Pacific Gas and Electric Company

Fariya Ali
Air & Climate Policy Manager
State Agency Relations

(415) 635-7113
fariya.ali@pge.com

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Liane Randolph, Chair
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

RE: Proposed Advanced Clean Fleets Regulation

Pacific Gas and Electric Company (PG&E) appreciates this opportunity to comment in response to the California Air Resources Board's (CARB) release of the proposed Advanced Clean Fleets (ACF) Regulation for a 45-day public comment period. The ACF rule will play a major role in accelerating the turnover of medium- and heavy-duty diesel vehicle fleets to clean technologies and is expected to provide critical emissions reductions to help achieve the goals of the 2022 State Implementation Plan (SIP) Strategy and the 2022 Scoping Plan. Given the importance of this rule and the impact it will have not only on emissions but the businesses and operations that fuel the economy of California, it is vital for CARB to adopt a regulation that is ambitious, but also achievable in practice without undue cost and disruptions. As an electric and natural gas investor-owned utility (IOU), PG&E is impacted by this draft rule as both the owner of a large fleet of vehicles that would be subject to the ACF requirements, and as a key enabler of the transition to cleaner technologies by our customers through deployment of infrastructure, rates and education programs. PG&E offers the following comments with this perspective in mind and in support of the goal of the ACF to decarbonize a major component of the transportation sector.

A summary of PG&E's key recommendations includes:

- CARB, CEC and the CPUC should coordinate closely with utilities and customers to develop an inter-agency strategy to ensure the utilities can provide power and infrastructure when and where fleet customers will need it and develop a practical plan for how to fund and resource the work necessary to execute that strategy.
- While hydrogen infrastructure is built out, the ACF rule should include options for fleets to utilize natural gas/RNG and hydrogen blended fuel vehicles, especially for heavy-duty and specialty vehicles that are infeasible to electrify with batteries.

- CARB should include additional flexibility to the Infrastructure Delay Exemption given that many of the eligible reasons for delay, including interconnection delays, are likely to take longer than one year.
- The Board should consider whether the emergency response related exemptions in the ACF draft are sufficient for ensuring all fleets that provide emergency response support can meet this critical need.
- A definition for "commercially available" must be included in the rule's definitions section as it is a key trigger for determining if a zero-emission vehicle must be purchased.
- CARB can help facilitate timely and efficient electric infrastructure projects by providing formal guidance on utilities' use of Portable Equipment Registration Program (PERP) generators when needed for support of such projects (i.e., to provide power to customers and equipment when portions of the grid need to be de-energized for construction).
- PG&E recommends the Board work with staff to further explore the pros and cons of incentivizing scrappage of retired ICE vehicles.
- PG&E recommends that CARB create an "issues database" where companies can report charger issues, manufacturer delivery delays, problems with certain ZEVs or hardware and other issues that could also affect other fleets.

This letter is organized into the following sections:

I. Supporting Zero-Emission Vehicle (ZEV) Infrastructure
   A. Collaboration among state agencies, utilities and customers
   B. Expectations and timeframes for buildout of ZEV infrastructure:
      i. Electric infrastructure
      ii. Hydrogen infrastructure

II. Recommended Changes to ACF Regulatory Requirements
   A. Exemptions
   B. Definitions

III. Additional Actions CARB should take to Support ACF Implementation

IV. Appendix: Redline Regulatory Text Recommendations

I. Supporting ZEV Infrastructure

The ACF regulation will not only impact the fleets that are under compliance but also the upstream and downstream components of the transportation sector. To successfully transition to ZEVs there must be sufficient and reliable fueling infrastructure for whichever type of clean fuel fleets elect to use. As the provider of electricity for approximately two in five Californians, PG&E recognizes its crucial role in supporting customers transitioning to battery and plug-in hybrid electric vehicles and is ready to partner with CARB and the other state agencies to ensure the necessary infrastructure is deployed. PG&E also supports the development of hydrogen infrastructure for hydrogen fueling of all classes of fuel-cell vehicles. Jump starting hydrogen

fueling infrastructure is a critical piece to reducing greenhouse gas (GHG) and pollutant emissions in the transportation sector. To help support a successful and sustainable final ACF rule, PG&E offers the following comments and recommendations regarding the scope and scale of electric and hydrogen infrastructure deployment that will be necessary to support this rule.

A. Continued collaboration amongst the State Agencies, the utilities and fleet customers is essential

PG&E is encouraged by CARB's collaboration with the CPUC, the CEC, CAISO, GOBiz and other government agencies as described in Section G. "Zero-Emission Vehicle Infrastructure" in staff's Initial Statement of Reasons (ISOR).[1] Building out the electrical power grid to meet the needs of fleet customers when and where they occur requires substantial effort and is complicated by the impacts of climate change on our environment and by global economic forces. **PG&E recommends continued coordination amongst CARB, CEC, and the CPUC throughout the implementation of ACF. PG&E encourages these agencies to work closely with utilities and their fleet customers** to: 1) ensure there is clear understanding of how all aspects of EV charger installation occurs from grid planning, distribution system upgrades, behind-the-meter infrastructure construction, and electric vehicle supply equipment (EVSE) procurement; 2) develop an inter-agency strategy to ensure the utilities can provide power and infrastructure when and where fleet customers will need it; and 3) develop a practical plan for how to fund and resource the work necessary to execute that strategy. PG&E is ready and willing to participate in these discussions.

