

Audience	Location	Guide	Part	Date
Air Quality Officers	South Africa	Report Review Checklist	03	2019-06-04

## REPORT REVIEWING CHECKLIST

### FOR AIR QUALITY OFFICERS AND INDUSTRY

1. Is the isokinetic deviance reported in the emissions report? <sup>a</sup>	Y/N	<a href="#">Source</a>
2. Is the isokinetic deviance between 10 % or -10 % <sup>b</sup> , or between 15 % and -5 % <sup>c</sup> ?	Y/N	<a href="#">Source</a>
3. Was the oxygen concentration measured? <sup>d</sup>	Y/N	
4. Was the oxygen reference applied using the formula: $\frac{21-O_{2,reference}}{21-O_{2,measured}}$ <sup>d</sup>	Y/N	
5. Is the gas analyser equipped with a Peltier cooler (thermoelectric chiller)? <sup>e</sup>	Y/N	<a href="#">Source</a>
6. Was the gas analysis performed using a heated line?	Y/N	<a href="#">Source</a>
7. Does the gas analyser have both NO and NO <sub>2</sub> cells as required by EPA 7E? <sup>f</sup>	Y/N	<a href="#">Source</a>
8. Is the gas analyser placed on calibration gas before & after each day of testing? <sup>g</sup>	Y/N	<a href="#">Source</a>
9. Is the quantity of water vapour that was in the stack gas reported?	Y/N	<a href="#">Source</a>
10. Is the testing conducted through two ports at between 12 - 24 points? <sup>h</sup>	Y/N	<a href="#">Source</a>
11. Were three tests, each of at least one-hour duration, conducted?	Y/N	<a href="#">Source</a>

<sup>a</sup> When reporting PM, HCl, HF, NH<sub>3</sub>, Cl<sub>2</sub>, SO<sub>3</sub>, Metals, PAH's, Dioxins and Furans.

<sup>b</sup> EPA Method 5.

<sup>c</sup> BS EN Methods.

<sup>d</sup> If an O<sub>2</sub> reference is applicable to that subcategory.

<sup>e</sup> Acceptable Models: Testo 350, Ecom J2KN, Horiba 250/350, Bacharach ECA 450, E-instruments 8500, Enerac 700. Any lower model is unacceptable.

<sup>f</sup> These models have an NO and NO<sub>2</sub> cell: Testo 350, Ecom J2KN, Horiba 250/350, Bacharach ECA 450, E-instruments 8500, Enerac 700. Any lower model is unacceptable.

<sup>g</sup> Calibration gas of SO<sub>2</sub>, NO, NO<sub>x</sub>, O<sub>2</sub>, CO must be present on site.

<sup>h</sup> For circular stacks.



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## Appendix

1, 2	<p style="text-align: center;">EPA Method 5, page 392</p> <p style="text-align: center;">8.5 Sampling Train Operation. During the sampling run, maintain an isokinetic sampling rate (within 10 percent of true isokinetic unless otherwise specified by the Administrator) and a temperature around the filter of <math>120 \pm 14 \text{ }^{\circ}\text{C}</math> (<math>248 \pm 25 \text{ }^{\circ}\text{F}</math>), or such other temperature as specified by an applicable subpart of the standards or approved by the Administrator.</p>
5, 6	<p style="text-align: center;">EPA Method 7E, page 7</p> <p style="text-align: center;">6.2.4 Conditioning Equipment. For dry basis measurements, a condenser, dryer or other suitable device is required to remove moisture continuously from the sample gas. Any equipment needed to heat the probe or sample line to avoid condensation prior to the sample conditioning component is also required.</p> <p style="text-align: center;">For wet basis systems, you must keep the sample above its dew point either by: (1) Heating the sample line and all sample transport components up to the inlet of the analyzer (and, for hot-wet extractive systems, also heating the analyzer) or (2) by diluting the sample prior to analysis using a dilution probe system. The components required to do either of the above are considered to be conditioning equipment.</p>
7	<p style="text-align: center;">EPA Method 7E, page 2</p> <p style="text-align: center;">2.0 Summary of Method</p> <p style="text-align: center;">In this method, a sample of the effluent gas is continuously sampled and conveyed to the analyzer for measuring the concentration of <math>\text{NO}_x</math>. You may measure <math>\text{NO}</math> and <math>\text{NO}_2</math> separately or simultaneously together but, for the purposes of this method, <math>\text{NO}_x</math> is the sum of <math>\text{NO}</math> and <math>\text{NO}_2</math>. You must meet the performance requirements of this method to validate your data.</p>

