

definition, we included provisions to address issues such as these. Part 1065 allows EPA to modify test procedures in situations where the specified test procedures would otherwise be unrepresentative of in-use operation. Thus, in cases in which the definition of maximum test speed resulted in an engine speed that was not expected to occur with in-use engines, we would work with the manufacturers to determine the maximum speed that would be expected to occur in-use.

#### 6. Improvements to the Test Procedures

We are proposing changes to the test procedures to improve the precision of emission measurements. These changes address the potential effect of measurement precision on the feasibility of the standards. It is important to note that these changes are not intended to bias results high or low, but only to improve the precision of the measurements. Based on our experience with these modified test procedures, and our discussions with manufacturers about their experiences, we are confident that these changes will not affect the stringency of the standards. These changes are summarized briefly here, and the rationale for the changes affecting Constant Volume Sampling (CVS) and PM testing are summarized in a memo to the docket (Air Docket A-99-06, IV-B-11), which was originally submitted in support of the recent highway heavy-duty diesel engine rule (66 FR 5001, January 18, 2001). The rationale for any other changes are summarized in a memo to the docket for this proposal.

Many of the changes are to the PM sampling procedures. The PM procedures will be the same as those finalized as part of the highway heavy-duty diesel engine rule (66 FR 5001, January 18, 2001). These include changes to the type of PM filters that are used and improvements in how PM filters are weighed before and after emission measurements, including requirements for more precise microbalances.

Another area includes changes to the CVS dilution air and flow measurement specifications to allow for lower dilution ratios. These changes are also the same as those changes finalized in the highway rule.

Another area of change is the NO<sub>x</sub> calibration procedure. These changes are also the same as those changes finalized in the highway rule. The new calibration procedures will result in more precise continuous measurement of very low concentrations of NO<sub>x</sub>.

Other changes are being proposed to allow for other measurement options,

including the complete or partial adoption of the International Standards Organization's test procedures as specified in ISO 8178-1 (2002-2003 revision) and ISO 8178-11 DIS. EPA has participated in draft changes to these procedures and feels that adopting these procedures, at least in part, would not only allow for the use of the most technically correct procedures, but would also improve harmonization with international standards, which might offer cost savings for some manufacturers. EPA requests comments on the appropriateness of adopting parts of or all of ISO 8178-1 (2002-2003 revision) and ISO 8178-11 DIS.

If finalized, manufacturers would be allowed to use the new procedures immediately for all certifications of all engines (*i.e.* to certify any nonroad engine, not just Tier 4 engines), and manufacturers will also be able to use their current procedures up to a certain transition date to allow for a gradual transition to the new procedures. The reason for this is that some of these changes may not be convenient or cost-effective in the short term, and manufacturers may be willing to live with some slightly lower measurement precision in order to lower short-term testing costs. We believe, though, that manufacturers should be able to individually optimize their test facilities in this manner. In addition, it is important for manufacturers to understand that we will conduct our confirmatory testing in the manner specified in these regulations.

We are also proposing a new regulatory provision that specifies the steps that someone would need to follow to demonstrate that their own alternate measurement procedure is as good as or better than the procedure specified by our regulations. This provision will be the same as that finalized for highway testing, which can be found in 40 CFR 86.1306-07. The proposed test procedure changes just discussed can be found in 40 CFR Part 1065 of the proposed regulations.

#### G. Not-To-Exceed Requirements

EPA is proposing to adopt not-to-exceed (NTE) emission standards for new non-road diesel engines which are similar to those the Agency set for highway heavy-duty diesel engines. Specifically, the Agency proposes to adopt for non-road diesel engines NTE specifications similar to those finalized as part of the heavy-duty highway diesel engine rulemaking. These specifications are currently published in 40 CFR 86.007-11 and 40 CFR 86.1370-2007.

NTE standards are set as multipliers of FTP standards, therefore, the NTE

standards are also set as emissions mass per unit work performed (*i.e.* brake-specific, g/kW-hr). EPA proposes that non-road NTE standards be applicable to NO<sub>x</sub>, CO, THC, and PM mass emissions from the engines subject to this proposed rule. These standards are evaluated against EPA-prescribed procedures for conducting in-use testing. Such tests may be conducted in an engine or chassis dynamometer laboratory, or they may be conducted on a piece of non-road equipment operating normally in-use by using EPA-prescribed field-testing procedures.

For new nonroad diesel engines, EPA proposes that manufacturers state in their application for certification that they are able to meet the NTE standards under all conditions that may reasonably be expected to occur in normal equipment operation and use. Manufacturers will have to maintain a detailed description of any testing, engineering analysis, and other information that forms the basis for their statement. This information may include a variety of steady-state emission measurements not included in the prescribed emission testing duty cycles. It may also include a continuous trace showing how emissions vary during the transient test or operation manufacturers believe are representative of the way their engines normally operate in the field. This data may also consist of field testing data. Any of the aforementioned data may be analyzed using the NTE data reduction procedures proposed in this regulation; with the final emissions data set then compared to the appropriate NTE standards.

EPA requests comment on an alternative NTE specification that differs from the highway NTE specification. If adopted, this would be the sole NTE test procedure for Tier 4 nonroad diesel engines. The alternative utilizes all engine operation to determine compliance. Other differences in its data reduction procedures would eliminate the need for measuring engine torque for the alternative NTE, which can be particularly difficult on-board nonroad vehicles. These alternative procedures would also eliminate the need for an absolute exhaust flow measurement for these engines by relying on a signal linearly proportional to standard exhaust flow. This alternative approach would address some concerns of the ease of practical in-use implementation of NTE testing. For more detailed information on EPA's NTE provisions, refer to Chapter 4.3 of the draft RIA for this proposal.