



Engineering Guide #16: Determining Whether to Require Emissions Testing in Permits and Recommended Testing Frequencies

Introduction

Under Section 3704.03(A) of the Ohio Revised Code (ORC), the director has the authority to develop programs for the prevention, control, and abatement of air pollution. ORC Section 3704.03(I) provides that the director may require "the owner or operator of an air contaminant source to...sample those emissions at such locations, at such intervals, and in such manner as the director prescribes; to maintain records and file periodic reports with the director containing information as to...rate, duration, and composition of emissions, and any other pertinent information the director prescribes."

The director has exercised this authority by enacting rule 3745-15-04(A) of the Ohio Administrative Code (OAC) which states that "the director may require any persons responsible for emissions of air contaminants to make or have made tests to determine the emissions of air contaminants from any source whenever the director has reason to believe that an emission in excess of that allowed by these rules is occurring or has occurred from time to time." Therefore, as a general rule, the Director may require that a stack test be conducted whenever there are reasonable grounds for believing that an emissions limitation has been or may be exceeded, or if the control or capture efficiency associated with a control device has not been or is not being achieved.

Initial Installation or Modification Permits

Installation or Modification PTIO (Non-Title V Source) or PTI (Title V Source) without Federally Enforceable Limitations

Emissions testing requirements for initial installation or modification PTIOs at Non-Title V sources or PTIs at Title V sources issued in accordance with OAC rule 3745-31-05 are based on the following considerations:

- Ohio EPA's guidance memo titled "Best Available Technology (BAT) Requirements for Permits Issued On or After February 7, 2014" - i.e., if BAT is determined to be a source design characteristic or design efficiency of a control device, the referenced memo indicates initial performance testing *may* be required to confirm proper design, depending on the nature of the controls or process design, the pollutant, and the size and location of the air contaminant source; or, if BAT is established as a monthly limitation averaged over a twelve-month rolling period, the referenced memo indicates that initial performance testing *may* be required to verify that the emissions rate used to develop the tons per month limit is appropriate. [Note that circumstances may result in issuance of a permit that requires establishing BAT for sources that are not affected by Senate Bill 265 and; therefore, aren't subject to the aforementioned BAT guidance memo. District Offices or Local Air Agencies (DO/LAAs) should coordinate with their respective Central Office permitting contact in order to determine whether testing requirements are appropriate in these instances]; and
- Any emissions testing required by the OAC, New Source Performance Standards (NSPS) of 40 CFR Part 60, Generally Available Control Technology (GACT), area source or major source Maximum Achievable Control Technology (MACT) rules of 40 CFR Part 63, or any other applicable rule.

Generally, when modification PTIs or PTIOs do not involve re-establishing BAT (e.g., administrative modifications), additional emissions testing is not recommended. Some exceptions include when an administrative modification involves the control equipment or control efficiency requirements or would otherwise effect the parametric monitoring associated with the control equipment or control efficiency (e.g., pressure differential or operating temperature).

Initial Installation or Modification – Federally Enforceable PTIO (FEPTIO) or Synthetic Minor PTI (SMPTI)

Engineering Guide #16

Emissions testing requirements for synthetic minor sources [avoiding major source requirements for Title V, MACT, or New Source Review (NSR)] issued in accordance with OAC rule 3745-31-05(D) with federally enforceable limitations on the potential to emit are based on the following considerations:

- Ohio EPA's guidance memo titled "Best Available Technology (BAT) Requirements for Permits Issued On or After February 7, 2014" - i.e., if BAT is determined to be a source design characteristic or design efficiency of a control device, the referenced memo indicates initial performance testing *may* be required to confirm proper design, depending on the nature of the controls or process design, the pollutant, and the size and location of the air contaminant source; or, if BAT is established as a monthly limitation averaged over a twelve-month rolling period, the referenced memo indicates that initial performance testing *may* be required to verify that the emissions rate used to develop the tons per month limit is appropriate. (Note that circumstances may result in issuance of a permit that requires establishing BAT for sources that are not affected by Senate Bill 265 and; therefore, aren't subject to the aforementioned BAT guidance memo. DO/LAAs should coordinate with their respective Central Office permitting contact in order to determine whether testing requirements are appropriate in these instances);
- Any emissions testing required by the OAC, NSPS, GACT, area source or major source MACT, or any other applicable rule; and
- If a control device is being used to restrict the potential to emit in a federally enforceable manner, initial performance testing should be required to demonstrate compliance with any federally enforceable emissions rate or control efficiency established within a SMPTI or FEPTIO.

Generally, when modification PTIs or PTIOs do not involve re-establishing BAT (e.g., administrative modifications), additional emissions testing is not recommended. Some exceptions include when an administrative modification involves the control equipment or control efficiency requirements or would otherwise effect the parametric monitoring associated with the control equipment or control efficiency (e.g., pressure differential or operating temperature).

