowledging the unique issues surrounding these types of vehicles. We look forward to working with staff on this important issue as the rulemaking progresses.

Thank you for the time and attention to this matter.

Respectfully submitted by:

- Southern California Public Power Authority
- California Municipal Utilities Association

- Association of California Water Agencies
- SoCalGas Company
- Turlock Irrigation District
- Rancho California Water District
- Imperial Irrigation District
- Valley Center Municipal Water District
- Aliso Water District
- Mesa Water District

CC: Richard Corey
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Attachment: Pictures and equipment descriptions appendix

Equipment Photos

#1 Aerial Boom Truck/High Reach Aerial Platform



#2 Excavation Trucks⁶



⁶ Stock Photos – in use photo not available at time of submission.

#3 Line Auger Boom Truck



#4 Maintenance and Construction Truck



#5 Stake Truck with Crane



#6 Truck-Mounted Water Filtration Truck



#7 Truck Tractor 3-Axle



#8 Material/Stake Truck



#9 Dump Truck



#10 Vacuum Truck

