TRUCKEE DONNER
Public Utility District

General Manager
Brian C. Wright
Executive Leadership Team
Joe Horvath, Electric Utility Director/ AGM
Shanna Kuhlemier, District Clerk
Steven Poncelet, PIO & Strategic Affairs Director
Michael Salmon, Chief Financial Officer

Board of Directors
Joseph Aguera
Jeff Bender
Christa Finn
Tony Laliotis
Kim Harris

October 26, 2021 Comment letter submitted via electronic commenting system

Mr. Tony Brasil
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Craig Duehring
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Paul Arneja
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Truckee Donner Public Utility District's Comments on Draft Regulatory Language for the Advanced Clean Fleets Regulations Public Fleet Requirements

Truckee Donner Public Utility District (TDPUD) appreciates the opportunity to provide public comments to the California Air Resources Board (CARB) in response to the recent Draft Regulatory Language on Public Fleet Requirements (Draft Rule), the September 9, 2021 Advanced Clean Fleets Regulation public workshop, and the direct meetings with CARB staff with the Northern California Power Agency (NCPA) and the Association of California Water Agencies (ACWA). We greatly appreciate the willingness of CARB staff and Board to engage with stakeholders and are prepared to work with CARB to help form a regulation that can both meet the obligations and critical work entrusted to CARB in a way that allows TDPUD to deliver the essential services that Truckee depends on, especially during emergencies.

TDPUD is a small electric and water utility serving approximately 12,500 water customers and 14,500 electric customers in the greater Truckee area. We are a multi-county agency (Nevada and Placer) and are a Special District located at 6,000 ft. elevation, right under the crest of the Sierra Nevada Mountains outside of Lake Tahoe. TDPUD's mission is to provide reliable, high quality utility and customer services while managing District resources in a safe, open, responsible, and environmentally sound manner at the lowest practical cost for our customers. When an emergency hits our community, it is imperative that TDPUD is able to restore services as soon as possible. These services are essential to the safety of the community that relies on them. TDPUD submits these comments with the objective of informing CARB of its particular circumstances and the operational challenges unique to its fleet which impact its ability to transition certain vehicle types to *zero-emissions*.

As noted above, TDPUD is committed to the State's decarbonization which includes transitioning to Zero Emission Vehicles (ZEVs) fleet vehicles where technically and economically feasible and when there is a supply chain in place to serve TDPUD's unique needs. TDPUD has over a decade of investing in Electric Vehicles (EVs) with our first fleet EV being a Toyota RAV4 with a Level 2 charger installed in TDPUD's main corp yard. TDPUD has installed five Level 2 public access EV charging stations located at three strategic locations around Truckee. TDPUD's electric utility powers almost 20 Tesla DC Fast Chargers as well as 4 from Electrify America and two from EVGO. ChargePoint is the process of installing a new EV charging facility as part of a rail yard redevelopment project. TDPUD understands not only what it takes to power EV charging stations but we also have experience owning and operating them in public and within our operations.

TDPUD is currently leveraging funds from the CARB Low Carbon Fuel Standard (LCFS) program to promote transportation electrification in the Town of Truckee, with several programs being developed to increase the saturation of EVs and EV charging. TDPUD has been and is very interested in exploring the viability of current EV and other ZEV technologies in our climate and geography. Unfortunately, we have found that there are some very serious practical limitations which we discuss in the following comments. We have also continued to monitor developing ZEV technology including hydrogen fuel cell and, with advent of the Ford F150 (and similar trucks) coming to market in coming years along with the potential for hydrogen fuel cell vehicles for the heady duty fleet, we are starting to budget for replacing pool vehicles with EV's and the limited ZEV's available for our remaining critical operations fleet.

TDPUD has 33 vehicles within our fleet which are subject to the current Draft Rule-making with a total fleet size of 50 vehicles. We agree that certain portions of our fleet can be electrified in the medium term but the balance will require new developments in ZEV technology and supply chain. Almost all of the 33 vehicles subject to the Draft Rule are tasked to maintain and build the electric system and respond to power outages that can occur in dangerous blizzard conditions or extended power outages lasting a week or more. TDPUD's fleet is also relied upon by Truckee Police, Truckee Fire, and other local agencies to support emergency response and public health and safety. For reasons we outline below, the majority of our fleet is not suitable for electrification in the near future. These include practical constraints which, if ignored, will not only prevent our utility from meeting its mission to provide critical electric and water services, but will also jeopardize the safety of our employees and community in emergency situations.

