

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
FORMAT FOR SUBMITTAL OF SOURCE EMISSION TEST PLANS AND REPORTS
March 2018

INTRODUCTION

The source emission test is often the ultimate determination of compliance. The results of a test are of great significance to both the regulatory agency and the source. Since the results may determine the course of future enforcement discussions between the agency and the source, it is important that the test be performed in a valid and representative manner. The complex nature of the various sampling methods places great responsibility on both agency and testing personnel to assure each test is an accurate representation of a source's actual emissions.

The objective of this document is to describe the Air Quality Division's (AQD's) technical submittal requirements for a source test. The format described applies to the requirements of the Michigan Department of Environmental Quality (MDEQ) Rule 1001 (4), federal regulations (Part 60-New Source Performance Standards, Part 61- National Emission Standards for Hazardous Air Pollutants (NESHAP), Part 63-Maximum Achievable Control Technology) and to any other emission test submitted for reasons such as a permit requirement, for a consent order, consent judgment, or at the request of the AQD.

TEST PLAN SUBMITTAL

In order to establish uniform requirements and help ensure proper test methods and procedures are employed, **the information specified below should be submitted to the appropriate AQD district office (DO) and the Technical Programs Unit (TPU) in Lansing**, at least 30 days prior to the scheduled test date. A complete submittal will minimize the possibility of a test rejection as a result of improper sampling or data collection methods.

Testing shall be performed in strict accordance with the procedures specified in Title 40 of the Code of Federal Regulations, Part 60 (Standards of Performance for New Stationary Sources, Appendix A, as amended), Part 61 (NESHAP, Appendix B), and Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Appendix M); and the MDEQ Rules, Part 10, Intermittent Testing and Sampling. Any variations in the sampling or analytical procedures must be described in the test plan and receive approval from the AQD prior to testing. If state or federal test methods are not available for the pollutants of concern or the nature of the test site makes it impractical to use them, other methods may be proposed as necessary.

While the specific items in the test plan will vary depending on the source and pollutants of interest, the following format should be utilized:

- 1) Identification and a brief description of the source to be tested. The description should include:
 - a) Names, addresses, and contact information for the facility and consultant/personnel who will be performing the test
 - b) Expected test date(s)
 - c) Type of industrial process or combustion facility
 - d) Type and quantity of raw and finished materials used in the process
 - e) Description of any cyclical or batch operations, which would tend to produce variable emissions with time
 - f) Basic operating parameters used to regulate the process
 - g) Rated capacity of the process. Process capacity can be demonstrated by calculating an average and maximum production rate using facility records. Based on these figures the facility shall include a production rate to be maintained during emission testing.

- 2) A brief description of any air pollution control equipment associated with the process
 - a) Type of control device
 - b) Operating parameters
 - c) Rated capacity and efficiency
 - d) Any maintenance activity on the air pollution control equipment within the last three months
- 3) Applicable facility SRN, permit number and emission limits for the process to be tested
- 4) Identify all pollutants to be measured
- 5) Describe in detail the sampling and analysis procedures, including the applicable standard methods reference. Provide a description of the sampling train(s) to be used, including schematic diagrams if appropriate. Justify any proposed sampling or analytical modifications
- 6) The number and length of sampling runs, which will constitute a complete test
- 7) Dimensioned sketch showing all sampling ports in relation to breeching and to upstream and downstream disturbances or obstructions of gas flow
- 8) Estimated flue gas conditions such as temperature, moisture, and velocity
- 9) Projected process operating conditions during which the tests will be run (e.g., production rate). **These conditions should match the operating conditions stated in the facility's permit or facility operations shall be at the maximum routine operating conditions during the test. The projected operating conditions should be provided prior to testing to the District Office for review and approval.**
- 10) A description of any process or control equipment data to be collected during the test period. This should include any permit required information used to demonstrate the acceptable operations of emissions control processes and production rates.
- 11) A description of any monitoring data to be collected during the test period and subsequently reported (e.g., stationary continuous emission monitor data)
- 12) Field quality assurance/quality control (QA/QC) procedures (e.g., field blanks, sample storage, and transport methods) and chain of custody procedures
- 13) Laboratory QA/QC procedures utilized as part of the testing (e.g., manner and frequency of blanks, spikes, and standards). This should include analysis of audit samples where required as a component of the approved test method.

