City Council
311 Vernon Street
Roseville, California 95678

April 7, 2023

The Honorable Dr. Steven Cliff
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Advanced Clean Fleets – Proposed 15-Day Changes to the Proposed Regulation Order State and Local Government Agency Fleet Requirements

Dear Dr. Cliff:

On behalf of the City of Roseville (Roseville), I write to provide comments to the California Air Resources Board (CARB) regarding the Advanced Clean Fleets (ACF) Proposed 15-day Changes to the Proposed Regulation Order, specifically the provisions for public fleets and the cost assumptions.

Roseville is the largest city in Placer County with a population of over 150,000 and 42.26 square miles of land. Roseville is unique in that we are a full-service city providing essential utility and public services to its citizens, everything from public safety, electricity, water, wastewater, to solid waste management. These utilities serve over 56,000 residences and businesses. This requires the city to maintain a large, diverse, and capable fleet. Roseville is committed to sustainability and has faithfully participated from the start of the regulatory process by submitting at least five comment letters, participated in each workshop and board meeting, and held over 14 meetings with CARB Board Members and staff to discuss our Waste-to-RNG (project description attached) project and the impact the rule would have on our ratepayers.

It was called out at the December 12, 2022, workshop, by CARB Board Member Gideon Kracov, that it was because of the concerns raised by Roseville that you held the workshop to address our niche issue. And as we submitted in our January 2023 comment letter, the proposed amendments did not address Roseville's concerns and we would not take advantage of the alternative pathway.

The release of the March 23, 2023, 15-day changes to the Regulation Order does not address the narrow relief requested, ignoring the concerns that the City of Roseville has expressed from the start. As proposed, the wastewater and refuse fleet provisions are not acceptable, as it would require the City to retire CNG trucks ahead of their useful life. The staff proposal removes flexibility of large fleets, therefore disincentivizing any benefits that were perceived in designing the concept.

Core Issue
In 2017, Roseville saw the opportunity to develop a "closed loop" with its waste stream. A confluence of legislation, including Senate Bill 605 Lara (Chapter 523, Statutes 2014), Senate Bill 1383 Lara (Chapter 395, Statutes 2016) and Assembly Bill 1826 Chesbro (Chapter 727, Statutes of 2014), sent a strong signal that the most logical solution was to leverage our waste stream for a beneficial use that reduced our methane emissions and reduced our reliance on fossil fuels.

Capturing our wastewater treatment methane emissions will reduce consumption of over 250,000 gallons of diesel and be replaced with locally generated and controlled renewable natural gas. There is no reliance on pipelines or crediting to achieve this outcome, thus further lowering the carbon intensity of the fuel. Paired with low-NOx engines and the environmental outcomes on a lifecycle basis, we expect to exceed what can be expected from battery electric trucks charging during off-peak evening hours. Furthermore, this addresses the statutory requirements set forth, including organics procurement requirements established by SB 1383.

As California seeks to reduce global climate emissions, it is important to account for the full lifecycle of the energy and paired end-use. Based on CARB's own low-carbon fuel standard pathways we know that the 2020 carbon intensity for off-peak (after 9pm) evening charging ranges from 112.14 gCO2e/MJ to 79.35 gCO2e/MJ and that the grid average between 9pm and 5am is 85.19 gCO2e/MJ1. Adjusted energy economy ratio (EER) values for battery medium duty application is 3.42 or ~25.06 gCO2e/MJ. Provisional pathways in California for wastewater biosolids, like Roseville's project, results in a CI of 15.87 gCO2e/MJ to 19.28 gCO2e/MJ. Early investment by Roseville to deploy renewable natural gas (RNG) to our fleet provides a ~44.91% to 26.07% lower carbon intensity from the evening grid average today over a future vehicle that does not currently exist. Furthermore, we anticipate during drought years and with the stress of summer heat waves that caused the 2021 and 2022 load shedding events near-term evening grid, carbon intensity will continue to rise. This will further be exacerbated by the demand for charging created by this regulation.

CARB should not foreclose this environmentally sound compliance option at this time and instead should allow Roseville and other municipalities in control of their wastewater and solid waste streams to achieve compliance with this regulation and others required by statute.

As an early adopter, if the Board approves the ACF regulation it will place Roseville in a Catch-22 between the ACF and our obligations under the Short-lived Climate Pollutant Regulations adopted to implement SB 1383. We remain steadfast in our concern that CARB staff has not recognized or attempted to address our specific concerns or acknowledged the significant scale or scope of the changes that were necessary to expand capacities to manage organics or the conversions necessary to allow them to accept food and other green wastes.[1]

Path Forward

After the last ACF workshop, we offered this narrow path forward via verbal and written communication "We propose, allowing Roseville and similar municipalities to remain under the provisions of the public fleet and convert on a percentage of purchase versus a fleet average under the same timeline as group 3." This maintains fleet wide flexibility while allowing the wastewater/refuse fleet to fulfill Roseville's goals for a circular economy. Roseville met with CARB staff to discuss this option and met yet another roadblock to a reasonable and narrowly crafted solution.

Lastly, as a member of the California Municipal Utilities Association and the California Association of Sanitation Agencies, Roseville supports both the written and the public comments made by our statewide trade associations. We appreciate the opportunity to provide these comments. The City of Roseville stands ready as a local example for CARB members and staff to coordinate follow up visits so we may demonstrate both our accomplishments to date and assist you in reaching policy conclusions that validate and protect our investments in cleaner air for our residents and the region.

