BY KARL G. RULING

So long SOREs?

California adopts regulations to prohibit engine exhaust and evaporative emissions from small off-road engines

ON OCTOBER 9, 2021, California Governor Gavin Newsom signed into law *Assembly Bill No. 1346*. It required the California Air Resources Board to adopt by July 1, 2022, regulations to prohibit engine exhaust and evaporative emissions from small off-road engines (SOREs). The regulations are aimed at gas-powered landscape maintenance equipment, such as leaf blowers, lawnmowers, and chainsaws, but also take in other portable equipment, such as small electrical power generators used in motion picture production. The text of the two-page bill is available on the California Legislative Information website. See http://estalink.us/h7ssl.

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Many online commenters have called the bill a ban on small generators, but the reality is more complicated than a simple ban. The legislation says:

Section 43018.11 is added to the Health and Safety Code, to read:

43018.11. (a) (1) By July 1, 2022, the state board shall, consistent with federal law, adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, as defined by the state board. Those regulations shall apply to engines produced on or after January 1, 2024, or as soon as the state board determines is feasible, whichever is later.

"Small off-road engines" are defined by the California Air Resources Board (CARB) as spark-ignition engines with rated power at or below 19 KWh, 25 hp. (Twenty-five hp includes large riding-mowers.) Diesel engines don't use sparkplugs, so they are not SOREs, nor are gasoline engines larger than 25 hp. This does not mean these engines are unregulated, but they are not subject to *AB 1346*. Engines used in stationary equipment (e.g., standby generators) also are not SOREs. CARB also has determined that engines used exclusively to power wintertime products, such as snowblowers, also don't have to comply with the SOREs regulations.

"Consistent with federal law" means that some equipment is pre-empted by federal law and cannot be regulated by California. This includes engines used in construction equipment and vehicles, and farm equipment vehicles, that are smaller than 175 hp. The CARB website has a list of pre-empted and thus exempt equipment. See http://estalink.us/ob2kr.

The SORE emission standards go to zero in two phases:

(1) For model year 2024 and all subsequent model years, emission standards will be zero for engines used in all equipment types produced for sale in California, **except** generators and large pressure washers. Emission standards for generators and large pressure washers in 2024 will be more stringent than the existing standards by 40% – 90% but not zero.

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(2) The second phase will be implemented starting in model year 2028, when the emission standards for generators and large pressure washers will be zero.

Note that these regulations are about new equipment to be sold in California. If you already have an engine-generator set that smokes like a Trabant, it's not okay, but there's nothing written in *AB 1346* that would prevent you from continuing to use it.

AB 1346 complicates small productions being shot off the grid by limiting the portable power options. Small generators,

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such as the Honda EU6500 that Guy Holt showed in "Production Power on a Budget" in the Summer 2017 issue of *Protocol*, won't be available for sale in California after 2027. On the other hand, the availability of engine-generator sets like the MultiQuip SG1400C4F mentioned in Richard Cadena's "Shadow, Light, and Truth" column in the Fall 2020 issue won't be limited by *AB 1346*—but they might be too big and expensive for small production.

Some commenters on a recreational vehicle website—another industry affected by the ban—have questioned whether SOREs are really a problem. The SOREs fact sheet on the CARB website (http://estalink.us/ksm5w) shows emissions from SOREs now exceed emissions from light-duty passenger cars in California. In ten years, SORE emissions are projected to be almost twice those from passenger cars. A graphic compares the emissions of a leaf blower to the output of a modern small passenger car, with one hour of leaf blower use equaling the smog-producing emissions of driving 1,100 miles from LA to Denver. How is this possible?!

The comparison is between a leaf blower of uncertain age with that of a modern car. Gasoline-powered leaf blowers generally use two-stroke engines, which are light-weight, cheap, deliver a lot of power in a compact engine, and are easy to maintain. They also are horrible polluters. The two-stroke cycle pushes out unburned fuel and oil in a smokey exhaust. Two-stroke engines used to be common for motorcycles and a few cars (e.g., Trabant, DKW 3=6, Saab 93), but two-stroke engines in motor vehicles are rare now except in small, off-road bikes. Few are allowed on highways in Europe or North America because of emissions regulations.

So, what's a small production to do? Battery pack manufacturers have been using *AB 1346* to promote their products at motion picture and television trade shows, and CARB has been promoting battery-powered landscaping equipment in California with a touring Zero-Emission Equipment Roadshow. It is indeed possible to do amazing things now with batteries, but you have to charge and eventually recharge them. How?

There are options. Taking them off-site to someplace that is on the electrical utility grid is an obvious choice. Other alternatives would be to use a renewable source of power—wind and solar being obvious and solar being fairly portable. The *Lukas Graham in the Round – Live 2022* tour is battery powered, with the wind-power company Vestas providing the energy for recharging. (See *Variety* July 11, 2022, at http://estalink.us/jmwnr and Richard Cadena's Sustainable Concerts article on page 34). Other productions are trying to be carbon-neutral by using biodiesel to power generators working in conjunction with battery power; the battery power means the generators don't need to run continuously (www.bbc.com/news/business-62051070). Biodiesel powered generators are not non-polluting, but they aren't affected by California *AB 1346*.

The motion picture industry is a creative industry. Power solutions will be found, perhaps not as convenient as buying a portable generator at Home Depot, but they'll be identified, and they should help improve air quality and cut greenhouse gases, which are the goals of *AB 1346*. ■

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