

Preparing For a Stack Test

What to expect before, during, and after...

Preparation is the key to a successful stack test. A successful stack test includes results that are reached with in a set timeline and budget. When you are organized and ready, you will be able to minimize surprises along the way, as well as produce high-quality data and compliance.

When expecting a stack test, plan to provide a site visit for the testing firm. This visit is important for the testing personnel to introduce themselves to key personnel they will be working with on the day of the test. This will also allow the test team to evaluate the site and process logistics, gather information for the test protocol, inventory equipment, and establish operational processes. This visit will also give heed to any barriers preventing access to the sample location as well as inform you of any problems that will need to be resolved before the day of the test. This preemptive planning will help the project to remain on-time and within budget.

A testing protocol must be defined, reviewed, and submitted for official review before the test date. This protocol includes the who, what, where, when and why of the test campaign. All people involved in the testing process should be accounted for including stack samplers, consultants and analytical labs. The exact purpose of the test must be identified, whether it be a compliance evaluation, performance evaluation or a CEM System audit, as well as what is being tested, including parameter measurements, detection limits, and physical characteristics of the sample location(s). How the data will be collected is an important part of the protocol, this includes how many tests will be run, the sampling methodologies, as well as how the quality of the data will be assured. Finally, the location of the test including the facility and the location of the test point must be indicated in the protocol. In many states, protocols can take several months to be approved; be sure to plan accordingly!

By establishing a schedule and set timeline, you ensure that your test day goes off without a hitch, or at least one for which you aren't prepared. When planning your schedule, be sure to take into consideration state notification and approval of your testing plans and protocols. It is important to be aware of your state's requirements to be fully prepared for your test. Travel and site staging do not occur on the test day with a successful testing campaign. The best testing days fall within Tuesday and Thursday of a work week. Due to traveling times for testing teams, Mondays and Fridays are not ideal days. These things take time and can slow down the process if done on testing day, and can cause overtime for the testing crew. Facility personnel should be equipped ahead of time for testing day and be aware of the timeframe. The facility itself must be prepped and ready to perform at necessary levels for the tests to be done accurately.

How does the test actually happen? Testing prep day and the actually testing day is a choreographed dance between testers and facility personnel. Typically 1-2 people prepare and set up equipment before the testing day. Sample acquisition typically lasts 1-2 days, sometimes up to 10 days or more. Sample teams usually consist of 2-3 people, sometimes upwards of 7 mattering on the caliber of the job. These teams consist of Technicians who run the sample trains as well as a Field Team Leader who supervises the Technicians and sample trains, as well as communicates with client/regulatory personnel. Testing days can run 12 or more hours long. It is not suggested to run a test team longer

than 12 hours, in order to preserve the quality of data. If you must, invest in an additional day of testing, this investment will ensure high-quality data and be well worth it in the long-run.

There are some elements of the testing campaign that are the responsibility of the facility. One big one is providing a facility liaison to serve the testing crew. This person will manage the communication between the testing team and the client, as well as manage any questions or problems that may come up. Communication is the key to a successful stack test. Access to the sample location and clear and clean test ports are pertinent, any restrictions in these areas can cause delays in the project. Along with access, these locations must be safe for the testers and plant personnel. This is why it is suggested to evaluate these issues before the test day. Testing equipment requires a lot of electricity, be sure to check availability and accessibility before the day of the test.

One final element for you to be aware of when preparing for a stack test is to be conscious of issues and problems that can cause delays or halt a project. Besides being prepared on your end and providing the necessary elements for the test, other issues that can arise are problems with communication. Weather is also a factor. While impossible to control, be prepared for inclement weather and check forecasts beforehand. The facility must be performing at a set level of production, if problems arise with these levels, sample tests may have to be redone.

The real costs to failing a stack test can be brutal. In dollar amounts, the cost would be possible fines, finding out why the test failed, performing another compliance test, and production costs. Other costs can be loss of good-standing with regulatory agencies, the possibility of bad press, and the negative opinions and reprimands by your boss and colleagues.

To prevent negative outcomes, be sure to check your permit. Are the emission limits realistic? Are there any unnecessary or unrealistic test requirements? Invest in a pre-test site visit. It will save you money in the long-run. Negotiate a protocol that specifies the most cost-effective and accurate test methods acceptable to the regulatory agency. Finally, get a mock compliance test done. These tests will screen emissions to prepare proper testing methodology, reveal potential process and production problems, and give facility personnel a feel for the process. Finally, these tests are generally less costly than official compliance tests and a worthwhile investment.

Avogadro Environmental Corporation provides clients with comprehensive stack testing services. Our staff is dedicated to providing customers with the information necessary to conduct a successful test, accrue high-quality data, and provide accurate results. Avogadro's relationship with several regulatory agencies provide insurance to customers that data will be obtained properly and submitted in a timely fashion.

Guidelines for Compliance Stack Emission Test Programs can be found for Pennsylvania at <http://www.dep.state.pa.us/dep/deputate/airwaste/aq/source/source.htm> and for New Jersey at <http://www.state.nj.us/dep/bts/pdf/Techmanuals/1004.pdf>.

For more information about Avogadro's service, and to schedule your pre-test site visit today, please call us at 610-559-8776. We would be happy to assist you with all of your testing needs.