



## TCEQ REGULATORY GUIDANCE

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Program Support and Environmental Assistance Division  
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# Submitting a Complete Air Emission Test Report

Formerly “Chapter 14 Contents of Air Emission Test Reports” of the  
*TCEQ Sampling Procedures Manual*

Utilize these guidelines for submitting an air emission test report—hereafter referred to as a test report—related to stack testing (also commonly referred to as source sampling, emission testing, or performance testing). Special sampling situations may arise that do not fit these categories; however, the information in this document serves as a guide to the necessary standardization and quality assurance practices for a report to be considered complete.

The four most common deficiencies of test reports are:

1. Insufficient documentation of process conditions.
2. Insufficient or inaccurate documentation of test activities.
3. Inadequate calibration of test equipment.
4. Lack of approval for alternate methods or method deviations.

All testing activities should incorporate good laboratory practices. The procedures for testing and reporting results should be those which are commonly accepted in the field of air pollution control, per Title 30, Texas Administrative Code (30 TAC) Section 101.14. Submitting incomplete reports may be considered noncompliance and could result in enforcement action against the owner or operator of the facilities. Texas Water Code Section 7.179 addresses intentionally or knowingly omitting material information, making false statements, concealing, or altering any notice, report or other document required by chapter, rule, or permit.

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## Report Review

A report review—conducted by TCEQ—is the basis upon which TCEQ accepts or rejects a test report, based on the following general criteria:

- Is the test report in an acceptable and logical format?
- Is the test report complete?
- Have the source’s applicable test requirements been fulfilled?
- How valid is the testing event’s raw data?
- Were the correct equations and terms used in the report’s calculations?

We may more quickly and efficiently determine if a report is acceptable if the contents are complete and logically organized, as described in the Report Contents section below. Use that format or the United States Environmental Protection Agency (USEPA) format—in [Preparation and Review of Emission Test Report](#)<sup>1</sup>—for presentation of field data and calibration to expedite report evaluation.

Where possible, reports should conform to accessibility standards. You may find guidance on the [Creating Accessible Microsoft Office Documents webpage](#)<sup>2</sup> or by contacting any TCEQ office.

## Submitting Your Report

Submit the test report to the Stack Test Online Reporting System (STORS) via the [State of Texas Environmental Electronic Reporting System \(STEERS\)](#)<sup>3</sup>. Use STORS to maintain and submit information pertaining to stack test related notifications and test reports to TCEQ. See the [Emission Evaluation and Stack Testing webpage](#)<sup>4</sup> for requirements and more details.

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1 [www.epa.gov/sites/default/files/2020-08/documents/gd-043.pdf](http://www.epa.gov/sites/default/files/2020-08/documents/gd-043.pdf)

2 <https://gov.texas.gov/organization/disabilities/accessibledocs>

3 [www3.tceq.texas.gov/steers/](http://www3.tceq.texas.gov/steers/)

4 [www.tceq.texas.gov/compliance/investigation/air/air-stack](http://www.tceq.texas.gov/compliance/investigation/air/air-stack)

Test reports and any uploaded attachments must be legible in either their electronic format or scanned with at least a 400 dpi (dots per inch) scanner. Submitting a document that is not readable could delay your report being accepted or you could be subject to a violation for failure to provide required records. The currently acceptable file types are:

- pdf (document format/image – Adobe)
- jpg, gif, png, and tiff (photographic/image)
- xml (extensible markup language – can be used to describe documents)
- doc and docx (Microsoft Word)
- xls, xlsx, and xlsm (Microsoft Excel)
- wpd (WordPerfect)
- csv (table structured format)
- txt (plain text)

## Report Contents

Organizing and submitting test reports as below will facilitate TCEQ review. We recommend using the following as a checklist for report contents to ensure completeness:

### Table of Contents

A table of contents helps locate sections of the report, including additional volumes or appendices which may be required. Each page of the report should be numbered.

### Introduction

The **introduction should include** background information pertinent to the test and testing requirements. The title page may suffice if it contains the information below.

- Regulated entity contact name and phone number.
- Name and physical location of the source(s) sampled and date(s) of sampling.

