
ENVIRONMENTAL Fact Sheet



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Compliance Emissions Testing of Air Permitted Facilities

Collecting emissions information from an air permitted facility can be accomplished by conducting a one-time or periodic (e.g., once every three to five years) compliance emissions test to measure the emission rate of one or more of its pollutants. Other facilities may be required to permanently install and operate a continuous emission monitoring (CEM) system on a stack or process ductwork to measure the emissions of one or more its pollutants. See Fact Sheet ARD-65, "Continuous Emissions Monitoring of Air Permitted Facilities," for more information about CEM systems. Even facilities with a CEM system installed may still be required to conduct a compliance emissions test if the emissions of a pollutant need to be measured and are not being measured by the CEM system.



What is a Compliance Emissions Test?

A compliance emissions test, also commonly known as a stack test (although not limited to only stack locations), is conducted to measure the amount of air pollution that is emitted from an emissions point at a facility. The compliance emissions test is performed following specific procedures developed by the US Environmental Protection Agency (EPA) or, depending on the pollutant and industry involved, by a method developed by one of the other Federal or state regulatory agencies.

In addition, NHDES will require that a facility conduct compliance emissions testing when NHDES has determined that it is necessary for the facility to demonstrate its compliance status with applicable emission limits. Approximately 50 compliance emissions tests are performed in New Hampshire each year, all of which are coordinated with and witnessed by NHDES.



What procedures must be followed before conducting a Test?

Generally, each compliance emissions test requires (1) the submittal to NHDES of a pretest protocol which describes the emissions stack testing program description; and (2) a pretest meeting to be held approximately two weeks prior to the test date in

order for all parties involved to comprehensively plan for the test. While NHDES requires the pre-test protocol to be submitted at least 30 days prior to a state-required compliance test, EPA requires the pre-test protocol to be submitted at least 60 days prior to a federally-required compliance test. NHDES is involved in all aspects of the testing and technically reviews and approves the final test report that shows the emission results.

How are Tests Conducted?

A typical compliance emissions test consists of a minimum of three measurement runs, each run lasting one or more hours depending on the test method and pollutant concentration. The testing should occur during conditions of plant operation that are representative of normal operation, but also during which maximum emissions are expected. In some cases, testing is done at multiple loads. Typically, the test collects concentration data for one or more compounds or pollutants of interest; the percent oxygen and carbon dioxide; the percent moisture content; and the volumetric stack flow. In the case of pollution control devices that may be required to meet a minimum destruction or removal efficiency, compliance emissions testing must be done at both the inlet and outlet of the device.

The equipment used to collect and analyze the stack gas being sampled during a compliance emissions test is basically the same as a CEM system. However, instead of being permanently installed, the sampling equipment and analyzers are transported to the source specifically for the test and then removed.

When is a Test Required to be Conducted?

There are many reasons for a facility to conduct a compliance emissions test, including the type or size of a device, and the amount and type of fuel combusted or the process rate. A compliance emissions test is required if any one of the following conditions applies:

- A facility is subject to a federal air pollution emissions or control standard which requires compliance emissions testing.
- A facility is subject to a state rule that requires compliance emissions testing.
- NHDES determines that the emission rate estimated for the facility using available technical data is close to the threshold above which a violation of an ambient air limit or emission standard might occur.
- A facility wants to opt out of a federal permitting program, and NHDES must verify the facility's emissions are below the applicable threshold(s) of the program.
- A facility installed new pollution control equipment to comply with an emission limit or program, or previously installed pollution control equipment is believed to have degraded in its effectiveness to control pollution since the completion of the last compliance emission test or performance verification of the device.
- There is some other technical concern that a facility may be exceeding an emission limit.

In addition, a facility may choose to conduct stack testing to show its emissions are below a threshold necessary to opt in to a program which allows it to receive financial credit for using renewable energy technologies and fuels to generate electricity or provide thermal energy. A facility may also choose to conduct stack testing to develop site-specific emission factors in order to lower its calculated annual emissions and emissions fees.

What companies can perform testing?

There are no specific requirements or certifications for companies to be able to conduct stack testing in New Hampshire. All companies must follow the same requirements of submitting a pre-test protocol; meeting prior to the testing with NHDES and the facility to discuss the details of the test program; and arranging with NHDES for observation by staff while conducting the test. Ultimately, NHDES will accept the stack test results depending on acceptable performance of the test method. While NHDES cannot provide recommendations for testing companies, you may check the NHDES Stack Testing and Monitoring website for the *List of Stack Testing Companies*, which is an up-to-date list of testing companies who perform work in New Hampshire.

Does NHDES charge any fees for Tests?

For compliance tests that are required to be performed as a condition of a Temporary Permit, NHDES will assess a personnel testing and monitoring fee for those sources for staff time to travel to the site and witness the test, as well as to review the final compliance emissions test report. NHDES will send an invoice for that fee to the facility and payment must be submitted to NHDES within 60 days of the billing date.

For more information on what you have to do if your facility is required to conduct testing or to install CEM equipment, visit the NHDES Stack Testing and Monitoring website, send an email to testingmonitoring@des.nh.gov or contact the NHDES Air Resources Division by mail at 29 Hazen Drive, Concord, NH 03301 or by telephone at (603) 271-1370.