GUIDELINE DOCUMENT FOR COMPLETION OF PROTOCOL SUBMITTAL FORMS

NORTH CAROLINA DIVISION OF AIR QUALITY

This document is intended to provide guidance for proper completion and use of the "Protocol Submittal Forms" (PSF) used by the North Carolina Division of Air Quality (DAQ). There are two PSFs. One is a general form to be used for most testing projects. The other is specifically designed for Opacity or Visible Emissions (VE) testing. This guidance provides an explanation of each item on each PSF and includes example PSF forms for a fictitious facility. The Stationary Source Compliance Branch (SSCB) ¬ Compliance Review Group (CRG) developed the PSFs and this guidance. The CRG is the group responsible for review of all emissions test protocols within DAQ.

The primary goals of the Protocol Submittal Forms are to initiate communication between representatives of the permitted facility, the testing consultants, and the DAQ as well as to identify and resolve any specific testing concerns prior to testing. Facilities should complete and submit a PSF prior to performing any testing at their facility.

Copies of the PSFs can be found at the DAQ website: deq.nc.gov/about/divisions/air-quality/air-quality-enforcement/emission-measurement

Each form is provided in two electronic formats. The first is in an Adobe Acrobat portable document format (PDF) for typewriter or hand-printed completion. The second format is as an easy to use MS Word template. For the MS Word file, simply double-click to fill the boxes and click and type in the grayed areas to complete the questions.

Completion and submittal of the PSF is required a minimum of 45 days prior to the test date. This timeframe provides DAQ with the necessary time to fully review the protocol and determine if there are any issues that may need to be addressed prior to testing. The PSF should be submitted to the appropriate DAQ Regional Supervisor as referenced further in this document. **The testing should only be performed with approval from the DAQ**.

It is important to note that there is a second notification requirement that should be addressed separately from the PSF. **Facilities are required to notify the DAQ Regional Supervisor at least 15 days prior to performing testing**. This notification affords the Regional Supervisor the opportunity to have regional personnel present during the testing. **Please contact the appropriate Region Supervisor to inquire about the proper procedures for this notification requirement**.

Any additional questions concerning the completion of the Protocol Submittal Form should be directed to the DAQ Compliance Review Group. Compliance Review Group contacts:

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James Hammond	(919) 707-8412	james.hammond@ncdenr.gov	
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GENERAL PSF FOR MOST TESTING:

This section directly references the questions outlined in the General Protocol Submittal Form. As stated in the PSF instructions, any additional information should be submitted attached to the PSF as necessary.

The PSF is a two-page document that, when completed with all requested attachments, can provide all the relevant and necessary information for review of a site specific source test plan. The first page consists of the facility and testing company information and the source-specific testing purpose and data use. The second page addresses specific test methods and procedures.

Generally, the PSF is structured such that the information on page one should be primarily provided by the facility representative(s) and the information on page two should be provided by the testing company representative(s). For this reason, a PSF is not considered complete unless the signatures of both representatives are provided.

PAGE ONE: FACILITY AND TESTING COMPANY INFORMATION AND TEST PURPOSE AND USE

The initial question on the PSF is to specify the appropriate Regional Office for the facility. There are seven distinct regions located within North Carolina. A map of the regions with contact information is available at deq.nc.gov/about/divisions/air-quality/regional-offices.

The PSF should be submitted to the appropriate Regional Supervisor and/or regional personnel. All questions and/or comments regarding the PSF submittal should also be directed to the appropriate Regional Supervisor and/or regional personnel.

Facility Name	Self-explanatory.
Facility Address/City/County:	Provide the mailing address for the facility and/or contact person. Please specify if the contact is not located at the facility. Provide the county name of the facility location.
Contact Person/Phone/Fax:	Provide the appropriate facility contact person to address any facility and/or testing issues that may arise. Provide the phone and fax numbers for the contact person.
Testing Company Name:	Self-explanatory.
Testing Company Address	Self-explanatory.
Contact Person/Phone/Fax:	Provide the appropriate contact person to address any testing issues that may arise. Provide the phone and fax numbers for the contact person.
Air Permit Number:	Provide the current NC DAQ Air Permit Number. Include the current revision number (i.e., 01234R16).

Permitted Source Name and ID No.:	**Provide the name and ID No. of the source being tested as listed in the Air Permit. (i.e., Boiler 1, ID No. ES-1)**
Permitted Maximum Process Rate:	**Provide the maximum rate as specified in the air permit.**
Maximum Normal Operation Process Rate:	**Provide the maximum rate that the source is operated under "normal operation."**
Target Process Rate for Testing:	**Generally, compliance testing is required at ≥ 90% of permitted maximum. However, there are situations where testing is required/allowed under normal operating conditions, thus "maximum normal operation process rate."**

1.1) What is *the specific purpose for the proposed testing?*

Provide the specific purpose for the proposed testing. For compliance testing, specify if the testing is to fulfill a specific condition in the Air Permit. Specify if the testing is for initial NSPS or NESHAP requirements. Be specific in details (i.e., NOT "State requirement").