As an example of how continued coordination on a strategy for EV infrastructure deployment is needed, PG&E would like to make CARB aware that the CPUC's 2022 draft Transportation Electrification (TE) Framework is vastly different from the 2020 draft TE framework that is referenced in the ISOR.[2] The new draft TE Framework does not include ten-year strategic plans for deploying TE infrastructure and proposes a new and more limited structure, requiring IOUs to simply provide behind-the-meter infrastructure rebates for certain customer segments. This new draft TE Framework may not be aligned with achieving the EV infrastructure deployment goals that are necessary to support the ACF rule.

B. CARB should not underestimate the time and effort needed to coordinate and buildout the necessary ZEV infrastructure for this rule.

1. Electric Infrastructure

The new demand and load from electric medium- and heavy-duty vehicles as a result of ACF will be substantial. PG&E forecasts that the electrification of medium- and heavy-duty vehicles through the ACF rule will add a total of 2 gigawatts (GW) of load to the California system peak

[1] ACF ISOR pg. 72 https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/isor2.pdf

[2] Ibid. pg. 88

by 2032—representing a 20% increase compared to the currently forecasted peak load for the next ten years. This load growth is in addition to the expected load growth from electrification of other sectors. Not only will there be an increase in magnitude of load on the system, PG&E will need to prepare for different types of electric service needs from our customers such as megawatt charging systems to support public charging for fleets and large electric demand in rural areas to support charging plazas along transit corridors. The density and pace of this electric load growth over the next decade will require a significant build-out of electric generation, storage, transmission, and distribution infrastructure. PG&E plans to proactively prepare the grid for any new electrical demand so that capacity is available on the system in the right locations for customers when they need it. In the long-term, PG&E will address 90% of the capacity constraints currently anticipated on our system for the next decade, by 2032 through our integrated grid planning effort and will continue working to address all capacity constraints on the grid thereafter. In the near-term there will likely be longer interconnection timelines to support the substantial distribution upgrades necessary to energize fleet customers' projects.

PG&E is committed to supporting the growing needs of our fleet customers and will work closely with each customer to deliver solutions that best fit their needs, while incorporating their future capacity needs into our long-term planning. This can include partially energizing customers' sites (e.g., energizing a subset of DC fast chargers at a site) to utilize existing capacity while capacity upgrade projects are undertaken, or pursuing distributed energy solutions such as onsite energy management and battery storage options that can enable existing capacity to serve additional demand by shifting that demand to off-peak times. PG&E is also exploring other innovative approaches in the near-term, like testing our ability to send near real-time capacity constraints to customers, allowing them to dynamically shift their load to meet real-time grid constraints instead of being restricted to a static schedule or capacity limit. PG&E believes these interim solutions can help customers meet the near-term requirements laid out in the ACF while the necessary grid investments are being made.

Each customer's project will be different, and the available grid capacity will depend on project location. For example, there is less distribution capacity in rural areas and so large increases in load will require substantial upgrades. Additionally, the timeline for installing the charging infrastructure will vary by project and may in some cases be significantly longer than what is laid out in the "Infrastructure Installation Timing" section of the ISOR.[3] To facilitate a more streamlined, sustainable process for the increased capacity needs and interconnection requests under ACF, PG&E recommends CARB consider the following in the development and implementation of the ACF rule:

- Customers should contact the utility as early as possible with their project details and anticipated electricity needs.
- CARB should facilitate the ongoing sharing of data with the utilities about fleet customers' detailed near-term and long-term EV charging infrastructure needs and plans.

[3] Ibid. pg. 76

The following type of data would aid the utilities in better understanding and prioritizing the grid infrastructure upgrades needed:

- Existing vehicles:
  - By vehicle type, market usage/end use (delivery, work truck, etc.), by number, by physical location
  - Location where vehicles dwell (parking, depot)
  - How long do these vehicles dwell/park at these physical locations?
- Transition Plan:
  - Percent and number of vehicles expected to transition to ZEV by type by year, by alternative fuel type (electric, hydrogen)
  - If electric, what is the expected charging level for the vehicles?
  - Do you anticipate depot or in-route charging?
  - Have you engaged the utility on the infrastructure needs to support the anticipated charging levels?
- Operational Profiles and Uses:
  - Do you anticipate flexibility in charging off-peak or would you need to charge full-time or on peak?
  - When and what percent of hours would you expect to charge on peak and at what level?
  - Do you have seasonal/annual peaks needed to plan around? (4th of July, Thanksgiving, Holidays, etc.)

- **CARB should consider including additional flexibility to the Infrastructure Delay Exemption given that many of the eligible reasons for delay, including interconnection delays, are likely to take longer than one year.** PG&E provides more detailed comments on this in the section on exemptions below.

