



Civil & Environmental Consultants, Inc.

Considerations When Choosing A Stack Testing Company

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Stack Testing

- Stack Testing is a knowledge-based service requiring a detailed understanding of Federal, State and Local regulations, specialized sampling and analytical methods for determining air emissions and a knowledge of good laboratory practices and how they impact the final results.
- Proper adherence to reference methods and utilizing good laboratory practices in the field comes at minimal costs.
- When low cost bid passes a certain point there is something you are not getting.

Why Should I Care?

- Ultimately the client is responsible for the test results - Right or Wrong.
 - If your stack test consultant improperly performs the methods or fails to properly document their service, it will be your issue.
 - It may take several years to come to light!
- Office of the Inspector General (OIG) published a “Stack Test Report Audit”.
 - Contained findings, recommendations and commitments to make changes.
 - The sampling of reports were primarily from the State of Washington.
 - They found numerous examples of non-adherence to the methods and inadequate support documents to assess data quality.
 - The study made recommendations to the Office of Air and Radiation (OAR) and Office of Enforcement and Compliance Assurance (OECA).
 - OIG also made two recommendations to US EPA Region 10.



Why Should I Care? (Continued)

- The study was primarily focused on Reference Method 5.
 - OIG chose 30 of a potential 66 reports Utilizing US EPA Method 5 to audit.
 - 17 of the 30 reports had errors in applying the EPA Test methods.
 - 7 reports had probe and filter temperatures outside the method required range.
 - 3 reports had calibration errors.
 - 2 reports had the acetone blank incorrectly applied to the data.
 - 3 reports indicated that the stack was not traversed.
 - 1 report the temperature sensor calibration checks were not performed.
 - 1 report the isokinetic range was outside the allowable range.

Why Should I Care? (Continued)

- Data and documentation missing from 29 of the 30 reports.
 - Calibrations (25 reports).
 - Probe length (15 reports).
 - Process data (2 reports).
 - Post test leak checks (5 reports).
- Other errors.
 - Inconsistencies in test run start and stop times documented.
 - Inconsistencies in the number of sampling points listed.
 - Different stack upstream diameters.
 - Performed 60 minute runs when 90 minute runs were required.

Why Should I Care? (Continued)

- Recommendations to OAR and OECA.
 - Develop and implement a plan for improving the consistency of stack test reviews across EPA regions and delegated agencies.
 - Assess the training needs of EPA regions and state, local and tribal agencies concerning stack test plans and report reviews and EPA test methods, and develop and publish a plan to address any training shortfalls.
 - Develop stack test report checklists for EPA Method 5 and other frequently used EPA methods to assist state, local and tribal agencies in their reviews of stack test plans and reports.
 - Develop and publish on EPA regional websites, a list of EPA contacts who can assist state, local and tribal agencies with stack test method issues or other stack test problems.

Why Should I Care? (Continued)

- The agency concurred with the OIG recommendations and provided acceptable planned corrective actions and completion dates.
- To address Recommendations 1 and 4, OECA will develop and implement a plan to improve the consistency of stack test reviews across EPA regions and delegated agencies, so that stack testing is being sufficiently and properly used.
- Further, OECA will list on its public website the EPA regional stack testing contacts and a link to the OAR's directory of technical support staff for each of the test methods.

Why Should I Care? (Continued)

- To address Recommendations 2 and 3, the OAR will work with EPA regions and delegated agencies to review currently available stack testing materials and assess training needs with respect to approving stack test plans, reviewing stack test reports and conducting EPA test methods.
- The OAR then will work with EPA regions and delegated agencies to identify training shortfalls and develop a plan to address the shortfalls.
- Further, the OAR will work with EPA regions and delegated agencies to develop checklists for reviewing stack test reports for seven EPA methods.
- More review will lead to more questions and stronger scrutiny of the effort

How Can I Ensure the Quality of the Work?

- So what should you look for when contracting a testing company?
 - What is the education and experience level of their field staff?
 - What is the stack testing companies Quality Assurance Plan?
 - How do they train their employees?
 - Clear Communication - Does the stack test company assign a PM to a specific Client or do you get whomever is available?
 - How structured are their reports?
 - How is Data checked for consistency and quality?
- What is the condition of their equipment?

Is the Company Certified?

- Air Emission Testing Body (AETB)
 - American Society of Testing Materials (ASTM) D7036-04, “Standard Practice for Competence of Air Emission Testing Bodies”
 - Establishes general criteria for a Quality System that, when followed, helps ensure consistently acceptable data quality from an AETB”
 - 3rd Party Certification
 - Self Certified
- Individual Certifications
 - Qualified Stack Testing Individuals (QSTI)
 - Qualified Individuals (QI)



Other Certifications

- National Environmental Laboratory Accreditation (NELAC)
 - NELAC is a non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive and transparent process .
- Louisiana Environmental Laboratory Accreditation Program (LELAP)
 - Designed to ensure the accuracy, precision, and reliability of the data generated, as well as the use of the department-approved methodologies in the generation of that data
- The NELAC Institute (TNI) Standard
 - TNI Standard is intended as an application of ISO/IEC 17025:2017, General Requirements for the Competence of Testing and Calibration Laboratories



Experience

- Experience in Your Industry – Check the references, experience and background of your Consultant
 - Do they have experience with the test methods and type of equipment being tested
 - A Record of Success
 - Researching how long the stack testing company has been in operation
 - Familiarity with Your State Regulations
 - Do they have SOP's for performing the methods
 - Cost Competitive Pricing
 - Cost is an important consideration, but before you go with the lowest bidder review the proposals to make sure that the low cost does not mean that you sacrifice quality.



Safety

- Safety is an essential aspect of any successful stack testing project.
- Must Plan for it – every team member's responsibility!!
- As part of your RFQ
 - Require the Consultant to document their Corporate safety program and provide you with a copy
 - What is their Total Recordable Case rate (TRIR) or Total Recordable Case Frequency (**TRCF**) Performance? It should be less than 1
 - Do they prepare safety plans specific to your project which includes documented tail gate meetings?

Reporting

- Complete Transparency!
- Turn-around time on Reports.
 - Typical is 3 weeks
- Clear, Concise, Correct Reporting.
 - Accurate and reliable test reports are crucial, so you can understand, evaluate, and process the data in a manner relevant to your particular company and industry
 - QA procedures for reporting and calculations
- Obtain an example report that includes all the appendices as a means of evaluating the firm's abilities.

Evaluating The Report

- Evaluate the report based on Traceability and Transparency.
 - Identifies any emissions units tested using the System Number and/or Unit Number.
 - Clearly identifies any permit or testing deviations that occurred planned or unplanned (Errors and Omissions section).
 - Include raw test data.
 - Signed Electronic and Hand Written data sheets.
 - Lab reports with the appropriate QA.
 - Method descriptions and example calculations using the existing test data.
 - Include calibrations and certification information.

Contact Information

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Questions?

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