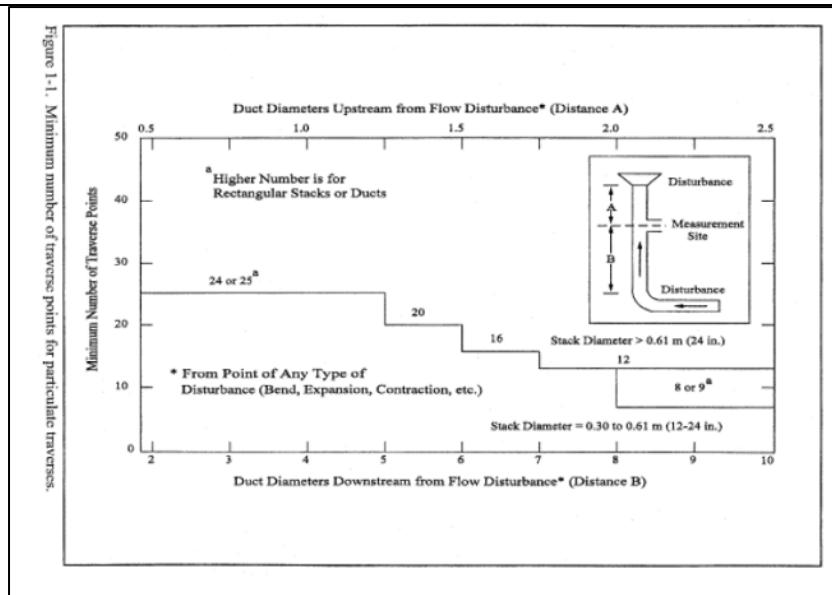


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8	<p style="text-align: center;">EPA Method 7E, page 2</p> <div style="border: 1px solid black; padding: 10px;"> <p>1.3 Data Quality Objectives (DQO). How good must my collected data be? Method 7E is designed to provide high-quality data for determining compliance with Federal and State emission standards and for relative accuracy testing of CEMS. In these and other applications, the principal objective is to ensure the accuracy of the data at the actual emission levels encountered. To meet this objective, the use of EPA traceability protocol calibration gases and measurement system performance tests are required.</p> </div>
9	<p style="text-align: center;">EPA Method 4, page 376</p> <div style="border: 1px solid black; padding: 10px;"> <p>6.1.1.8 Condenser. The following system shall be used to determine the stack gas moisture content: Four impingers connected in series with leak-free ground glass fittings or any similar leak-free noncontaminating fittings.</p> </div>
10	<p style="text-align: center;">EPA Method 1, pages 3, 6 and 9</p> <div style="border: 1px solid black; padding: 10px;"> <p>11.2.1.1 When the eight- and two-diameter criterion can be met, the minimum number of traverse points shall be: (1) twelve, for circular or rectangular stacks with diameters (or equivalent diameters) greater than 0.61 meter (24 in.); (2) eight, for circular stacks with diameters between 0.30 and 0.61 meter (12 and 24 in.); and (3) nine, for rectangular stacks with equivalent diameters between 0.30 and 0.61 meter (12 and 24 in.).</p> <p>11.2.1.2 When the eight- and two-diameter criterion cannot be met, the minimum number of traverse points is determined from Figure 1-1. Before referring to the figure, however, determine the distances from the measurement site to the nearest upstream and downstream disturbances, and divide each distance by the stack diameter or equivalent diameter, to determine the distance in terms of the number of duct diameters. Then, determine from Figure 1-1 the minimum number of traverse points that corresponds: (1) to the number of duct diameters upstream; and (2) to the number of diameters downstream. Select the higher of the two minimum numbers of traverse points, or a greater value, so that for circular stacks the number is a multiple of 4, and for rectangular stacks, the number is one of those shown in Table 1-1.</p> </div> <div style="border: 1px solid black; padding: 10px; text-align: center; margin-top: 10px;"> <p>6</p> </div> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>11.5.4.1 Cut two entry ports in the test section. The axes through the entry ports shall be perpendicular to each other and intersect in the centroid of the test section. The ports should be elongated slots parallel to the axis of the test section and of sufficient length to allow measurement of pitch angles while maintaining the pitot head position at the test-section centroid. To facilitate alignment of the directional probe during calibration, the test section should be constructed of plexiglass or some other transparent material. All calibration measurements should be made at the same point in the test section, preferably at the centroid of the test section.</p> </div>



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- (b) Where periodic emission monitoring is required for a listed activity, the report contemplated in paragraph (17) shall further include –
- (i) the name and address of the accredited measurement service-provider that carried out or verified the emission test, including the test report produced by the accredited measurement service-provider;
  - (ii) the date and time on which the emission test was carried out;
  - (iii) a declaration by the Atmospheric Emission License holder to the effect that normal operating conditions were maintained during the emission tests;
  - (iv) the total volumetric flow of gas, expressed in normal cubic meters (Nm<sup>3</sup>) per unit time and mass flow (kg per unit time) being emitted by the listed activity or activities measured during the emission test, as the average of at least three (3) measurements;
  - (v) the concentration or mass of pollutant for which emissions standards have been set in this Notice emitted by listed activity or activities as the average of at least three (3) measurements; each measured over a minimum sample period of 60 minutes and a maximum of 8 hours to obtain a representative sample; and
  - (vi) the method or combination of methods used for determining the flow rate and concentration as contemplated in paragraphs (5); (6); and (7).

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