Renewal Operating Permits

Additional emissions tests may be required in the renewal of an operating permit (Title V or PTIO) to confirm continued compliance with an applicable emissions limitation and/or control requirement. Generally, when determining emissions testing requirements as part of a permit renewal, consideration should be given to:

- the reported actual annual emissions, the allowable emissions rate (AER) established in the permit, and the results of the most recent, accepted emissions tests in conjunction with Figure I;
- any emissions exceedances, control device malfunctions, or parametric monitoring deviations reported or discovered during inspections over the span of the previous operating permit;
- the emissions testing history of the emissions unit or associated control device (i.e., if the source or control device was tested in accordance with a recently issued modification permit or as a result of permit terms that required testing prior to expiration of the previous permit); and
- testing frequencies identified in the OAC, NSPS, GACT, area source or major source MACT, or any other applicable rule.

PTIO Renewal Permits for Non-Title V Sources without Federally Enforceable Limitations

For sources that have not reported any emissions exceedances, control device malfunctions, or parametric monitoring deviations as part of an annual Permit Evaluation Report (PER), additional emissions testing is not recommended.

Circumstances that might result in the need to establish testing frequencies include:

- emissions exceedances, control device malfunctions, or parametric monitoring deviations reported or discovered during inspections over the span of the previous PTIO; and
- testing frequencies identified in the OAC, NSPS, GACT, area source MACT, or any other applicable rule.

Engineering Guide #16

If emissions exceedances, control device malfunctions, or parametric monitoring deviations were reported or discovered, the frequency of additional emissions testing is left to the discretion of the DO/LAA.

FEPTIO and Title V Renewal Permits

The recommended emissions testing frequencies in FEPTIO or Title V renewal permits based on the AER established in the permit and the results of the most recent, accepted emissions tests for “major” and “non-major emissions units” (as defined below) are given in the attached Figure I. Emissions testing on a recurring 5-year or 60-month basis at or near FEPTIO or Title V renewal is recommended for any source that is using a control device to restrict the potential to emit or is using a control device as the compliance method to meet an applicable requirement or emissions limitation. Figure I is intended to be a guideline. Testing frequencies other than those illustrated in Figure I may be required if deemed appropriate by DO/LAA personnel.

As used in Figure I, the following definitions are provided:

1. “*Major emissions unit*” is one that has an actual emissions rate equal to or greater than 25 TPY of a non-HAP, 6.3 TPY of combined HAPs, or 2.5 TPY of an individual HAP.
2. “*Non-major emissions unit*” is one that has an actual emissions rate less than 25 TPY of a non-HAP, 6.3 TPY of combined HAPs, and 2.5 TPY of an individual HAP.
3. “*Marginal compliance*” means:
 - a. For any emissions unit that is equipped with a certified continuous emissions monitoring system (CEMS) that monitors the pollutant being tested or employs a detailed monitoring, recordkeeping, and reporting (MR&R) program, or Compliance Assurance Monitoring (CAM) plan, the actual emissions rate that during the last emissions test was greater than 90% of the AER; or
 - b. For any emissions unit that does not employ a CEMS and is not required to employ a detailed MR&R program or CAM plan, the actual emissions rate during the last emissions test was greater than 80% of the AER.

Additional circumstances that might result in the need to establish testing frequencies include:

- emissions exceedances, control device malfunctions, or parametric monitoring deviations reported or discovered during inspections over the span of the previous operating permit;
- testing frequencies identified in the OAC, NSPS, GACT, area source or major source MACT, or any other applicable rule; and
- testing frequencies necessary to evaluate CAM indicator ranges for control equipment pursuant to 40 CFR Part 64 for pollutant specific emissions units (PSEUs) at Title V facilities.

If emissions exceedances, control device malfunctions, or parametric monitoring deviations were reported or discovered, the frequency of additional emissions testing is left to the discretion of the DO/LAA.

Requiring Emissions Tests Unrelated to a Permitting Action

OAC rule 3745-15-04 does not specify situations that require additional emissions testing that are not part of a permitting action. Generally, emissions testing is warranted whenever there is reason to believe that an exceedance of an allowable emissions limitation has occurred. These situations can include but are not limited to:

- 1) opacity readings, including data from continuous opacity monitoring, indicate exceedances of the permit allowable, applicable regulations, or opacity levels determined during previous compliance tests;
- 2) emissions data, including information obtained from portable monitoring equipment, indicates an exceedance or the likelihood of an exceedance from a permit allowable emissions limitation or applicable regulation.

Engineering Guide #16

- 3) operations are determined to be a nuisance according to OAC rule 3745-15-07 and/or are generating public complaints; and, as a result, it is necessary to determine the compliance status of the affected emissions unit(s) with the applicable rules and/or permit requirements;
- 4) reported malfunctions of control equipment, emissions limitations exceedances or parametric monitoring exceedances that could be due to degradation in the efficiency of the control equipment (i.e., any situation where the performance of a control device or process has become questionable);
- 5) it has been discovered that errors were made in previously evaluating the compliance status of an emissions unit that could have led to an exceedance of an emissions limitation; or
- 6) replacement of a control device that does not require a permit modification, (i.e., situations involving “like-for-like” replacement of a control device with no changes in permitted parametric monitoring or applicable requirements).

