

protection'' AECDs). While the definition of a defeat device allows as an exception strategies needed to protect the engine and equipment against damage or accident, we intend to continue our policy of closely reviewing the use of this exception. In evaluating whether a reduction in emissions control effectiveness is needed for engine protection, EPA will closely evaluate the actual technology employed on the engine family, as well as the use and availability of other emission control technologies across the industry, taking into consideration how widespread the use is, including its use in similar engines and similar equipment. While we have specified additional information related to engine protection AECDs in the proposed regulations, we reserve the right to request additional information on a case-by-case basis as necessary.

In the last several years, EPA has issued extensive guidance on the disclosure of AECDs for both highway and nonroad diesel engine manufactures.³¹⁹ This proposal does not impose any new certification burden on engine manufacturers, rather, it clarifies the existing certification application regulations by specifying what type of information manufacturers must submit regarding AECDs.

Finally, we take this opportunity to emphasize that the information submitted must be specific to each engine family. The practice of describing AECDs in a "common" section, wherein the strategies are described in general for all the manufacturer's engines, is acceptable as long as each engine family's application contains specific references to the AECDs in the common section which clearly indicate which AECDs are present on that engine family, and the application contains specific calibration information for that engine family's AECDs. The proposed regulatory requirements can be found at 40 CFR 89.115(d)(2) in today's notice.

We are requesting comment on whether these clarifications should also be applied to the current Tier 2/Tier 3 compliance program, and if so, when these provisions should be applied.

O. Other Issues

We are also proposing other minor changes to the compliance program for Tier 4 nonroad engines. For example, we are proposing that engine manufacturers be required to provide installation instructions to equipment manufacturers to ensure that engine cooling systems, aftertreatment exhaust emission controls, and related sensors are properly installed by the equipment manufacturer. Proper installation of these systems is critical to the emission performance of the equipment. Equipment manufacturers would be expected to follow the instructions to avoid improper installation that could render emission controls inoperative, and subject the equipment manufacturer to penalties for violation of a prohibited act.

Under the existing regulations and the proposed new regulations, engine manufacturers are responsible for all emission-related components, both in terms of emission performance during certification and in-use testing, and emission-related warranties. This requires that engine manufacturers provide their engines with the necessary emission controls before selling them to equipment manufacturers. We are proposing to use the same approach as is used with highway engines, where the engine manufacturer is required to either install catalysts or traps before selling the engine to a vehicle manufacturer, or to ship the catalyst or trap with the engine, with appropriate installation instructions. We are requesting comment on whether this is appropriate for nonroad engines equipped with traps and other aftertreatment exhaust emission controls. We are concerned that allowing engine manufacturers to sell engines without traps included might lead to equipment being introduced into service without the emission controls properly installed. We are requesting comment on whether it is sufficient to require manufacturers to fully describe in their installation instructions all necessary emission control hardware, and whether the engine manufacturer should be held responsible for ensuring the aftertreatment is properly installed, including requiring some management by the engine manufacturers of the installation process, such as auditing the installations and reporting the results to EPA.

In § 89.109, we limit the amount of maintenance that manufacturers can perform during service accumulation. We are proposing to continue these limits in the proposed new § 1039.125. However, we are not carrying over the

provisions of § 89.109(h)(2) (iii) and (iv) that are related to allowances for additional maintenance for engines equipped with onboard diagnostic systems that include visible warning lights. We believe that these provisions would be better addressed in a rulemaking addressing onboard diagnostic standards.

Both the existing regulations and the proposed regulations specify default criteria to define engine family groups, but allow exceptions for cases where other groups would more appropriately represent similar emission characteristics. The proposed regulations specify the same criteria as part 89, plus two new criteria. We are proposing that mechanically controlled engines and electronically controlled engines generally be certified in separate engine families. We are also proposing that engines in different power categories generally must be in separate engine families.

We are proposing to clarify the applicability of the nonroad CI standards to engines operating on alcohols and other oxygenated fuels. As part of this, we are proposing to add a requirement that compression-ignition alcohol-fueled engines be required to comply with the evaporative emission control requirements in 40 CFR 1048.105. That section allows manufacturers to comply with the requirement by incorporating simple emission controls. This requirement is not expected to have a significant impact on manufacturers since we are not aware of any alcohol-fueled nonroad engines currently in production. The proposed provision is merely intended to prevent new emission problem from occurring in the future.

We are proposing to change the way in which manufacturers specify deterioration factors (DFs) for Tier 4 trap-equipped engines. The current regulations specify that the DFs for engines with aftertreatment devices must be multiplicative. They must be expressed as a proportion of the engine's initial emission rate. Manufacturers have indicated in past discussions that, given the general operating mechanism of PM traps and the very low PM levels emitted, trap deterioration is not expected to depend on the initial emission rate, as increased emissions from deterioration that tend to be non-sulfate PM, and therefore not related to the initial emissions rate. Therefore, we are proposing to specify additive DFs for PM that account for a fixed amount of deterioration and are independent of the engine's initial emission rate.

³¹⁹ See EPA Dear Manufacturer Letter VPCD-98-13, "Heavy-duty Diesel Engines Controlled by Onboard Computers: Guidance on Reporting and Evaluating Auxiliary Emission Control Devices and the Defeat Device Prohibition of the Clean Air Act", October 15, 1998 and EPA Advisory Circular 24-3, "Implementation of Requirements Prohibiting Defeat Devices for On-Highway Heavy-Duty Diesel Engines." A copy of both of these documents is available in EPA Air Docket A-2001-28