- Identification of the process, name and number of the unit sampled using TCEQ Regulated Entity Numbers (RN), TCEQ Account Numbers, TCEQ Permit or Permit Registration Numbers, and Emission Point Numbers.
- List of applicable testing requirements with brief explanation:
  - Specific citations of TCEQ Rule numbers, TCEQ Permit Special Conditions, or permit by rule requirements.
  - The specific subparts and emission limit(s), testing and reporting requirement, or rules of USEPA New Source Performance Standards (NSPS), National Emissions Standards for Hazardous Air Pollutants (NESHAP), and National Emissions Standards for Hazardous Air Pollutants for Source Categories, commonly referred to as Maximum Achievable Control Technology (MACT) Standards.
  - Other (e.g., if the test is being used to resolve a Notice of Violation, demonstrate compliance for increased production rates, etc.).
- List of pollutants sampled.
- Whether this test is the initial, annual, quarterly, or otherwise.
- A detailed explanation of any tests which were not completed for any reason.

## Summary

This portion of the test report states the results of the testing event and compares them to the requirements, provisions, and allowances of the applicable governing rules and standards. As applicable to your test event, the test report summary should include all the following.

**Include** all pollutant mass emission rates, concentrations, removal or destruction efficiencies, emission to operating standard (e.g., lb/MMBtu, g/hp-hr, lb/MMgal loaded, lb/ton clinker, etc.), visible emissions results, or other applicable standard being determined during the air emissions testing.

**Compare** each result with the applicable standard(s), including: NSPS, NESHAP, MACT, TCEQ general or special provisions or conditions of the source's permit, permit application representations, exemption demonstration requirements, etc. Include a statement of compliance status (e.g., percent of emissions limits, "Pass/Fail", etc.).

**Submit** the reading, sum, or averages of pertinent support data measured during the testing, in time units appropriate for the determination of the mass emission rate(s) of the air pollutants required to be tested (by the sources operating permit or the applicable federal rule):

- Particulate emission rates including and excluding the impinger catch portion of the sample. The impinger portion of the sample may be excluded only in certain cases; but the definition of particulate for TCEQ includes the impinger portion, also referred to as the “back-half.”
- Percent isokinetic for each isokinetic sample.
- Schedule of intermittent periods during sampling and the normal schedule of such events (e.g., soot blowing, CEMS blowback or line purge, process downtime, batch process, etc.).
- Operating level of the process during each sample or sample run, the normal operating level (usual), designed maximum, and maximum achievable operating levels.
- Statement of operating condition of all abatement equipment during sampling including any cleaning cycles associated with the abatement equipment (e.g., absorber regeneration, baghouse bag cleaning cycles, ESP rapping, etc.).

## **Procedures**

Describe equipment and procedures used during sampling and analysis. If the equipment, procedures, and analysis methods were **exactly those described** in applicable TCEQ rules, USEPA sections, the Federal Register, and test plan, include a statement to that effect. Include a list of all of the following:

- Specific methods, procedures, and test equipment.
- Schematic of instrumental analyzer sampling system, including all pumps, valves, mass flow controls, sample conditioning systems, heated lines, manifolds, and atmospheric vents as configured during the test.
- Any TCEQ approved Reference Method deviation(s), including the date approved, and the name and title of the TCEQ representative who approved the deviation(s).

If any equipment, procedures, and analysis methods were **consistent with, but not identical to those required and stated in the test plan**, provide applicable *additional* information for those efforts including all the following:

- A detailed description of such methods, procedures, and equipment used.
- Written approval for any deviation(s) from standard procedures including: the name and description of all special apparatus and alternative testing methods used during the test.
- A copy of the method and publication references.
- Written documentation of alternative test method approval.
- Written approval for any major modification to a USEPA Reference Method, or otherwise pre-authorized test method for a compliance test (e.g., Conditional Test Method, Other Test Method, California Air Resource Board Method, etc.).

## **Process and Test Data**

Provide accurate averages of all process, control or abatement equipment parameters, or production parameters recorded, calculated, or determined during the air emissions testing event, in time units appropriate for determining the emission concentration or rate of the air pollutants required by the source's permit, state rule, or applicable federal rule. Include the source of all parameter information.

- All other information necessary to calculate emissions or determine process activity to determine compliance with the standards or limitations being evaluated and show the proper operation of the facility for the tests being conducted, regardless of whether it is specifically or directly identified in the permit, state rule, or applicable federal rule. This information should generally be discussed and agreed on during a pretest meeting or other documented communication, if conducted.
- All measured pollutant emissions: both including and excluding the impinger catch portion of extracted samples.
- Visible emission determination, opacity data sheets, observer certifications, etc., if conducted.