2. Hydrogen Infrastructure

There will also need to be a substantial amount of work to build out hydrogen fueling infrastructure. PG&E is in discussions with potential partners for the design and construction of multi-modality hydrogen fueling stations in PG&E's service territory. Additionally, to support the growing demand of hydrogen for fuel cell vehicles and other end uses, PG&E completed the conceptual design and feasibility study for the Hydrogen to Infinity (H2∞) project earlier this year.[4] PG&E's planned stand-alone (subgrid) gas transmission facility will focus on large-scale and long-term hydrogen blending, with a new high pressure (720 psi) gas transmission system in California. PG&E's H2∞ project will address the connective infrastructure piece by conducting the steps needed to ensure that existing natural gas transmission systems can safely and reliably be used for hydrogen blending to deliver hydrogen to fueling stations and other end uses. The intent of H2∞ is to establish the upper bounds of blended hydrogen natural gas that can be safely

[4] See *PG&E Launches the Nation's Most Comprehensive Study on Hydrogen's Feasibility Within Gas Pipelines* (May 2, 2022). Available at https://www.pge.com/en_US/about-pge/media-newsroom/news-details.page?pageID=66b8ed99-3175-48da-95d6-1a1fde0a4f18&ts=1663270789611

and reliably transported and stored in high-pressure gas transmission pipeline assets. This important safety research will take time however, so hydrogen conveyance through the natural gas system is on a longer time horizon. Renewable natural gas (RNG) is already interchangeable with natural gas and can help decarbonize in the short-term.

Existing compressed natural gas (CNG) stations can be repurposed with natural gas blended with hydrogen to fuel vehicles. A project published by National Renewable Energy Laboratory[5] "demonstrated that with minor engine and vehicle modifications the 20/80 [Hydrogen/ Compressed Natural Gas] H/CNG blend can be used in revenue service fleets with similar operational performance as CNG." Another study by University of California Riverside, the "Hydrogen Blended Natural Gas Engine Durability Test" is currently in progress to evaluate the impact of hydrogen content in natural gas on the performance and durability of the Cummins L9N 8.9 liter near-zero natural gas engine.[6]

As hydrogen infrastructure continues to be built out over the next decades, **PG&E recommends the ACF rule include options for fleets to utilize natural gas/RNG and hydrogen blended fuel vehicles while fleets transition to ZEVs, especially for heavy-duty and specialty vehicles that are infeasible to electrify.**

II. Recommended Changes to Proposed ACF Regulatory Requirements for High Priority and Federal Fleets

PG&E's comments in this section are focused on specific aspects of the proposed regulatory structure and requirements. These points are raised in the spirit of identifying areas that are in need of modification to help strengthen the efficiency and effectiveness of the final rule. Please see the Appendix for redline edits that reflect the points below.

A. CARB needs to craft exemptions that can work for fleets of all sizes and compositions.

PG&E appreciates staff's inclusion of several exemptions for fleet owners not able to comply with the rule's requirements. However, staff's examples for how the exemptions will work are based on simple, small fleets and do not seem to be designed with large, complicated fleets in mind that have hundreds or thousands of vehicles (PG&E's own fleet consists of over 9,300 on-highway vehicles) and hundreds of facilities. Exemptions to the rule should be structured so they can be granted on a timely, consistent basis without requiring redundant exemption requests (i.e. requiring an exemption for every vehicle if an owner has multiple vehicles with the same issue). In addition, PG&E has particular concerns with the following draft exemptions:

[5]Development and Demonstration of Hydrogen and Compressed Natural Gas (H/CNG) Blend Transit Buses Technical Report NREL/TP-540-38707, November 2005, https://afdc.energy.gov/files/pdfs/38707.pdf

[6] 2021 SoCalGas RDD Annual Report at https://www.socalgas.com/sites/default/files/2021_SoCalGas_RDD_Annual_Report_with_Appendices.pdf

1. Infrastructure Construction Delay Extension (Section 2015.3(c))

As currently written, the Infrastructure Construction Delay Extension is limited to a one-year extension granted a single time to a project.[7] PG&E believes that a single, one-year extension will not be tenable for many fleet owners who face delays in their infrastructure construction due to reasons beyond their control. This could cause unnecessary friction between CARB, fleets, the utilities, and other stakeholders when fleets find that it is impossible for them to complete their infrastructure buildout within the one-year extension period. There are a number of reasons why infrastructure construction may be delayed for longer than a year beyond the executed contract or application date, including:

- Supply chain shortages: For example, the lead time for critical materials needed in PG&E's EV infrastructure programs increased dramatically over the past year due to supply chain shortages. Lead time for a transformer increased from 8 weeks on average to 40 weeks today. Lead time for materials on the customer's side of the meter have also increased. Meter panels could be procured in 20 weeks earlier this year and now require 70 weeks.
- Complex utility infrastructure upgrades: PG&E strives to interconnect projects in a timely manner, however mid-sized projects such as new distribution circuits or substation modifications can take 2-3 years. Larger projects that require new substations or transmission lines requiring licensing, permitting, or land rights acquisition can take 7 or more years.
- Local jurisdictional permitting and agency land reviews: For example, during the construction process, PG&E may encounter another agency or utility's infrastructure, because it wasn't recorded properly, which may require a redesign and/or lengthy permitting process.
- Environmental remediation: For example, if an artifact is found during the construction process, it could take more than a year to remediate it and complete the construction.