Any decision to require additional emissions testing is left to the discretion of DO/LAA personnel.

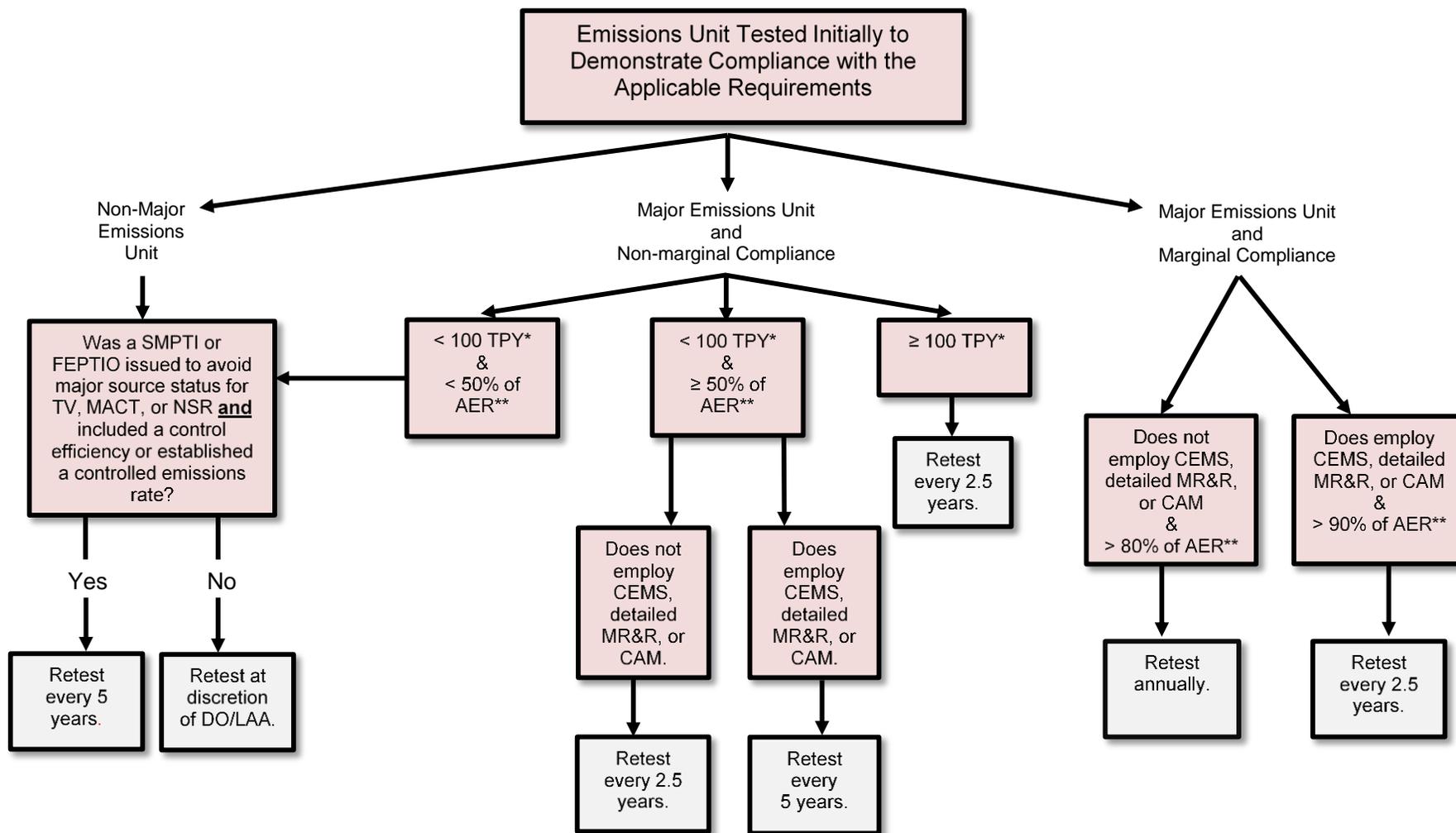
Revisions

This guidance was originally issued November 9, 1988, with subsequent revisions on April 30, 1996, and January 2, 2009.

Contact

For more information, contact your DO/LAA’s Central Office permitting contact or Michael Hopkins at michael.hopkins@epa.ohio.gov or (614)-644-2270.

Figure I
Testing Frequency Flow Chart for FEPTIO and Title V Renewal Permits



Major Emissions Unit has actual emissions rate ≥ 25 TPY of a non-HAP, 6.3 TPY of combined HAPs, or 2.5 TPY of an individual HAP.
Non-Major Emissions Unit has actual emissions rate < 25 TPY of a non-HAP, 6.3 TPY of combined HAPs, and 2.5 TPY of an individual HAP.

* Where a 100 TPY threshold is assigned, an evaluation should be made comparing the allowable emissions rate (AER) established in the effective permit for a given source, with the 100 TPY threshold.

** Where a % of AER threshold is assigned, an evaluation should be made comparing the most recent, accepted test results with the AER established in the effective permit for a given source.