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Via SORE2021 Board Meeting Comment Log

SUBJECT: Generac Power Systems Comments on ISOR and Proposed Amendments to the Small Off-Road Engine Regulations

In response to the Notice of the Public Hearing to Consider Proposed Amendments to the Small Off-Road Engine Regulations: Transition to Zero Emissions and the Initial Statement of Reasons, Generac would like to offer the following comments.

Hydrogen Fueled Generators -

The Initial Statement of Reasons includes hydrogen powered generators as an alternative to current gasoline generators (pg 54) but the proposed regulations don't appear to accommodate or make them a feasible option.

Generac would like CARB to consider raising the 2028 HC+NOx emission standards for generators to accommodate hydrogen fueled generators. All engines will have some level of oil consumption to account for, therefore some level of hydrocarbon emissions needs to be allowed. Similarly, some level of NOx creation is to be expected from in-cylinder combustion temperatures.

Applicability of SORE Regulation -

It is Generac's position that emission regulation of portable generators better aligns with stationary emergency products, such as home-stand-by generators, which are exempt from CARB regulation rather than with Outdoor Power



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Equipment SORE products. An incorrect premise repeatedly voiced by CARB staff during the workshop was that portable generators primary use is to keep refrigerators running, phones charged and laptops running during power outages and perhaps for camping and tailgating. This excludes from consideration the most significant application for portable generators, which is to provide critical energy support during extended power outage emergencies – light, heating/cooling, water, medical devices, communications, and security are a few beyond those cited during the workshop. A second significant application of portable generators for consideration is the supply of power in professional/business settings such as commercial/residential construction sites and mobile businesses. In all these applications, spark-ignited portable generators fulfill power demands not realized by alternate technology designs, and therefore puts them in a category of product far removed from SORE regulated outdoor power equipment.

Technological Limitations -

As a major manufacturer of energy products Generac is in a unique position to have insight on the status of the available alternate technologies proposed to achieve a Zero Emissions (ZE) portable generator. Current ZE product offerings are not able to provide the power requirements demanded in power outage situations, nor are they able to meet the high load demands for extended use. Additionally, solar recharge times of battery-based units will severely restrict the practical energy support capabilities called for during extended power outages.

Similarly, of the few current spark-ignited engines meeting the proposed emission regulations none would be scalable for portable generators with sufficient size to support power requirements. The time and expense required to develop compliant engines only to have them obsoleted with the full ZE requirements in 2028 is prohibitive.

Further, the concept of fuel cell products presented during the workshop as a potential technological solution is not viable. Although there are some very limited offerings on the global market (e.g. EFOY Pro 2400 Duo) these are stationary (i.e. not portable) which cost >10,000 USD and are limited to 12/24 volt output. Based on the weight and size requirements of fuel-cell technology the transition to a portable generator format is highly unlikely in the near future.

Given the current and foreseeable state of applicable technology, Generac feels the proposed regulations do not align with California Executive Order N-79-20 Section 2, which clearly states, “CARB shall act consistently with technological feasibility and cost-effectiveness”.

Imprecise CARB 2020 Emissions Model -

Generac feels the assertion of a 19% emissions contribution from portable generators is inaccurate due to CARB’s imprecise data model. The statewide phone survey failed to distinguish between portable and stationary generators by asking only if the respondent owned at least one “generator”. The CARB model concluded the California fleet of portable generators to be about 25% greater than the best industry data of ~1.5mm (Portable Generator Manufacturer Association 2018 survey). With proper modeling, the emission reductions needed to meet the State Implementation Plan is obtainable with EFI, closed-loop feedback, and aftertreatment. Such reductions will not only allow meeting the SIP, but also allow use of spark ignited portables beyond 2028.

Proposed Regulation Shortcomings -

Generac has reviewed the proposed SORE regulations and has the following suggestions if the rule is to go forward. The “Generator” definition in the Small Off-Road Engine Exhaust Emission Regulations needs to be changed. A generator is not limited to Off-Road applications, generators are commonly a stationary product. The definition in the proposed



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regulations needs to be updated to prevent confusion on what generators the rule regulates. Generac suggests the following definition to clearly define the applicable product. This will also correspond to the rationale provided in the Initial Statement of Reasons and Standardized Regulatory Impact Assessment, where stationary generators are clearly excluded from the scope of this rule.

"Generator" means off-road equipment that exclusively produces electric power. This definition excludes "stationary generators" which remain or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. "Stationary generators" are not portable or transportable, meaning they are not designed to be carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

Another suggestion is to change the term "Generator" to "Portable Generator", as the latter clearly meets the definition of an Off-Road piece of equipment. However, Generac understands this term would need to be updated throughout the proposed regulation material and therefore, we suggest the definition change to exclude stationary generators.

Conclusion -

Given the stated reasons, Generac requests the exemption of portable generators from the proposed amendments to the SORE emissions regulations. Failure to do so will severely limit the availability of adequate emergency stand-by power in California and cause potential harm to its residents.

Generac appreciates the opportunity to offer our comments on the proposed amendments to the SORE regulations. If you require further information or have questions about our comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Woodruff", with a stylized flourish at the end.

Eric Woodruff

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