PG&E recommends that the exemption provide the Executive Officer discretion to determine the extension timeframe based on the fleet showing good cause for their unique situation. The EV market is changing rapidly, and the needs of fleet customers are complex and diverse. Flexibility to grant a longer extension than one year, if necessary, will allow entities, including utilities, to address the real timelines for these projects.

2. ZEV Unavailability Exemption (Section 2015.3(e))

With respect to how a ZEV is determined to be "unavailable," PG&E urges staff to consider that weight class and configuration are not enough to describe the capabilities of a truck chassis.

[7] Proposed ACF Regulation – Appendix A-2 Section 2015.3(c) p. A-2-25 - https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/appa2.pdf

A much more essential component for California fleets is the payload capability. For example, currently all available electric pickup trucks have payloads at or below 2,200 lbs. Many fleets often operate pickup trucks with payloads up to 4,500 lbs. to haul heavy tools and equipment – PG&E's fleet currently consists of over 1,200 high-payload pickup trucks such as the Ford F250 and F350 models. Large battery sizes can also lead to vehicles jumping into the next weight class compared to their ICE counterpart. **Rather than judging vehicles by weight class, PG&E recommends grouping by payload capability as that more directly relates to the needs of fleet owners.**

Without consideration for payload and other operational capabilities such as range, fleets may need to purchase additional ZEVs to do the work of current internal combustion engine (ICE) vehicles. For example, until fast charging speeds are comparable to ICE refueling times, some fleets may need to acquire 'extra' ZEVs to keep fully charged and available for after hours or extended work periods when the daytime-use ZEVs will be depleted. While a 2:1 replacement rate is not likely, it is plausible that a fleet may need 7-9 ZEVs to replace 5-6 ICE vehicles. It appears that fleets in such a situation would be penalized under the ZEV Milestone calculation since it is based on all vehicles in a fleet and the total ZEV obligation would increase under the current structure.[8] **Thus, PG&E recommends that the ZEV Milestone calculation should be based on the number of non-exempt ICE vehicles in a fleet, not the total number of ICE and ZEV vehicles as currently drafted.**

The ZEV unavailability exemption also states that CARB will post a list of commercially unavailable vehicles on their website but only for vehicles with a gross vehicle weight rating (GVWR) > 14,000 pounds and will not include pickup trucks, two-axle buses, box trucks, vans or any tractors.[9] This seems to imply that CARB believes that all vehicles with a GVWR less than 14,000 pounds as well as pickup trucks, two-axle buses, box trucks, vans or tractors are ALL commercially available and thus not eligible for this exemption. Given the lack of an explicit definition of "commercially available" (see PG&E's comments below), this global exclusion of all the above stated vehicle types is difficult to justify and does not allow for any flexibility. **PG&E recommends CARB staff provide clarification on why these vehicles are excluded.**

3. Emergency Event Related Exemptions (Section 2015.1(c)(6) and Section 2015.2(e)(6))

These exemptions to the Model Year Schedule and ZEV Milestone compliance options would allow a fleet owner to purchase a new ICE vehicle for up to 25% of their fleet if the vehicles are needed to provide emergency response services. However, the exemptions are tied to Section 2015.3(f) which describes using vehicles during a declared emergency event or for

[8] For example, if a fleet starts off with 10 ICE vehicles, by 2031 they would need to own 5 ZEVs (10 x 50%). However, if during this transition, the fleet owner has to buy 6 ZEVs to replace 3 ICE vehicles, the total fleet size would increase to 13. The owner would now be obligated to own 7 ZEVs (13 x 50% rounded up) instead of 5.
[9] Ibid. p. A-2-26

mutual aid assistance. Purchase decisions are not made during a declared emergency event and tying these sections together is confusing and unnecessary. **PG&E recommends simplifying these exemptions as standalone sections with clear exemption criteria.** PG&E also **suggests the Board consider the interaction of the ACF rule and vehicles used for emergency response more broadly** (i.e., vehicles from entities such as utilities that also provide emergency response but are not included in the definition of emergency vehicles[10]) and whether these exemptions are sufficient for ensuring that all fleets that provide emergency response support can meet this critical need.

4. Mutual Aid Assistance (Section 2015.3(f)(2))

This exemption is limited to replacing vehicles with a GVWR greater than 14,000 lbs. and does not apply to pickup trucks, buses, box trucks, vans, any tractors, or any vehicle configurations commercially available as NZEVs. PG&E requests that staff explain the reasoning and justification behind these limitations as many vehicles used to offer mutual aid during emergencies are below 14,000 pounds or are pickup trucks, box trucks, etc. Even if there are ZEVs or NZEVs commercially available, mutual aid response vehicles are potentially going out of state and/or to remote locations where fueling infrastructure would not be available. **PG&E recommends removing the vehicle type limitations from this exemption.**

5. Daily Usage Exemption (Section 2015.3)

As currently drafted, the required supporting materials for applying for a daily usage exemption are extensive and infeasible for a large fleet with many vehicles. **PG&E recommends streamlining the requirements and relying on additional data requests by CARB staff if they have reason to question a fleet's applications for the daily usage exemption.**

B. CARB needs to add and modify critical definitions in the rule that impact how the rule will be implemented

Definitions play a critically important role in providing clarity, consistency and common expectations on how compliance with the rule will judged. PG&E offers comments on the following key definitions.

