

§ 1065.295

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for comparison with any proposed alternate measurement procedure under § 1065.10.

(c) *Pan design.* We recommend that you use a balance pan designed to minimize corner loading of the balance, as follows:

(1) Use a pan that centers the PM sample on the weighing pan. For example, use a pan in the shape of a cross that has upswept tips that center the PM sample media on the pan.

(2) Use a pan that positions the PM sample as low as possible.

(d) *Balance configuration.* Configure the balance for optimum settling time and stability at your location.

EFFECTIVE DATE NOTE: At 73 FR 37300, June 30, 2008, § 1065.290 was amended by revising paragraph (c)(1), effective July 7, 2008. For the convenience of the user, the revised text is set forth as follows:

§ 1065.290 **PM gravimetric balance.**

\* \* \* \* \*

(c) \* \* \*

(1) Use a pan that centers the PM sample media (such as a filter) on the weighing pan. For example, use a pan in the shape of a cross that has upswept tips that center the PM sample media on the pan.

§ 1065.295 **PM inertial balance for field-testing analysis.**

(a) *Application.* You may use an inertial balance to quantify net PM on a sample medium for field testing.

(b) *Component requirements.* We recommend that you use a balance that meets the specifications in Table 1 of § 1065.205. Note that your balance-based system must meet the linearity verification in § 1065.307. If the balance uses an internal calibration process for routine spanning and linearity verifications, the process must be NIST-traceable. You may use an inertial PM balance that has compensation algorithms that are functions of other gaseous measurements and the engine's known or assumed fuel properties. The target value for any compensation al-

gorithm is 0.0% (that is, no bias high and no bias low), regardless of the uncompensated signal's bias.

**Subpart D—Calibrations and Verifications**

§ 1065.301 **Overview and general provisions.**

(a) This subpart describes required and recommended calibrations and verifications of measurement systems. See subpart C of this part for specifications that apply to individual instruments.

(b) You must generally use complete measurement systems when performing calibrations or verifications in this subpart. For example, this would generally involve evaluating instruments based on values recorded with the complete system you use for recording test data, including analog-to-digital converters. For some calibrations and verifications, we may specify that you disconnect part of the measurement system to introduce a simulated signal.

(c) If we do not specify a calibration or verification for a portion of a measurement system, calibrate that portion of your system and verify its performance at a frequency consistent with any recommendations from the measurement-system manufacturer, consistent with good engineering judgment.

(d) Use NIST-traceable standards to the tolerances we specify for calibrations and verifications. Where we specify the need to use NIST-traceable standards, you may alternatively ask for our approval to use international standards that are not NIST-traceable.

§ 1065.303 **Summary of required calibration and verifications.**

The following table summarizes the required and recommended calibrations and verifications described in this subpart and indicates when these have to be performed:

TABLE 1 OF § 1065.303—SUMMARY OF REQUIRED CALIBRATION AND VERIFICATIONS

Type of calibration or verification	Minimum frequency <sup>a</sup>
§ 1065.305: accuracy, repeatability and noise.	<i>Accuracy:</i> Not required, but recommended for initial installation. <i>Repeatability:</i> Not required, but recommended for initial installation. <i>Noise:</i> Not required, but recommended for initial installation.