Shore Power Demands

While driving range per charge is an important consideration, it is not a significant limiting factor for emergency response. TDPUD's service territory is not much more than 10 miles wide in any direction and in a blizzard a line truck may only travel a couple of miles to the jobsite but may stay in the field for

extended periods of time in the event of a major outage. TDPUD reviewed its vehicle mileage data and noted that the 33 vehicles which fall under the proposed rule-making average 22 miles per day and 6,015 miles per year. This data is summarized in the following tables.

Daily Mileage Averages		Annual Mileage Averages	
Daily Average	22	Annual Average	6,015
Std. Dev.	13	Std. Dev.	3,492
CV	0.58	CV	0.58
Max	50	Max	13,758
Min	0.34	Min	95

Engine hours (i.e. Shore Power) are a much more critical metric for TDPUD's medium and heavy duty trucks as they are integrated with critical service equipment (such as booms, cranes, augers, etc.) which are hydraulically operated. A Power Take-Off (or PTO) is attached to the engine to provide power to the hydraulic system. The majority of energy (fuel) consumption on service vehicles occur when the vehicle is parked on a job site and operating its equipment via PTO. For the safety of TDPUD customer and workers, it is critical that its equipment can be re-fueled in field in such a way as to require minimum (or zero) down-time. TDPUD does have the ability to deliver diesel (or renewable bio diesel currently being used by TDPUD) directly to fleet vehicles in the on the job site. This is a practical concern for all critical utility providers.

TDPUD has unique geographical and climactic elements which place require higher performance and more extreme operating envelopes for our fleets/equipment compared to other utilities. TDPUD's service territory is located between 6,000 – 8,000+ ft. elevation and nestled next to the crest of the Sierra Nevada Mountains. Much of our infrastructure is remotely located and requires navigation over significant topography (elevation gain/loss) and on unimproved dirt roads; sometimes during winter blizzards that can produce over six feet of snow and often come with winds up to 100 MPH. This means that there is no practical way to charge an all-electric fleet vehicle when its PTO has drained the battery on-site. When responding to an electrical outage, there is no electric service proximate to the job-site and the vehicle must be present until the job is complete. This may require constant work in remote locations for 24 to 36 hours at a time.

If such vehicles are transitioned to ZEV, the District would be unable to maintain its current level of response and could jeopardize the safety of our crews in the field. The TDPUD would have to either:

1) Purchase additional vehicles (e.g. replace one ICE fleet vehicle with 1.5 or 2 ZEV vehicles) and swap vehicles when battery capacity is at its minimum.
2) Stop our work in the field when battery levels are critically low and drive to a location not experiencing a power outage to recharge before coming back to the site.

Neither of the two options are tractable for the TDPUD. The first option represents a significant additional cost burden (esp. given the premium cost of EVs) and adding additional vehicles to the fleets is counter-productive to CARB's goals and a burden on TDDPUD's rate-payers. It has been stated by many during this process that the technology and supply chain are a major constraint in meeting the Draft Rule as written today. In addition, manufacturing EVs produces GHGs just like any other product (if not arguably more so with the rare earth metal mining/refining). Any GHG saved from burning less diesel is more than offset by having to nearly double the District's fleet size so that it can maintain responsiveness during non-emergency events (emergency events discussed in the next section). The second option significantly increases response times and length of outage events – exposing the Truckee community unnecessarily to unsafe conditions.

Emergency Response

TDPUD knows that each power outage constitutes an emergency situation which must be addressed with the same level of seriousness as other emergency services (fire, medical, etc.). Many of our customers rely on their electric service to operate home medical devices. In such cases, outages can have real medical consequences. The Truckee community recently experienced a significant aviation accident in a residential community near the airport. TDPUD workers were among the first responders to manage the affected power lines and ensure safety for fire, medical, and law enforcement personnel as they responded. This helped avoid a potential catastrophic wildfire as many large pine trees were already fully engulfed in fire when TDPUD crews joined fire crews who were waiting for TDPUD to de-energize to safely address the site crash and fire.