If the source operates under a Renewable Operating Permit (ROP), certification by a responsible official, as defined in the Michigan Air Pollution Control Rule 336.1118(j), using the Renewable Operating Permit Certification (ROPC) form (EQP 5736), must be included with the test plan and cover letter. This form shall certify that the testing will be conducted in accordance with the attached test plan and that the facility will be operated in compliance with permit conditions or at the maximum routine operating conditions for the facility.

EMISSION TEST REPORTING

The emission test report should contain all pertinent data concerning the test program. In addition to reporting the results, it should include descriptions of the source, the sampling and analytical methodologies, the process operating conditions, and all raw field data, laboratory analytical data, and calculation methods. Since the report will serve as evidence to both the agency and the source as a demonstration of the compliance status of the facility, it is important it be complete in content and adequate in quality. Its contents should be presented in an understandable and organized manner. **The information listed below shall be submitted to the appropriate AQD DO and the TPU** by the date specified in an applicable air use permit, consent order, consent judgment, or state or federal regulation. Otherwise, pursuant to the MDEQ Rule 1001(4), a complete test report shall be submitted to the AQD within 60 days following the last date of testing. In the event that the test report is not complete, additional information will be requested for submittal. If the information is not received following two written requests to the facility, the test results may be rejected by the AQD.

While the exact format of the report and the applicable information necessary will vary depending on the source and the pollutants of interest, the following format should be utilized:

- 1) Introduction:
 - a) Identification, location, and dates of tests
 - b) Purpose of testing
 - c) Brief description of source
 - d) Names, addresses, and telephone numbers of the contacts for information regarding the test and the test report, and names and affiliation of all personnel involved in conducting the testing
- 2) Summary of Results:
 - a) Operating data (e.g., production rate, fuel type, or composition)
 - b) Applicable permit number, State Registration Number (SRN), and Emission Unit ID or designation for the source
 - c) Results expressed in units consistent with the emission limitation applicable to the source, and comparison with emission regulations
- 3) Source Description:
 - a) Description of process, including operation of emission control equipment
 - b) Process flow sheet or diagram (if applicable)
 - c) Type and quantity of raw and finished materials processed during the tests
 - d) Maximum and normal rated capacity of the process
 - e) A description of process instrumentation monitored during the test
- 4) Sampling and Analytical Procedures:
 - a) Description of sampling train(s) and field procedures
 - b) Description of recovery and analytical procedures
 - c) Dimensioned sketch showing all sampling ports in relation to breeching and to upstream and downstream disturbances or obstructions of gas flow
 - d) A sketch of cross-sectional view of stack indicating traverse point locations and exact stack dimensions
- 5) Test Results and Discussion:
 - a) Detailed tabulation of results including process operating conditions and flue gas conditions
 - b) Discussion of significance of results relative to operating parameters and emission regulations

- c) Discussion of any variations from normal sampling procedures or operating conditions, which could have affected the results
- d) Documentation of any process or control equipment upset condition, which occurred during the testing
- e) Description of any major maintenance performed on the air pollution control device(s) during the three-month period prior to testing
- f) In the event of a re-test, a description of any changes made to the process or air pollution control device(s) since the last test
- g) Results of any quality assurance audit sample analyses required by the reference method
- h) Calibration sheets for the dry gas meter, orifice meter, pitot tube, and any other equipment or analytical procedures, which require calibration
- i) Sample calculations of all the formulas used to calculate the results
- j) Copies of all field data sheets, cyclonic flow checks, including any pre-testing, aborted tests, and/or repeat attempts
- k) Copies of all laboratory data including QA/QC (e.g. blanks, spikes, standards)

If the source operates under an ROP, certification by a responsible official, as defined in the Michigan Air Pollution Control Rule 336.1118(j), using the ROPC form (EQP 5736), must be included with the emission test results and cover letter. This form shall certify that the testing was conducted in accordance with the approved test plan and that the facility operating conditions were in compliance with permit requirements or were at the maximum routine operating conditions for the facility.

REFERENCES

¹ Michigan Department of Environmental Quality Rules, Part 10, Intermittent Testing and Sampling.

² United States Environmental Protection Agency, Plant Inspection Workshop-Techniques for Evaluating Performance of Air Pollution Control Equipment: Observing Compliance Tests, February 1981.

Mailing Address for the Technical Programs Unit

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