New Mexico Environment Department
Air Quality Bureau
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Submit to:

Stacktest.aqb@state.nm.us

NEW MEXICO ENVIRONMENT DEPARTMENT
AIR QUALITY BUREAU

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

INSTRUCTIONS
(Revised December 5, 2012)

1. A complete Universal Form must be submitted for each notification, protocol or report. The form replaces previous formats including previously approved "standing protocols."

2. The Air Quality Bureau Submittal Form for stack test notifications and reports is now incorporated in the protocol template. A separate submittal form is not required (This applies to testing documents only. **A separate submittal form is still required for other submittals**).

3. Compliance with authorized test methods is the responsibility of the Source. Failure to follow authorized methods will result in rejection of the test and could result in enforcement action. Any proposed deviations from standard methods must be approved in advance. Requests for approval must be noted on the test notification/test protocol form in Section V. A justification for each requested deviation must be included in the transmittal email for the test notification/test protocol.

4. Submittal instructions:
   a. Scan document and submit by e-mail in .pdf format.
   b. If you do not have scanning capability, the Air Quality Bureau will accept paper copy submittals or MS WORD documents.
   c. Address:

stacktest.aqb@state.nm.us

5. Instructions for specific line items. Contact the Compliance Inspections Manager if you have questions about other form fields.

   I.a. AI#. The AI# is a unique database identifier for the facility. It is listed at the top of permits as the TEMPO or IDEA number, or it can be obtained by inquiry to the AQB Permits Section.

   1.b. Select a submittal type from the drop down menu. Do not type in this field.

   1.c. Select a test type from the dropdown menu. Do not type in this field.

   1.h and 1.i. Enter permit designations for the equipment to be tested; use descriptions if not designated (e.g. “asphalt plant,” “Waukesha 7042,” “cement silo baghouse”).

   1.j. Each notification will be assigned a tracking number beginning with **“CMT”**. Enter this number on the test report submittal so the notification and test report can be matched.

NOTIFICATIONS AND PROTOCOLS

1. Notification of stack tests required by New Mexico permits and Federal regulations (NSPS, MACT) must be submitted to the Air Quality Bureau at least 30 days in advance of the proposed test date. Please note that some Federal regulations require additional advance notification to the Department.

2. Effective January 1, 2010, if you do not receive a response prior to the proposed test date, you are authorized to proceed.

STACK TEST REPORTS

1. Test reports consist of 3 sections**.**
   - Section 1 – completed Universal Form
   - Section 2 – test result tables
   - Section 3 – test procedures, raw data, calculations and appendices

2. **Scan and Submit** Section 1 and Section 2 by e-mail in .pdf format. If you do not have scanning capability, the Air Quality Bureau will accept paper copy or MS Word submittals

3. **Retain** Section 3 according to permit requirements (2 years for NSR or 5 years for Title V or as specified in your permit) and keep available for inspection or request by the Bureau.

4. Submit reports for NSR permits within 30 days of test completion. Submit test reports for Title V permits with semiannual report or as otherwise stipulated in permit.

SECTION 1. Universal Notification, Protocol and Report Form

SECTION 2. Summary Tables of Results

There are too many types of facilities and tests to develop standardized report tables. The stack test contractor should generate tables that summarize the important test parameters and results in a consistent manner for each facility and equipment type tested. The tables should be compact, orderly and present the results and permit requirements side by side.

A. Stack Parameters.

- For each run, show velocities (stack velocity in feet/second), flows (stack exhaust flow in actual cubic feet/minute and dry standard cubic feet/minute), concentrations, emission rates including the average of the emission rates from all runs, allowable emission limits, stack temperature and pressure, sampling times, pitot tube average results, etc.

- Include opacity reading if applicable. (A minimum of one visible emission reading per run is required every time a Method 5 test is done.)

- Results of cyclonic flow determination.

B. Unit operating parameters at time of test.

- For engines include: actual horsepower (at test time), engine speed (rpm), ignition timing, intake manifold pressure, fuel consumption rate (if available), A/F ratio controller setting.
  For residue turbines include: actual horsepower (at test time), turbine speed (rpm), fuel consumption rate, turbine exhaust temperature, ambient temperature, relative humidity. For steam injected turbines also include fuel to water ratio.

- For heaters, boilers, or furnace include: fuel consumption rate, feedstock rate, and firebox temperature.

- If the engine or turbine drives a compressor or pump, include suction and discharge pressures and temperatures, interstage pressures and temperatures, suction volume and type of fluid pumped or compressed. If the engine or turbine

drives a generator, include output voltage, current, and power.

- Unit operating level at time of test. If the unit was not operated at the minimum of 90% of permitted capacity (derated horsepower for IC engines) give explanation. If testing a turbine using Method 20, include the four required operating loads.
- For RATA's, report calibration gas concentrations and range of pollutant concentrations anticipated or measured.

C. Control Equipment Operating Parameters at Time of Test

Include, as applicable, pressure drops, inlet and outlet temperatures, T/R readings for electrostatic precipitators, water flow rates for scrubbers, bed temperatures for Claus sulfur recovery plants, etc.

D. Comparison of Measured and Modeled Parameters (See Table 1)

For each unit tested, make a copy of Table 1 (page 8) and enter the required stack data. This table compares the measured emission parameters (stack height and diameter, stack gas exit velocity, and stack gas temperature) with the parameters used in the atmospheric dispersion modeling. Disregard this section if the Bureau did not require atmospheric dispersion modeling for this source.

SECTION 3.

Test Procedures This section describes the test procedures, including any variations from EPA test methods. This section includes, but is not limited to:

A. Schematic drawing of the process being tested showing emission points, sampling sites, and stack cross section. The sampling points are labeled and dimensions indicated.