More critical events are system-wide outages which, while less frequent, do occur every year due to two main factors:

Public Safety Outage Management (PSOM) Events

TDPUD does not own any generation facilities and imports its power across transmission lines owned by NV Energy (i.e. TDPUD is a transmission dependent utility of NV Energy). In 2021, NV Energy expanded a wildfire safety de-energization program called Public Safety Outage Management (PSOM) which is similar to PG&E's PSPS. If NV Energy initiates a PSOM, TDPUD's entire service territory will experience a system-wide power outage. When PSOM events are called, they last for the duration of the weather event which can be measured from many hours to days. Following the event, NV Energy and TDPUD must visually inspect our infrastructure to ensure that, once re-energized, no additional hazards or faults will occur. Similar PG&E events in 2020 at Sugarbowl Ski Resort, less than 5 miles from TDPUD's service territory boundary, resulted in two PSPS's in October; one lasting three days and one lasting four days with less than two weeks between the events. Had the weather events hit back-to-back within days of each other, the outages could have lasted for seven day or more.

During the event TDPUD must be able to maintain critical supply of water to customers, manually inspect its lines, and repair any damages caused by the weather event without grid power. EV and ZEV technology are currently incapable of performing in such circumstances.

Severe Weather Events

TDPUD service territory is subject to severe weather events annually. The Truckee basin receives an average annual snowfall of 200 inches. Storm systems bring severe winds (100+ MPH), and sub-freezing temperatures. Furthermore, snow can accumulate very quickly with some storms depositing 36" to 48" of snow in a single day (with six foot storms not uncommon). It should be noted that, while Truckee may well-known for snow, TDPUD's service territory has the Polaris Fault which is on the USGS list of most dangerous and active faults and the majority of service territory in in the CPUC Tier 2 or Tier 3 wildfire threat areas. Anyone of these events is capable of creating natural disasters that could result wide-spread and very long power outages.

These conditions place a significant additional burden on not only the operating conditions for TDPUD fleet vehicles, but also on the tasks they are required to perform. For example, despite the copious amounts of snow, TDPUD has only 1 dedicated snow removal vehicle because many vehicles are used for a variety of tasks to be economical. For example, service trucks are seasonally fitted with snow removal attachments (blades, augers, etc.) and are often required to clear significant amount of snow simply to access, TDPUD facilities, downed power lines or other service needs. During a significant

weather event, vehicles will need to perform such duties in addition to their 'standard' functions without access to electricity for extended durations. A line truck may only travel two miles to a job site but stay there for multiple days. For example, in the winter of 2017/2018, one of the largest snowfalls on record, TDPUD service vehicles were pressed into almost continuous service for the months of January and February. A video collage of this historic winter and TDPUD's working conditions can be found at this link (https://youtu.be/TQNSkPNYmCI).

The severe winter weather and potential for earthquakes and wildfires places critical constraints on TDPUD service vehicles:

- Four-Wheel-Drive is necessary for all our vehicles which adds weight and increases power/energy demands from the vehicle's power source – reducing the energy reserves available to the vehicle to operate its PTO once on the job site.
- Cold temperatures reduce capacity of existing battery technologies and those which will be commercially viable when the draft rules are expected to be effective. This further limits the available operating time for vehicles in the field.
- Vehicles must be able to provide safe space from the elements for TDPUD staff and must be able to travel to and from a remote jobsite without stranding staff in dangerous conditions.

It can be difficult to visualize the conditions TDPUD fleet vehicles are subject to in severe weather events due to the sometimes exaggerated scale. Figures 1 and2 are provided (in addition to the previous video link) to give context regarding real-world demands placed on District service trucks.

Figure 1 Example of Snowfall using local 4x4 for Scale

Figure 2 Front of TDPUD Headquarters following a significant snowfall event. Windows visible in picture are 2nd Story.

Vehicle Working Load Requirements

It was previously mentioned that due to its small fleet size TDPUD must multitask its service vehicles. For example, the water utilities summer construction dump trucks and front-end loaders are repurposed for critical snow removal during the winter. All TDPUD vehicles must have four-wheel-drive and off-road capabilities and its service vehicles must be rated to transport significant loads (e.g. tools, service equipment, parts, etc.) to the jobsite. Current EV and ZEV technology, and that which is expected to be commercially viable when the draft rules go into effect, has significantly lower load carrying capacity since a significant portion of the GVWR goes to the batteries. This will either increase the number of vehicles need to do the same job or require more trips to deliver the payload needed for a given job.

As previously mentioned, significant topography in our area places more loads on the drivetrain and significantly impacts advertised/rated ranges of vehicles. This is further exaggerated by the need for our vehicles to travel un-improved roads and during significant weather events (e.g. snow). As such TDPUD would need to 'over-size' a battery pack just to allow for typical use of our heavy duty vehicles. However; doing so would significantly limit the useful load capacity of the vehicles making them less capable for every day needs (e.g. trading useful load capacity for additional battery storage).

