

California Decision Will Cost Contractors Billions

State rule forces contractors to replace and retrofit older heavy equipment By **CEO Steve Sandherr**

Despite AGC of America's strong objections, California is setting first-time emissions rules for existing fleets of off-road diesels. The rule—currently being eyed by other states—will force older equipment out of service and require equipment owners to spend an estimated \$13 billion in California alone over the rule's lifetime on new machines and/or engine retrofits.



Determined to prevent California from setting a de facto national standard that is both economically and technologically infeasible, AGC is set to challenge California's unprecedented attempt to tighten diesel-engine exhaust standards for construction equipment already manufactured and sold to the construction industry.

At issue are new California Air Resources Board rules that require first-time pollution controls on existing off-road diesel engines in construction equipment, along with provisions that mandate the engines be retired if they cannot meet the strict new standards. Federal rules set by the U.S. Environmental Protection Agency impose stringent emissions requirements on new off-road diesel engines and fuel, but do not mandate any reductions from in-use engines. CARB will need to obtain a Clean Air Act waiver from the federal EPA to enforce the standards, and that would allow other states to adopt and enforce identical rules.

REGULATION OVERVIEW

The CARB rules apply to most off-road engines over 25 hp, including bulldozers, loaders, backhoes and forklifts.

Out-of-state companies working in California must also comply. Beginning in 2009, covered fleets of equipment must meet labeling and annual reporting requirements, idling limits and restrictions on adding older vehicles to fleets. In addition, those fleets must dramatically reduce their average emission rates for particulate matter, and in many cases, nitrogen oxide.

Specifically, the rule sets a yearly target rate for average emissions of PM, and all fleets have to either meet the target rate or apply the highest level of verified diesel emission control technology to 20% of their total horsepower. Each year, large and medium fleets also have to meet a target rate for average emissions of NOx, or as an alternative, "turn over" a certain percentage of their total horsepower—8% in the early years and 10% in later years.

Compliance dates for these so-called Best Available Control Technology, or BACT, requirements vary by fleet size, with large-fleet deadlines (more than 5,000 hp) targeted between 2010 and 2020, and small fleets (less than 2,500 hp) between 2015 and 2025. In this context, "turn over" means repowering a piece of equipment with a cleaner engine, retiring it, replacing it or designating it as low use.

INDUSTRY IMPACT

The CARB rule will sharply cut the value of existing fleets by rendering thousands of pieces of construction equipment worthless unless and until fitted with emission controls that may or may not be available—or repowered with new engines. To this end, the rule

will likely compel many construction contractors to retire equipment long before the end of its useful life.

This will wipe out the net worth of many construction companies, depriving them of their bonding capacity and simultaneously requiring them to make massive capital investments. In the end, AGC predicts the rule will cost workers their jobs and delay the completion of essential infrastructure improvements.

NATIONWIDE IMPLICATIONS

California has unique authority under the federal Clean Air Act to regulate air emissions from off-road equipment. Other states do not have this authority but are permitted under the Clean Air Act to adopt any new emission standards that California promulgates. Many states that are currently struggling to meet national ambient air-quality standards for particulates and ozone may look to adopt California's new rule to meet the act's requirements.

AGC ACTION

AGC has been studying CARB's proposal for well over a year and has identified the standards that CARB must meet under both federal and state law to take this action. CARB unanimously approved its proposal, with only minor changes, just one day after AGC submitted nearly 100 pages of detailed comments identifying the barriers to meeting the rule and the detrimental small-business impacts. AGC also pointed out that CARB has failed to consider reasonable, less costly alternatives, as required by law.

Citing 10 experts, including two economists and three engine manufacturers, AGC's final comments demon-

strate CARB's failure to satisfy its legal duties and obligations by explaining, for example, that:

- > California has underestimated the cost of retrofitting the existing equipment by as much as 50%.

- > The state has overstated the options for repowering such equipment, as well as the amount of equipment on the used-equipment market. AGC's research found that "less than 25% of all off-road construction equipment...can be successfully repowered by an engine manufacturer" and according to Quinn Caterpillar, a dealer in California, "currently about 3% of

Caterpillar's legacy machines can be repowered to Tier 3."

- > The state has understated the cost and amount of completely new equipment that fleet owners would have to purchase. AGC's research shows that Tier 3 and Tier 4 engines cost substantially more than Tier 1 and Tier 2 engines. When the Tier 4 machines become generally available in 2015, they are likely to be 70 to 80% more expensive than the machines they replace.

- > The state has wrongly assumed that the firms in the highly competitive construction industry can simply pass

the cost of compliance along to public agencies and private project owners. AGC's comments make clear that "customers are not going to use a higher bidder just because they have greater compliance costs."

- > The state has failed to account for the rule's inevitable impact on construction contractors' borrowing and bonding capacity.

- > The state has underestimated the number of jobs that this would lose. While CARB estimates the rule would reduce California employment by 1,000 jobs in the peak year of 2010, AGC's economic research estimates the elimination of more than 40,000 jobs in California.

- > None of the major engine manufacturers can commit to providing the technical support that the construction industry would require to make the necessary changes (assuming that it could finance them).

AGC has worked closely with and provided legal support to its California chapters and the other members of the California-based Construction Industry Air Quality Coalition.

NEXT STEPS

AGC is evaluating its legal rights and options and will continue to work hard to keep the construction industry economically viable and prevent lost jobs and delays in the completion of important infrastructure projects.

AGC is prepared to challenge CARB's rulemaking process before the state's Office of Administrative Law and in the California courts.

Concurrently, AGC plans to oppose any action by EPA to grant California a waiver to set off-road equipment standards that differ from the federal rules. The federal Clean Air Act requires EPA to determine that CARB has met certain criteria (e.g., California needs the retrofit mandate to address "compelling and extraordinary conditions") before it can enforce more aggressive measures than the rest of the country.

AGC's members want to improve air quality. But they understand the great magnitude of the task, and they remain deeply concerned that California will permit its environmental goals to cloud its judgment about the hard economic and technical realities that the state needs to overcome. ■



ECCO Equipment Corp., an AGC-member company in California, recently took steps to voluntarily reduce emissions from its 1993 Caterpillar 988F rubber-tire loader with assistance from state's Carl Moyer Diesel Cleanup Program.

In January 2007, the company replaced the machine's engine that had no pollution-control technologies (Tier 0) with an engine that performs to a cleaner emissions standard (Tier 2) - costing \$111,800.

To qualify for an incentive grant under the Moyer Program, the company also installed two diesel particulate filters on the same machine, aimed at further reducing particulate matter emissions. Installation of this HUSS filter system, which included two individual monitors (one required for each filter), cost an additional \$54,700. This is one of only three filters that have been verified by CARB, and the only one that does not require 240-volt electrical supply to regenerate.

Upon completion of the retrofit, the company discovered that the filters need to be serviced after approximately every eight hours of operation. The servicing takes nearly an hour to finish on two units; it involves a 30-minute burn-off process on one filter, which is then run for 15 minutes before the 30-minute burn-off can begin on the second filter.

This case study, along with the picture, illustrates that retrofitting off-road construction equipment can be both economically and technologically challenging. During the May 25, 2007, public hearing by CARB on its retrofit rule, several Caterpillar dealers spoke of the limited emissions reduction solutions available for the hundreds of models of machines working in the field today.