B. Schematic drawing of the sampling device/train used. Each component is labeled and explained in a legend.

C. A brief description of the EPA reference methods used to operate the sampling train and the procedures used to recover and analyze the samples. Include sampling durations, number of test runs, calibration procedures, leak checks, cyclonic flow checks, etc.

D. Any deviation from EPA reference methods or from the original protocol. Deviations must be approved by the Air Quality Bureau in advance. Attach a copy of the deviation authorization to the test report.

E. Make and model of test instrumentation and specifications including sensitivity, interferences, response time, linearity, span and range, calibration dates/method. For

RATA's report the highest pollutant concentration anticipated or measured and the concentrations of calibration gases to achieve the required instrument span.

F. A brief description of the methods used to obtain plant or unit operating parameters/ conditions. Measured parameters must be clearly distinguished from derived parameters.

Data and Calculations

This section includes copies of all raw data an at least one example calculation for every derived number showing all equations used. This section includes, but is not limited to:

A. All raw data used in the emissions calculations:

- Plant operating parameters
- Unit operating parameters
- Stack parameters (including cyclonic flow data)
- Control equipment operating parameters
- Isokinetic calculations, if applicable

B. Laboratory data, including blanks, tare weights, and results of analysis.

C. Labeled copies of strip charts.

D. An example calculation for every calculated result showing how the result was derived from the raw data. Show all equations used an any approximations. Carry out to completion the calculations for at least one test run.

E. Analysis and certification documents for calibration gases. List expiration dates. (Warning: transferring the gas to a secondary container voids the certification.

F. Audit sample results (if applicable).

G. Visible emissions field sheets (Method 5 or where applicable.

H. Log of all persons who participated in or observed the test.

I. Sample chain of custody, if applicable. Show names of custodians, method of transportation, departure and arrival times/locations.

Appendices

Place any additional information in this section, including but not limited to: Any complications during the tests or with plant operations and how these might have biased the results; any special information that might be helpful

for performing future tests at this site; brief resumes including experience of test personnel.

UNIVERSAL FORM

Line by Line Instructions

Table/Field	Instructions
Table I.	**Database Header Information**
a.	AI #. Unique database identifier for the facility. Use IDEA or TEMPO number from permits or inquire with AQB Permitting Section.
b.	Dropdown menu for submittal type (notification, protocol, report, etc.) Do not type in this field.
c.	Dropdown menu for test type (Initial compliance test, RATA, etc.) Do not type in this field.
d.	Owner/operator name
e.	Facility name
f.	Emission Unit identification as listed in the permit (can list multiple units of similar type to be tested in sequence (i.e. EU- 1a, 1b, 1c).
g.	Emission Unit description (i.e. Waukesha 7042, B& W boiler, crusher spread, dryer scrubber)
h.	CMT number – assigned to notification by AQB and reported in e-mail response to notification. Must be reported with report in order to match report and notification.
i.	Proposed test date (for notifications and protocols)
j.	Actual test date (for reports)
k.	Reason for test. Examples: "NSPS JJJJ," "Permit 1234 Condition 3.4.7 Initial Compliance Test," "Permit 2345 Condition 3.4.8," "Revised test date only,"
Table II	**General Company and Facility Information**
a - d	Company mailing address (address for environmental contact)
e - i	Environmental contact information
j.	Facility Title V Permit No.
k - n	Facility street address
o – s	Facility contact information
t.	Facility NSR permit number
u.	Detailed driving instructions to facility from nearest town.
Table III	**Testing Firm Information**
a. – k.	Testing firm address and contact information
Table IV	**Emission Unit**
a.	Emission Unit number from permit (same as 1.h)
b.	Make and model #'s – should match permit
c.	Emission unit serial # - should match permit
d.	Permitted capacity of emission unit
e.	Purpose of test (permit number and contition, NSPS, MACT, consent decree, etc.) brief description of the condtion (initial compliance test, annual RATA,

	periodic portable analyzer test, etc.)
f.	Exceptions: explain if test is late or rescheduled
g.	Emission unit description and brief process name or description (e.g. compressor engine, dehydrator still vent, asphalt plant mixing drum, etc.)
h.	Emission unit installation date (for initial compliance tests)
i.	Emission unit startup date (for initial compliance tests)
j.	Date reached maximum (or normal) capacity (for initial compliance tests)
k.	Control equipment description (if applicable, catalytic converter type, wet scrubber critical flow rate and pressure drop, bag house number and type of bags)
Table V	**Pollutants and Proposed Test Methods**
	Check applicable methods. EPA standard test methods listed are approved for testing in New Mexico. Check if a deviation from standard test method requirements is being requested. Use of any methods not listed requires a detailed protocol and prior approval.
Table VI	**Proposed Test Run and Test Load Information**
a.	Number of test runs (3 required unless authorized)
b.	Run duration (1 hour unless authorized prior to test)
c.	Regulation or permit number
d.	Permit condition
e.	Expected load in throughput units
f.	Percent of permitted capacity – load expressed as a percent of permit capacity; load less than 90% of capacity will result in temporary reduced load limit.
g.	Opacity test (check yes or no)
h.	If opacity test, then enter the number of observation points
i.	Explain if expected test load is less than 90% of capacity
j.	Plant operating parameters to be monitored (throughput, pressure drop, water flow, water pressure, temperature, fuel consumption, etc. as applicable).
Table VII	**Additional Details**
	Enter comments in applicable fields
Table VIII	**Indicate attachments to notices and reports as applicable**
Table IX	**Certification**
	Signature of facility manager or environmental contact is sufficient for periodic testing. Signature of responsible official required for Title V compliance tests.