1. Define "Commercially Available"

PG&E would like to restate that **the definition of "commercially available" must be included in the rule's definitions section as it is a key trigger for determining if a zero-emission vehicle must be purchased.** Our understanding of the current, unwritten definition (based on staff workshops) is that a manufacturer would need to only produce one vehicle of a

[10] California Code, Vehicle Code - VEH § 165

specific type and then that class/type of vehicle would be considered "available" from that point on, which is not a practical or reasonable standard. A clear definition is needed in the regulation and should include the requirement that at least three different vehicle models/brands are available to choose from and that some minimum quarterly level of production is being met to supply at least a portion of the demand (such as 25-30%). California fleets have had experiences with low-volume manufacturers which have resulted in defunct vehicles or unfulfilled purchase orders from companies like Smith, Electric Vehicles International (EVI), Chanje, VIA Motors, etc. CARB should also consider the concept of placing a portion of the burden of proving commercial availability on the manufacturers and not the consumers. Manufacturers should provide hard data demonstrating their production level vs demand, i.e., "orders pending." As mentioned earlier, payload capacity is also critical and should be considered in addition to actual mileage and power capacity, as well as availability of technical vehicle support.

2. Modify "Emergency Operations"

The current ACF definition for emergency operations is overly restrictive and could potentially hamper necessary emergency response. **PG&E recommends that CARB's ACF rule use the same definition for emergency operations as found in CARB's proposed Off-Road regulation** which states:

"Emergency operation" means:

(A) Any activity for a project conducted during emergency, life threatening situations, where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or an essential public service; or in conjunction with any officially declared disaster or state of emergency, as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized health officer,

(B) Any activity for a project conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency, or

(C) Operations including repairing or preventing damage to roads, buildings, terrain, and infrastructure as a result of an earthquake, flood, storm, fire, other infrequent act of nature, or terrorism. Routine maintenance or construction to prevent public health risks does not constitute emergency operations.[11]

3. Modify "Near-Zero Emission Vehicle"

The regulation should include the complete definition of what a "Near-zero-emission vehicle" (NZEV) is for purposes of the ACF rule. The current definition leads one through

[11] CARB. Proposed "In-use Off-Road Diesel-Fueled Fleets Regulation". Appendix A-1 Proposed Regulation Order Amendments to Sections 2449, 2449.1, and 2449.2, Title 13, California Code of Regulations, page 6.

circuitous references to other California code sections which is confusing and unhelpful. Rather than just incorporating by reference, all the requirements for a vehicle to be considered an NZEV should be spelled out in the ACF regulation itself for compliance certainty.

III. Actions CARB should take to support the ACF Rule

The ACF rule will not function in a vacuum and there are a number of actions that CARB can pursue to support the implementation of this regulation in the 'real world'. PG&E highlights several suggestions in the section below.

A. Facilitate ZEV Infrastructure Projects through PERP Guidance

As noted earlier, there will need to be upgrades to the electric grid to support the increased load from medium- and heavy-duty ZEVs. **CARB can help facilitate timely and efficient electric infrastructure projects by providing formal guidance on utilities' use of Portable Equipment Registration Program (PERP) generators when needed for support of such projects** (i.e. to provide power to customers and equipment when portions of the grid need to be de-energized for construction). CARB could lead an Air District work group to come up with a uniform policy for use of PERP generators in such situations that will reduce the need to manage differing policies across different regions/air districts.

B. Provide Additional Real-world ZEV Demonstrations

PG&E appreciates staff's provision of the Class 2-8 vehicles that CARB considers commercially available. To boost confidence in these vehicles and increase exposure to them, **PG&E highly encourages CARB to perform real-world demonstrations of these vehicles' capabilities.** Since 100 miles has been used as a standard for what can and cannot be performed by a ZEV, we encourage CARB to coordinate live demonstrations with manufacturers of these vehicles while hauling a 90% maximum payload 100 miles over several different routes. For example, Sacramento to: Fremont (108 miles); Merced (114 miles); Truckee (100 miles) and Clear Lake (101 miles) are possible route options. It would also be educational to see the performance of current Class 7 and Class 8 vehicles with 90% loads on a Redding to San Diego demonstration trip via I-5 and Hwy 99 routes using the existing ZEV infrastructure. This would be an opportunity for CARB, fleet owners and manufacturers to learn lessons on challenge points from real world application that may need to be reflected in future guidance or revisions to the regulation.

