November 24, 2021

Dorothy Fibiger, Ph.D.
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments with respect to the "Public Hearing to Consider Proposed Amendments to the Small Off Road Engine Regulations: Transition to Zero Emissions"

Dear Ms. Fibiger,

The Cleaning Equipment Trade Association (CETA) is an international non-profit trade association made up of manufacturers, suppliers, distributors, contractors/end users, and associates. All these members coordinate efforts to promote public awareness, professionalism, industry-wide safety standards, and education for the advancement of the powered cleaning equipment industry. Environmental regulations and lobby efforts are not inside CETA's regular scope of work, but we strive to educate our members to promote best practices across the industry.

From that perspective, we have been working to understand the Proposed Amendments related to Small Off-Road Equipment (SORE Amendments or Amendments). We appreciate the opportunity to meet and discuss the Amendments, as without a doubt, they will be incorporated to our industry's best practices. CETA members are committed to environmental improvement and societal benefit. Many of our members in the State of California are engaged in and empowering contractors to control the spread of disease, combat aquatic invasive species (AIS), lower water usage, and extend the life of materials and structures in corrosive or oxidizing environments. CETA members in the State of California also adhere to state and municipal regulations for the propane burners often used with commercial pressure washers and water reclamation in accordance with the Clean Water Act. From a societal benefit standpoint, CETA members create jobs, supply an extremely low barrier to entrepreneurship, and beautify through cleaning the countless retail, recreation, and tourist attractions for which the State of California is world renowned.

The main tool for a mobile, commercial, cleaning contractor (mobile cleaner) is currently a high-pressure washer. In majority, these tools for these contractors are powered by an internal combustion engine between 225cc to 825cc, and often having a combustion heating element (burner) to increase the cleaning efficiency of the high-pressure stream of water. Comparable to commercial landscapers, mobile cleaners use this tool as a full-time job, typically 6 hours per workday and 200 days per annum.

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In contrast to commercial landscapers, the number of mobile cleaners is significantly fewer and many commercial cleaners in California work at night. Many users enter the industry by buying a pressure washer powered by an internal combustion engine smaller than 225cc. The reason mobile cleaners select tools of this description is, high pressure increases the cleaning efficiency, lowers the time and water used, and there is high mobility from the equipment being light weight and compact. The higher the pressure of water, the more efficiently a contaminant is lifted from a surface, or an adhesion is broken requiring less water to loosen the contaminant without chemicals or solvents. From industry member data, the higher flow rates commonly shown in gallons per minute disproportionately lowers the amount of time it takes to clean. The net effect of this is not just increased productivity for the contractor, but also lower water usage. A simple example of this from industry data is that with all other factors being equal 2 GPM flow takes 15 minutes to clean a surface while a 4 GPM flow will take 5 min resulting in a 33% lower water consumption. As an industry best practice, commercial cleaners find the increased efficiency and choose pressure washers greater than 3000 PSI and with flows greater than 3 GPM. The vast majority of units used by mobile cleaners is actually closer to 4000 PSI and 4 GPM, but for the sake of illustration, the 3000 PSI at 3 GPM product will be discussed in more detail. As an example of this difference, a common usage for high pressure washers by municipalities in California is to remove graffiti. This is done whether the municipality buys the pressure washer or contracts with a mobile cleaner. Industry experience shows 4000 PSI will remove graffiti, but 3000 PSI will not.

As said previously, CETA is committed to environmental improvement. Our members' focus on meeting local propane consumption requirements proves our dedication to improved air quality. While reviewing the Initial Statement of Reasons (ISOR) for the proposed amendments, our membership has expressed detailed concerns which CETA would like to discuss. We look forward to some solution to continue helping the society of California.

About the Proposed Amendments, the main concern is the inability for mobile cleaners to source the main tool used by themselves, their employees, and businesses from 2024. Considering no efficiency loss and not considering the common industry practice those engines should be used at 85% of maximum capacity or less, a 3000 PSI and 3.0 GPM pressure washer needs an input of 5.25 Hp. This converts to 3.9kW which will help illustrate the issue for electric pressure washers.

Common outlets for 120V power at residences or businesses are 15a and sometimes 20a. An Alternating Current Pressure Washer consuming 3.9kW of electricity from a residential outlet would require 32.5a continuously. This explains the phenomenon that all ACPW in the US are roughly half the output of what industry would consider even a residential pressure washer. The conversion of mobile cleaners to ACPW would require adoption of 220V single phase or 3 phase electricity to be common in residences and businesses to maintain the current levels of water conservation and cleaning efficiency

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provided by higher pressures. In the case of disease control in major CA metropolitan areas, AIS abatement, and disaster clean up, readily available access to these electrical requirements cannot be assumed. Compounding this issue is the common commercial usage of cleaning outside of normal business hours specifically at office parks and retail locations. Beyond this, the in-rush current or starting amperage of electric motors are significantly higher than the operating current further limiting the ability of ACPW to be adopted for commercial use.

When considering Direct Current Pressure Washers, larger current flow is needed to compensate for the lower (battery) voltages compared with ACPW. Energy requirements of the battery eliminate any kind of mobility. Commercially, there are no DCPW's over 3000 PSI that exist.

CARB's published data reflects that the vast majority (1.86M) of residential pressure washers are already ZEE. The estimated data also reveals that non lawn & garden business ownership of pressure washers accounts for 1.3% of gas-powered equipment in California. Most self-identified Commercial Pressure Washers in California's SORE2020 model are used for fewer than 128 hours per annum. Considering the high usage hours of the mobile commercial cleaners that CETA represents (6hrs / day & 200 days / year), this indicates the average usage hours of businesses who buy a commercial pressure washer are much smaller than 128 hours per annum. Conversely, this also indicates the mobile cleaners discussed here are a fractional part of the pressure washer population in the state of California. Further to this, CETA estimates the population of truly commercial pressure washers to be less than 10% of SORE powered pressure washers in the SORE 2020 model.

As is the case with generators, today there is no viable option for replacement of SORE in what would be considered a professional pressure washer. Pressure washers are as indicated above are a vital tool contributing to small business, health, and well-being of the state of California. CETA respectfully requests to work with CARB towards a proposal of mutual benefit and looks forward to a partnership resulting in a cleaner tomorrow.

Sincerely,

Jimmy Welch
2021-2022 CETA Technical and Standards Committee Chairman
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