1.2) List all state and federal regulations that apply to the proposed testing:

The source being tested may be regulated by various air quality regulations. List only those that specifically apply to the testing. For SIP sources, these regulations consist of the regulations found in 15A NCAC 2D through 2Q regulations. If the source is governed by federal regulations, list the specific Subpart (e.g., 2D .0524 and NSPS Subpart 000).

1.3) Will the test results be used for other regulatory purposes (e.g., emission inventories, permit applications, etc.) beyond that stated above? If yes, explain.

The purpose of this question is to determine what, if any, additional considerations would need to be taken into account and/or documented in order for the testing to meet all the needs of the facility. A specific example: Without careful consideration and design, a compliance test will rarely provide the information necessary to determine an emission factor.

1.4) How will production/process data be documented during testing (control equipment, process parameters, etc.)?

The facility is responsible for providing an accurate account of operations during the test period(s). Provide the specific collection methodology and information that will be presented in the final test report.

1.5) Please provide a brief description of the source (including control equipment) and ***attach*** *source or process flow diagram:*

This question is self-explanatory with respect to the description. The attached flow diagram only needs to be a simple representation of the source layout. Clearly labeled engineering drawings are also acceptable. The schematic allows for the determination if any special considerations are necessary for the source configuration (i.e., sampling after a wet scrubber, or capture efficiency considerations).

*1.6) Please provide a brief description of the sampling location, **attach** schematic of sampling location, and indicate whether concurrent testing will be conducted at other sampling locations:*

The sampling location description and schematic can be integrated into the attached responses to questions 1.4 and/or 2.3. The indication of concurrent sampling allows for the determination if any sample timing and/or methodology considerations are needed.

PAGE TWO: TEST METHODS AND PROCEDURES

2.1) Please provide the following information for each test parameter.

Target Pollutant – **Self-explanatory.**
Proposed Test Method – **Self-explanatory.**
Number of Test Runs/ Test Run Duration – **The minimum is three one-hour runs.**
# of Sampling Points – **As specified by EPA Method 1 or applicable test method.**

*2.2) Will all testing be conducted in strict accordance with the applicable test methods? If answer is no, please **attach** complete documentation of all modifications and/or deviations to the applicable test methods.*

This is perhaps the single-most important question within Section 2. Failure to address any deviations is grounds for test rejection. Provide a complete, detailed description of any proposed method deviation(s) and the specific purpose and/or justification for the deviation(s). Do not proceed with any altered test method without DAQ approval.

2.3) Does the proposed sampling location meet the minimum EPA Method 1 criteria for acceptable measurement sites? Please attach supporting documentation.

Self-explanatory. Attach the stack information including stack dimensions and upstream/downstream disturbance measurements per EPA Method 1. It is possible to gain protocol approval without this specific information; however, the testing shall not occur if it is determined on-site that the source does not meet Method 1 criteria.

*2.4) Has absence of cyclonic flow been verified per EPA Method 1 (Section 2.4)? If answer is no, absence of cyclonic flow must be verified prior to testing. If answer is yes, please **attach** supporting documentation.*

All sources should verify the absence of cyclonic flow through the measurement procedures described in Method 1. The absolute value of the non-axial flow angle shall be less than 20 degrees.

2.5) Will the oxygen concentration be determined by ☐ EPA Method 3 via Orsat or ☐ strict EPA Method 3A?(specify) If answer is no, see Question 2.2 above.

15A NCAC .0501(c)(13) prohibits the use of Fyrite™ for oxygen concentration determinations.

2.6) Is an audit sample from an Accredited Provider available for the proposed test method(s)?

Generally if an audit sample is available from an Accredited Provider, it is required. For information and a link to the EPA website with further information and requirements, go to deq.nc.gov/about/divisions/air-quality/air-quality-enforcement/emission-measurement/stationary-source-test-audit-information

2.7) Has all testing equipment been calibrated within the past year? If answer is no, please explain.

Further calibrations may be required dependent on the proposed test method(s). All calibration data, both pre and post-test shall be submitted with the final test report.

2.8a) Have all calibration gases been certified by EPA Protocol 1 procedures? (Answer only as applicable)

Only Protocol 1 gases will be used for analyzer/instrumental test methods.

2.8b) Is a dilution system (via EPA Method 205) proposed? (Answer only as applicable)

The use of a dilution system requires prior DAQ approval. Strict EPA Method 205 procedures and prior documentation and system description are required.

*2.8c) Please **attach** a summary of expected calibration gas concentrations for all proposed instrumental test methods.*

Self-explanatory. Gas values can be approximate. Specify analyzer range and/or span value.

2.9) What is the proposed test schedule?

As stated previously, the actual test date may change dependent on scheduling and/or as a results of the protocol review. Facilities are required to notify the DAQ Regional Supervisor at least 15 days prior to performing testing. This notification affords the Regional Supervisor the opportunity to have regional personnel present during the testing. Should the test date listed in the PSF change, or if the actual test date is not scheduled at the time of PSF submittal, then the notification requirement has not been met. Please contact the appropriate Region Supervisor to determine the proper procedures for this notification requirement.

SIGNATURES:

The PSF is not considered complete unless the signatures of both representatives are provided. The signatures may be obtained on two separate, identical forms or via fax copy.