C. Consider Incentivizing ICE Vehicle Scrappage

The current ACF draft regulation requires replacement of ICE vehicles but does not address what happens to those vehicles once they are retired from a compliant fleet. Many fleets currently sell their retired trucks at vehicle auctions, where they are purchased by smaller businesses or sold outside of California. To help achieve permanent reduction of emissions upon

initial retirement and to avoid leakage of emissions out of state, PG&E recommends CARB staff provide incentives to fleets for scrapping retired ICE vehicles. Incentives should achieve parity with the value of what fleets would get for selling their vehicles on the second-hand market since this is an important source of revenue which fleets can use to purchase newer, cleaner ZEVs or NZEVs. The incentives could exist outside of the ACF regulatory structure or could be included as part of the compliance calculations – for example, in the ZEV Milestone option, if an ICE vehicle is replaced and scrapped it could count as "2" or "1.5" ZEVs for meeting the compliance percentages. However, scrapping retired ICE engines could have a negative impact on affordability for small businesses both in- and out-of-state that rely on the second-hand truck market. **PG&E recommends the Board work with staff to further explore the pros and cons of this avenue for potentially maximizing the emissions benefits of the ACF rule.**

D. Create a Public ACF ZEV Issues Database

As noted earlier, there are many complexities that fleets and CARB will face in the course of ACF's implementation. **PG&E recommends that CARB create an "issues database" where companies can report charger issues, manufacturer delivery delays, problems with certain ZEVs or hardware and other issues that could also affect other fleets.** This would create a useful portal for fleets to reference and learn from one another, as well as provide CARB and the Board with insight on implementation challenges in a more timely fashion than periodic updates. The Board should also consider requesting an annual report out of the number and type of exemptions that are being utilized by fleets to provide additional insight on implementation challenges and areas where future amendments to the regulation may be needed.

Conclusion

PG&E looks forward to continuing collaboration with CARB staff on addressing the issues raised in this letter and those of other stakeholders through a collaborative, transparent public process prior to the adoption of the ACF rule. Given the heterogeneity and complexity of the fleets targeted by this regulation, PG&E recommends the Board closely evaluate the scope of the ACF regulation (such as whether initial implementation should focus on goods and delivery functions that are currently suitable for ZEVs today). We also recommend additional workgroups to provide CARB staff with the opportunity to craft solutions with stakeholders to incorporate the diverse experience among fleets. As noted earlier, the ACF rule will be a landmark regulation with far reaching consequences and PG&E stands ready to work with CARB, the State's energy agencies, and our fleet customers on the transition to a zero-emission future.

Sincerely,

/s/
Fariya Ali
Air & Climate Policy Manager

Appendix: Redline Regulatory Text Recommendations

1. Infrastructure Construction Delay Extension Related Edits

- 2015.3(c): Infrastructure Construction Delay Extension. A fleet owner may apply for this extension if they experience construction delays beyond their control on a project to purchase ZEVs and install ZEV charging or fueling stations. The Executive Officer will grant an ~~single~~ extension ~~per~~ for the project to delay the vehicle delivery for one year or longer if they determine the fleet owner satisfies the criteria for the delay, based on the information submitted below and the exercise of good engineering judgment. The fleet owner must submit all of the following by email to TRUCRS@arb.ca.gov to apply:

  …

  (2) Documentation showing the delay is a result of any of the following circumstances beyond the fleet owner's control: ~~after~~ obtaining construction permits: change of a general contractor; delays obtaining power from a utility; delays due to unexpected safety issues; delays in obtaining materials/hardware (supply chain); discovery of archeological, historical, or tribal cultural resources described in the California Environmental Quality Act, Public Resources Code Division 13, Section 21000 et. seq.; other unforeseen/uncontrollable circumstances or natural disasters.

  …

- 2015.1(c)(3): Infrastructure Construction Delay Extension. Fleet owners shall receive an ~~one-year~~ extension from the ICE vehicle removal requirements of section 2015.1(b) and delay delivery of ordered ZEVs that would be reliant on the ZEV charging or fueling infrastructure ~~for one year~~ if the criteria described in section 2015.3(c) are met.

2. Daily Usage Exemption Related Edits

- 2015.1(c)(2) Daily Usage Exemption. Fleet owners shall receive a one-year exemption from the ZEV addition requirement of section 2015.1(a) to purchase a new ICE vehicle of a given configuration if a new ZEV is available, but it cannot be placed ~~anywhere~~ in the California fleet where it is needed and where supporting infrastructure exists while meeting the daily usage needs of an~~y~~ existing vehicle in the fleet, provided the criteria specified in section 2015.3(b) are met.

- 2015.2(e)(2) **Daily Usage Exemption**. Fleet owners shall receive a one-year exemption to purchase a new ICE vehicle and exclude it from the ZEV milestone calculation of section 2015.2 if a new ZEV is available, but it cannot be placed

~~anywhere~~ in the California fleet where it is needed and where supporting infrastructure exists while meeting the daily usage needs of any existing vehicle in the fleet, provided the criteria specified in section 2015.3(b) are met.