If you or your staff have any questions, please contact Noelle Mattock Utility Government Relations Administrator at 916-297-2177 or ncmattock@roseville.ca.us.

Sincerely,

Bruce Houdesheldt
Mayor, City of Roseville

[1] https://ww2.arb.ca.gov/sites/default/files/2022-12/221212acfpres_ADA.pdf Slide 9, second bullet states, "Utilize existing digesters at wastewater treatment facilities to rapidly expand food waste digestion capacity."

City of Roseville
Waste-to-RNG Facility

The City of Roseville, California, owns and operates two wastewater treatment plants (WWTP) on behalf of the South Placer Wastewater Authority (SPWA) and its partner agencies. The SPWA serves more than 250,000 residents in Placer County. The Energy Recovery Project (ERP) was installed at Roseville's Pleasant Grove WWTP (PGWWTP), which currently treats up to 10 million gallons of wastewater per day, protects local streams and rivers, and provides recycled water back to the community.

The PGWWTP needed to be expanded to accommodate future population growth in Roseville and the surrounding areas. In addition to increasing the treatment capacity, the plant expansion included anaerobic digesters to stabilize wastewater solids and generate a biosolids product that is suitable for beneficial use rather than landfilling as was the typical practice.

The City faced a unique opportunity: adding new anaerobic digesters to its PGWWTP at a time when regulations and grant funding opportunities were focused on driving organic waste toward such facilities while also incentivizing the use of digester gas for renewable energy and fuels. In the face of this opportunity, the City, on behalf of the SPWA, initiated a project to evaluate the best uses of its new source of digester gas and to capitalize on the new digestion process by co-digesting high- strength organic wastes. For this evaluation, the City chose to partner with Brown and Caldwell, an experienced environmental engineering firm with a specialty in municipal digester gas utilization projects. The result of this evaluation was the ERP – an ambitious and innovative renewable biofuels production facility.

The City's ERP conditions and upgrades digester gas generated in anaerobic digesters to produce vehicle fuel for Roseville's solid waste truck fleet. The system is comprised of several components:

High Strength Waste Receiving Facility

By accepting organic high strength waste streams directly into the plant's anaerobic digesters, this facility will be able to divert up to 5,000,000 gallons of organic waste per year in support of SB1383. This waste feedstock, in addition to municipal wastewater solids, will serve to increase digester gas production. Organics diverted from landfills will decrease fugitive emission of methane, a short-term climate pollutant, as well as provide a more local destination for trucked waste, which in turn reduces fossil fuel usage and criteria pollutant generation through shorter trips.

Biofuel Production

The ERP's biogas conditioning and upgrading facility has a production capacity of 267,000 diesel gallon equivalents (DGE) per year. By partnering with equipment supplier Unison Solutions, the project uses the BioCNG membrane separation technology to upgrade digester gas to vehicle fuel quality renewable natural gas (RNG). Unison also provided digester gas conditioning equipment to remove contaminants typically found in gas from a municipal anaerobic digester, such as hydrogen sulfide, siloxanes, and volatile organic compounds.

Cogeneration from Tail Gas

The process that separates carbon dioxide from methane in digester gas produces a rejected stream of gas – also called tail gas – that must be treated. Instead of flaring this gas as is typically done, the ERP system incorporates microturbine cogeneration units that utilize the tail gas as a fuel supply. These microturbines produce electricity to help power the gas upgrading equipment as well as heat for the anaerobic digester process. As part of the City's commitment to maximizing its beneficial use of biogas, this system pushes the boundaries of fully utilizing portions of biogas production that would otherwise be wasted.

Onsite Fueling of Solid Waste Truck Fleet

The City of Roseville's Refuse and Stormwater Division owns and operates a solid waste collections fleet for the Roseville community. In 2018, the City's Wastewater Division, which owns and operates the PGWWTP, negotiated a long-term fuel off-take agreement for all the RNG that will be produced as part of the ERP. The RNG is now delivered to the vehicles at a new onsite compressed natural gas (CNG) fueling facility that includes compressors, storage vessels, and fuel dispensers. In anticipation of facility's completion, the truck fleet is being converted from diesel fuel to CNG fuel. Switching from diesel fuel to renewable CNG is now reducing greenhouse gas emissions by approximately 3,655 metric tons of CO2 equivalents per year and will reduce NOx emission by 5 metric tons per year.

The ERP is producing some astounding financial and environmental benefits:

- Renewable fuel with a Carbon Intensity of 0 g CO2e/MJ, based on consultation with the California Air Resources Board
- Grant Funding Cost Effectiveness per GHG Reduction of $35/MTCO2e reduced over a 30-year project lifetime
- Grant Funding Cost Effectiveness per DGE of $0.48/DGE over a 30-year project lifetime
- Creation of 27 temporary construction jobs and 4 permanent full-time City staff
- 30-year production of over 6 million DGE of renewable biofuel

Roseville's ERP project supports the Governor's Executive Order goal for Carbon Neutrality by 2045 and our obligations under the Short-Lived Climate Pollutant Regulation establish from the passage of SB 1383. As an early adopter, the City of Roseville, helped to lead the way forward by investing in this new application of gas upgrading technologies, an unfamiliar credit and incentive marketplace, and the uncertainty of being on the innovative edge in the municipal wastewater industry. By helping to support the City's ERP, the California Air Resources Board will not only support a worthy and well-conceived project that is improving the air quality of our community today, well ahead of the proposed ACF regulation. Furthermore, it will allow us to smooth out future rate increases that will be necessary to re-convert our entire refuse fleet to full electric.