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NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY
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OFFICE OF
AIR AND RADIATION

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Dear Manufacturer:

The implementation date of EPA's Tier 2 standards for marine diesel engines is fast approaching, with an effective date of January 1, 2004 (64 FR 73300, December 29, 1999). This letter addresses a variety of questions that have arisen related to the engine-dressing provisions in 40 CFR 94.907.

Application of Dressing Exemption:

Background. One manufacturer has observed that an engine with per-cylinder displacement between 0.9 and 1.2 liters with rated power between 37 and 75 kW would be subject to more stringent standards as a marine engine under 40 CFR part 94 than as a land-based nonroad engine under 40 CFR part 89. We adopted standards for commercial marine diesel engines that are similar to the standards adopted for land-based nonroad diesel engines of comparable size based on use of comparable technology in a marine environment. Differences in the actual numeric limits between land-based and marine engine standards generally reflect differences in the duty cycle used for testing, so the numerical standard can be used only to compare stringency on an approximate basis. In addition, the regulations for land-based nonroad diesel engines differentiate standards based on rated power, while the regulations for marine diesel engines differentiate standards based on per-cylinder displacement. The standards for the two programs generally correspond well, but the question shows that the different approaches are not fully aligned.

Application. The engine dressing exemption applies to all engines that meet the requirements for the exemption set out in 40 CFR 94.907. Paragraph (d)(1) of this section states that engines must be produced by marinizing an engine covered by a valid certificate of conformity under one of our other regulatory programs for heavy-duty highway engines (40 CFR part 86), land-based nonroad diesel engines (40 CFR part 89), or locomotives (40 CFR part 92). This provision was modified from our original proposal, which would have required a dressed engine to be certified to emission standards that were at least as stringent as those that would apply under our program for marine diesel engines. This modification was made in part to allow engine dressers to use engines originally certified using emission credits in the averaging, banking, and trading program. In such cases, the Family Emission Limit for such an engine could be numerically higher than the otherwise applicable emission standard for marine diesel

engines. Because the land-based counterparts of marine diesel engines are generally subject to similar or more stringent standards, simplifying the program in this way was not expected to affect the expected emission reductions associated with the standards unless it were the case that most marine engines are dressed land-based engines that use emission credits. We will monitor the program to see if this raises a concern.

Because the engine-dressing exemption relies on the existence of a valid certificate of conformity for one of the other land-based engine programs, engines in the 37-75 kW range are covered by the engine-dressing exemption even though the standards for land-based nonroad diesel engines in that size range are less stringent than the marine standards for engines with the given displacement. Note that this exemption applies only to engine models where the majority of engine sales are for land-based applications. 40 CFR 94.907(d)(4).

A similar question relates to the relative stringency of multiple tiers of standards for the base engines. For example, a manufacturer could produce a land-based nonroad diesel engine certified to Tier 1 standards and want to later sell that engine using the engine-dressing provisions, even though a second tier of standards may apply to the land-based engines under 40 CFR part 89 in the year that the engine is marinized. In this situation, we would generally consider such an engine to have a valid certificate under 40 CFR part 89, provided that the engines are not stockpiled to circumvent emission standards, which we disallow under 40 CFR 94.907(f). We understand that an engine dresser needs some time following final assembly by the base engine manufacturer to complete the dressing process. However, if the base engine was manufactured earlier than one model year before the year in which the engine dressing is completed, we would expect that it is likely that stockpiling has occurred. If stockpiling occurs, as described in 40 CFR 94.907(f), the marine engines would be disqualified from the engine dressing exemption and would be considered uncertified marine engines, whose introduction into commerce is prohibited under 40 CFR 94.1103(a)(1)(i)(A).

Submission of Marine-specific Emission Data

The regulations at 40 CFR 94.907(h) specify that engine manufacturers that dress their own engines under the engine-dressing exemption must send us emission test data using the appropriate marine duty cycles. This paragraph also specifies that we may ask the base engine manufacturer to send us this test data if an engine dresser is using a base engine manufacturer's engine for marine applications under the engine-dressing provisions. Manufacturers have raised the question of how EPA will use this data and, in particular, whether EPA can use the data to reject a manufacturer's use of the engine-dressing exemption.

The preamble to the final rule describes that we will use this data "for oversight to determine the validity of the exemption." The primary intended use of this data is for general oversight of the program. Because this is the first time EPA is allowing this kind of cross-category certification for engines used in different applications but subject to similar standards, we want to ensure that engines designed and certified to non-marine applications will operate with a comparable degree of emission control when operated in the marine environment. Test data showing how the land-based and marinized engines operate over the applicable marine duty

cycles adds information that allows us to evaluate the effectiveness and appropriateness of the engine-dressing provisions. If this information shows that modifications to the program are needed, we would pursue those in a future rulemaking action.

We do not expect to take action on any individual engine family under the engine-dressing provisions based on this test data. However, if the testing shows that the engine clearly does not achieve the expected level of control when operating over the applicable marine duty cycles relative to its certified emission levels, we may explore whether such an engine indeed qualifies for the engine-dressing exemption. For example, in 40 CFR 94.907(d)(3), we state that:

You must not make any changes to the certified engine that could reasonably be expected to increase its emissions. For example, if you make any of the following changes to one of these engines, you do not qualify for the engine dressing exemption:

- (i) Change any fuel system parameters from the certified configuration.
- (ii) Replace an original turbocharger.
- (iii) Modify or design the marine engine cooling or aftercooling system so that temperatures or heat rejection rates are outside the original engine manufacturer's specified ranges.

If further investigation shows that the dressed engine is produced in a way that, in fact, would reasonably be expected to result in increased emissions, we may deny the exemption under 40 CFR 94.907(d)(3). In addition, if further investigation shows that different levels of emission control are due to a prohibited defeat device in the base engine, we would approach that as a violation of the defeat-device provisions under the base program; see 40 CFR 89.107, 40 CFR 86.094-16, and 40 CFR 92.7.

Sincerely,



Glenn Passavant, Nonroad Center Director
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