- 2015.3(b) **Daily Usage Exemption**. Fleet owners may apply for an exemption to replace vehicles ~~with a GVWR greater than 14,000 lbs.~~ if at least ten percent of their California fleet is comprised of ZEVs or NZEVs. Fleet owners may not apply for a vehicle configuration that is commercially available as: an NZEV; a hydrogen fuel cell ZEV; and the vehicle meets the needed daily mileage and payload capacity. ~~a Class 7 or 8 ZEV tractor or ZEV three-axle bus with a rated energy capacity of at least 1,000 kilowatt-hours; a Class 4 through 6 ZEV with a rated energy capacity of at least 325 kilowatt-hours; or a Class 7 or 8 ZEV that is not a tractor or three-axle bus with a rated energy capacity of at least 450 kilowatt-hours~~. The Executive Officer will approve the exemption based on ~~their good engineering judgement in~~ determining that the criteria specified in section 2015.3(b) have been met. The fleet owner must submit all of the following by email to TRUCRS@arb.ca.gov to apply:

  …

  ~~(3) Calculate the range of the vehicle in miles by dividing the rated energy capacity of the identified ZEV by the following factors: for Class 4 through 6 vehicles, 1.3 kilowatt-hours per mile; for Class 7 and 8 nontractors, 1.8 kilowatt-hours per mile; for Class 7 and 8 tractors, 2.1 kilowatt-hours per mile. For vehicles that operate truck mounted or integrated equipment while stationary, in lieu of calculating the needed rated energy capacity based on vehicle miles travelled, the needed rated energy capacity is the same as the optionally submitted measured ZEV energy use of section 2015.3(b)(6). Submit the calculation and results.~~

  ~~(4)~~(3) A daily usage report for a period of at least 30 consecutive workdays from within the last 12 months using telemetry data or other industry accepted data collection method for all or a representative ICE vehicle~~s~~ of the same weight class and configuration of the vehicle(s) to be replaced. The report must include the daily miles traveled for each vehicle or representative vehicle(s) with the same functional needs. ~~Identify the lowest mileage reading for each day and exclude the 3 highest readings.~~ For the exemption to be granted, the highest ~~remaining~~ mileage number must be greater than the range calculated in 2015.3(b)(3).

    (A) For vehicles that operate truck mounted or integrated equipment while stationary, the daily usage report must include daily equipment usage information such as typical hours of operation.

~~(5)~~(4) A description of ~~the~~ of a typical daily assignment~~s~~ or route~~s~~ used by ~~existing~~ a representative vehicle type~~s~~ with an explanation of why ~~all~~ commercially available ZEVs of the same weight class, payload capacity and configuration cannot be charged or fueled within the typical work region or range. ~~during the workday at the depot, within one mile of the routes, or where ZEV charging or fueling is available~~. ~~The explanation must include a description of why charging or fueling could not be managed during driver rest periods or breaks during the workday.~~

~~(6) Optionally substantiate their exemption request by submitting measured ZEV energy use data from ZEVs of the same configuration already operated on similar daily assignments in the fleet's service. Optional information must include vehicle loading and weight data, route grade,~~

~~average ambient daily temperature, and state of charge at the beginning and end of the daily shift to show typical daily energy usage over one month of regular service.~~

(5) The Executive Officer may request additional information to validate the applicability of the exemption request.

3. ZEV Unavailability Exemption Related Edits

- 2015.2(e)(5) ZEV Unavailability Exemption. Fleet owners may purchase a new ICE vehicle and exclude it from the ZEV milestone calculation of section 2015.2 if the fleet owner can demonstrate that all the remaining ICE vehicles in the local/affected fleet ~~that are not already using an exemption or extension~~ cannot be replaced with a ZEV or NZEV of the needed configuration ~~because they are not available to purchase~~, and the conditions of section 2015.3(e) are met. ~~Additionally, if the only remaining ICE vehicles in the fleet cannot be replaced with a ZEV or NZEV of the needed configuration because they are not available to purchase, and the conditions of section 2015.3(e) are met, those ICE vehicles are excluded from the ZEV milestone calculation~~.

- 2015.3 (e) ZEV Unavailability Exemption. The Executive Officer will maintain a list of vehicle configurations that are eligible for this extension on the CARB Advanced Clean Fleets webpage. The list will include commercially unavailable vehicles with a GVWR greater than ~~14,000~~ 8,500 lbs. ~~and will not include pickup trucks, two-axle buses, box trucks, vans, or any tractors~~. Fleet owners may replace existing ICE vehicles with vehicles on the list without submitting an exemption request. To use the exemption, fleet owners must:

(1) Verify the vehicle in the weight class, payload capacity, and configuration being replaced is listed on the CARB Advanced Clean Fleets webpage as commercially unavailable.