- Detail(s) of all the following process or production rates for the facility, or the production or process unit in which the emission source is in service:
  - Logs of process and control or abatement parameters as may be necessary to document levels of operation. All printouts obtained from processes (e.g., load, etc.), must be accompanied by the description which identifies the parameters and units used.
  - Production rate(s) demonstrated during the testing event(s).
  - Control or abatement device parameters maintained during the testing event(s).
  - Production rate(s) demonstrated during the immediately previous air emissions testing event, if applicable (recommended).

## **Calibrations**

The report must provide dated calibration records with dates and worksheets for all equipment used during sampling, and the name and description of all primary air emissions testing equipment used during the testing event including manufacturer, model number, and serial numbers. If in question, TCEQ will compare the adequacy of the calibrations to the procedures in the current edition of the USEPA Quality Assurance Handbook for Air Pollution Measurement Systems.

## **Lab Data**

As applicable, include laboratory analysis worksheets and results such as:

- Tare weights, blank results, spiked samples, audit samples, and recovery studies required by the test method.
- Additional procedure information for complex methods such as daily calibrations, date and time analysis were conducted, audit materials, and laboratory certifications, accreditation, or exemption from accreditation.
- Record(s) of the chain of custody of the sample(s) from sample collection through the final sample analysis.

**Note:** The regulated entity should—if required—ensure that any mobile or stationary laboratory generating analytical data in support of air permit compliance has National

Environmental Laboratory Accreditation Conference (NELAC) accreditation under the Texas Laboratory Accreditation Program or meets one of several exemptions. Find what laboratories must be accredited, and which are exempt in [30 TAC Sections 25.4 and 25.6](#)<sup>5</sup>. See our [Environmental Laboratory Accreditation webpage](#)<sup>6</sup> for a list of accredited laboratories, their fields of accreditation, and additional information.

For questions about accreditation contact the Texas Laboratory Accreditation Program at 512-239-3754 or [labprgms@tceq.texas.gov](mailto:labprgms@tceq.texas.gov).

## Calculations

As applicable, provide example calculations using actual data from one identified, valid test run of all stack gas parameters, quality assurance, and analytical results, including all the following:

- all emission rates and concentrations in the unit(s) of the applicable emission standard(s)
- excess air in stack
- cyclonic flow
- percent isokinetic
- F-factor
- soot blowing
- gas parameters (e.g., velocity, moisture content, acfm, scfm)
- intermediate steps during analysis (titrations, aliquots, blanks)
- assumptions and constants used

## Testing Personnel Information

Include in the report:

- Name and affiliations of all (including plant personnel) present during testing and their responsibilities during the test.

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5 [www.tceq.texas.gov/goto/view-30tac](http://www.tceq.texas.gov/goto/view-30tac)

6 [www.tceq.texas.gov/agency/qa/env\\_lab\\_accreditation.html](http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html)



- Name, address, and telephone number of testing organization, laboratories used, and consultants overseeing or responsible for the testing report or results with an appropriate contact name for acquiring additional information.

## Appendices

Appendices should be for those various categories of supplementary and supporting information which enhance the validity of the practices and procedures conducted before, during, and after the air emissions testing event. Include:

- Schematic drawing of stack (elevation and plan views) showing all dimensions, sampling port locations, inlets, outlets, and nearest upstream and downstream flow disturbances with sampling point locations shown on plan view. Pictures of emission points may be substituted for drawings; however, measurements of the interior dimensions of the emission point are required.
- Copies of all raw data taken during sampling. Include digitized handwritten data (via scan, xerox, photograph, etc.), which should have been recorded in indelible ink by all test and plant personnel during the air emissions testing event. Include and ensure legibility of all data generated during the test by any instrumentation such as strip charts, integrator printouts, and data acquisition system printouts. Where possible, clearly demarcate test run start and stop times, as well as calibration start and stop times.

## More Help

Contact your local [TCEO regional office](#)<sup>7</sup> with questions on stack testing requirements.

Call the **STEERS Help Line** at 512-239-6925 with questions about the creation or status of your STEERS account.

If you are a small business or local government, you may also contact the [Small Business and Local Government Assistance \(SBLGA\) program](#)<sup>8</sup> with questions about creating your STEERS account or other stack testing requirements.

**SBLGA hotline:** 800-447-2827

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<sup>7</sup> [www.tceq.texas.gov/agency/directory/region](http://www.tceq.texas.gov/agency/directory/region)

<sup>8</sup> [www.TexasEnviroHelp.org](http://www.TexasEnviroHelp.org)