Mutual Aid Obligations

TDPUD, like almost all electric and water utilities, has mutual aid agreements in place to both receive and provide support from sister utilities in an emergency. TDPUD is a member of the Utah Associated Municipal Power Systems (UAMPS) which is head-quartered in Salt Lake City and is comprised of over 50 Public Owned Utilities (POU's) in Utah, Nevada, Montana, Wyoming, and Idaho. A portion of TDPUD's fleet must be ready and capable of responding to request for aid on short notice and the equipment must be able to function outside of TDPUD's service territory. During the historic winter for 2017/2018,

TDPUD relied on mutual aid agreements with Roseville Electric and Plumas Sierra Rural Electric Cooperative (Plumas Sierra) - through our mutual membership in the Northern California Power Agency (NCPA) – to respond to the extensive power outages. Plumas Sierra, who operates in a similar mountain environment at TDPUD, did have equipment capable of operating in TDPUD's harsh environment but this was not true of Roseville Electrics trucks which did have trouble performing in the snow.

Miscellaneous Concerns

The previously discussed factors place significant limitations TDPUD's ability to fully, or even substantially, convert certain vehicles in our fleet to EV or ZEV. To do so will require not only advancements in ZEV technology and supply chain, but also a proven track record that such vehicles have successfully performed the same duties required by current TDPUD fleet vehicles in similar operating conditions. A couple key innovations needed include:

- Quick and portable means of recharging vehicle batteries
- Ability to store energy in an economical and portable means so that emergency vehicles can respond and address emergency situation(s) during lengthy de-energized grid conditions

In addition to the previous factors, TDPUD would also like to put forward that, as currently worded, the legislation offers a postponement for utilities in "low-population density" counties. Nevada County is listed as "low-population density" and comprises the vast majority of TDPUD's service territory and customer base. However, a small portion of TDPUD's service territory extends into Placer County which is not considered "low-population density". As such it is unclear whether or not we would fall into the postponement allowance as the legislation does not cover how to classify public entities which fall into more than one county. Again, well over 95% of our customers, revenue, and infrastructure are found in Nevada County.

Conclusions

TDPUD agrees with the premise that Public fleets should exemplify the changes we seek in the general public when it comes to transportation electrification and we will continue to lead by actions in this regards. This includes not only providing the infrastructure and incentives to help electrify transportation but also taking incremental steps to reduce GHG when EV or ZEV technologies are not available. For example, TDPUD recently partnered with the Town of Truckee and Truckee Fire Protection District to convert our entire (diesel) fleet over to 'renewable diesel'. This has helped achieve substantial reductions in GHG while we wait for other options. The DOE acknowledges that such fuels significantly reduce GHG emissions because they recapture the CO2 when the bio-mass used to generate them is grown/re-grown. While TDPUD shares CARB's desire to go straight to EV or ZEV, the NZEV definition must consider non-EV options when the EV/ZEV technology is not available.

What can TDPUD do to support CARB's ACF critical goals? We can work to accelerate the transition to EV's of our passenger and light duty vehicles for which the EV technology and supply chains exist or are quickly developing. We can continue to seek interim solutions to reduce GHG emissions such as renewable diesel, and we work collaboratively with CARB to fully understand the needs of TDPUD's fleets and responsibly transition the fleet to ZEVs as soon as possible. Under the current Draft Rule, TDPUD- and likely almost every electric and water utility in California, will be forced to pursue exemptions from the rule which will neither be productive nor help CARB achieve its critical legislative mandate.

We again thank CARB staff and Board for engaging with the electric and water utilities and we are eager to work collaboratively to create an ACF framework that can work for everyone. Please feel free to reach out to TDPUD's Steven Poncelet (stevenponcelet@tdpud.org) or myself if you have questions or if we can be of any assistance.

Regards,

Brian Wright
General Manager
Truckee Donner Public Utility District
530-582-3957, brianwright@tdpud.org

CC: The Honorable Liane Randolph, Chair, California Air Resources Board
The Honorable Sandra Berg, Vice Chair, California Air Resources Board
Richard Corey, Executive Officer, California Air Resources Board
Emily Lemei, Northern California Power Agency
Nick Blair, Associate of California Water Agencies
Frank Harris, California Municipal Utilities Association