…

The following describes the criteria for adding or removing vehicles to the list. Fleet owners or vehicle manufacturers may request the Executive Officer to add or remove vehicles from the list if the conditions of this section have been met. The Executive Officer will rely on the information submitted below ~~and their good engineering judgement~~ in determining whether to add vehicles to the list. The vehicle will be added to the list unless a ZEV or NZEV is commercially available as a completed vehicle or is certified for sale in California. The applicant must submit the following by email to TRUCRS@arb.ca.gov to request a vehicle configuration be added to the list:

…

(4) For each commercially available ZEV or NZEV chassis in the same and next higher weight class that is certified for sale in California, show the chassis cannot be equipped in the applicable configuration. For example, if a Class 4 vehicle is needed, the following information must be submitted for Class 4 and Class 5 chassis. To do so, applicants must submit either of the following:

(A) A signed statement or email from the vehicle manufacturer stating the chassis is not compatible with the applicable configuration ~~and for what reasons~~; or

(B) A signed statement or email from each authorized installer of the needed vehicle body stating that ~~for each available ZEV or NZEV chassis,~~ the installer is unable to configure the body on the chassis without violating safety standards prescribed under title 8, CCR by the California Department of Industrial Relations, Division of Occupational Safety and Health, comparable federal or state health and safety laws where the vehicle operates, or federal highway safety laws. The statement must identify in general which ~~of these~~ safety laws or standards would be violated and for what reasons.

…

4. Exemptions Pursuant to Declared Emergency Events Edits

- 2015.1(c)(6) Exemptions Pursuant to ~~Declared~~ Emergency Events. Fleet owners may purchase a new ICE vehicle and exclude it from the ZEV addition requirement of

section 2015.1(a) for up to 25 percent of the fleet if the fleet(s) qualify per the "Emergency Operations" definition and/or "Mutual Aid" exemption ~~vehicles are needed to provide emergency response services and the conditions described in section 2015.3(f)(2) are met~~. Fleets may petition the Executive Officer for an alternate ICE percentage allowance based upon the "actual need" that is sufficient to provide reliable emergency operation response capabilities.

- 2015.2(e)(6) Exemptions Pursuant to ~~Declared~~ Emergency Events. Fleet owners may purchase a new ICE vehicle and exclude it from the ZEV milestone calculation of section 2015.2(b) for up to 25 percent of the fleet if the fleet(s) quality per the "Emergency Operations" definition and/or "Mutual Aid" exemption. ~~vehicles are needed to provide emergency response services and the conditions of section 2015.3(f) are met~~. Fleets may petition the Executive Officer for an alternate ICE percentage allowance based upon the "actual need" that is sufficient to provide reliable emergency operation response capabilities.

- 2015.3 (f) Exemptions Pursuant to ~~Declared~~ Emergency Events.

  …

  ADD:

  (2) Emergency Operations. Fleets routinely involved with "emergency operations" may apply to the Executive Office for a 25% or alternative percentage ICE vehicle allowance.

  "Emergency operation" means:

  (A) Any activity for a project conducted during emergency, life threatening situations, where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or an essential public service; or in conjunction with any officially declared disaster or state of emergency, as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized health officer,

  (B) Any activity for a project conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency, or

  (C) Operations including repairing or preventing damage to roads, buildings, terrain, and infrastructure as a result of an earthquake, flood, storm, fire, other infrequent act of nature, or terrorism. Routine maintenance or construction to prevent public health risks does not constitute emergency operations

~~(2)~~(3) Mutual Aid Assistance. Fleet owners may apply for this exemption if they have a mutual aid agreement to send vehicles to assist other entities during a declared emergency event or emergency operation and at least 75 percent of their California fleet is comprised of ZEVs. ~~The exemption is limited to replacing vehicles with a GVWR greater than 14,000 lbs. and does not apply to pickup trucks, buses, box trucks, vans, any tractors, or any vehicle configurations commercially available as NZEVs~~. The Executive Officer will rely on the information submitted in sections 2015.3(f)(2)(A-D) ~~and their good engineering judgment~~ in determining whether to approve the exemption. The fleet owner must ~~do and~~ submit the following by email to TRUCRS@arb.ca.gov to apply:

(A) The make, model, weight class, configuration, and photograph of the needed ICE vehicle.

(B) For each commercially available ZEV or NZEV complete vehicle or incomplete chassis in the same and next higher weight class that is certified for sale in California, submit the following: documentation from the manufacturer and ~~all~~ relevant mobile fueling providers with compatible mobile fueling options to show the vehicle or chassis cannot be refueled with compatible mobile fueling options that would fuel from ~~10~~ 50 to 80 percent of the ZEV's rated energy capacity within 1 hour of fueling time; a signed statement or email from the vehicle manufacturer stating the chassis is not compatible with the applicable configuration and for what general reasons; or a signed statement or email from each authorized installer of the needed vehicle body stating that ~~for each available ZEV or NZEV chassis,~~ the installer is unable to configure the body on the chassis without violating safety standards prescribed under title 8, CCR by the California Department of Industrial Relations, Division of Occupational Safety and Health, comparable federal or state health and safety laws where the vehicle operates, or federal highway safety laws. The statement must identify which of these safety laws or standards would be violated and for what reasons.

(C) A copy of the mutual aid agreement in effect with other entities to assist with affected vehicles during declared emergency events.

(D) Submit a letter to the Executive Officer that has an explanation of the reason for the exemption request.

(E) A fleet may only qualify for the Mutual Aid Assistance exemption or the Emergency Operations exemption, not both.