

AFCEE LABORATORY AUDIT PROGRAM

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Introduction

ERS provides technical quality assurance support to the Environmental Restoration Directorate of AFCEE. One of the primary ways technical quality assurance is provided is through the AFCEE audit program. ERS monitors environmental projects and performs evaluations of the prime contractor to ensure that (1) regulatory and statutory requirements are met, (2) data is of acceptable quality, (3) data interpretation is technically and legally defensible, and (4) program operations are consistent. A technical services evaluation may include any or all of the following:

- A prime contractor oversight evaluation
- A laboratory evaluation
- An evaluation for cause
- A sampling system evaluation

Discussion

AFCEE contracts directly with prime contractors to perform work for environmental projects. The prime contractor selects and contracts directly with the subcontractor laboratory to perform analytical work for the period of the project. During the project's period of performance ERS performs technical services evaluations of the prime contractor and subcontractor laboratory used for analytical work during the project. There are several ways an audit may be done by ERS. ERS project chemists may perform an evaluation independent of the prime contractor evaluation. The prime contractor may be part of the ERS evaluation team or be an observer while the ERS evaluation team performs an audit. . ERS always encourages the prime contractor to attend an audit as observer or participant.

ERS may be asked by the team chief to evaluate the prime contractor's ability to perform an audit and provide oversight of the laboratory during the period of the project. ERS evaluates prime contractors to ensure project activity meets AFCEE requirements as stated in the most current version of the *AFCEE Quality Assurance Project Plan (QAPP)* and the project specific Field Sampling Plan and Work Plan. Evaluation results will be used to assess the ability of the prime contractor to (1) produce data that fulfill the objectives established for the program, (2) comply with the quality control (QC) criteria, and (3) identify any areas requiring corrective action.

The majority of the technical service evaluations performed by ERS involve laboratory audits. An AFCEE team chief requests ERS to perform a project-specific or system-wide audit of the laboratory. The majority of the audit requests from team chiefs are for project-specific audits. A formal request from the team chief to the ERS project chemist will initiate the audit mechanism. ERS coordinates the date and time with the laboratory for the visit. ERS evaluates laboratories to ensure the analytical results generated by the laboratories are accurate, precise, defensible; and meet AFCEE requirements as stated in the current version of the *AFCEE Quality Assurance Project Plan (QAPP)* and site-specific contract documents. The prime contractors may choose laboratories to provide analytical services and is responsible for conveying specific requirements of the project to the laboratory. The laboratory must review the documents defining specific project requirements and forward any questions or comments to the prime contractor prior to initiation of sampling. Implementation of a scientifically sound, comprehensive quality assurance (QA)/quality control (QC) program supported by a detailed record keeping system is critical to generating acceptable data. Laboratories develop QA programs that are defined in each of their own specific QA manuals. The on-site evaluation and the review of laboratory documentation ensure all elements of the QA/QC program are implemented, documented, and meet AFCEE requirements. If the evaluation results indicate that the laboratory is meeting the AFCEE and project-specific requirements, ERS will recommend to the team that the laboratory continue to receive samples. There is no certification or approval program resulting from an ERS evaluation.

Another form of evaluation is when the authenticity of the data is called into question. This is called an evaluation for cause. ERS performs an evaluation for cause (i.e., a magnetic tape evaluation) to assess the authenticity of data generated by a laboratory and assess the implementation of good automated laboratory practices. Magnetic tape evaluations involve the examination of the electronic media used in the analytical laboratory and by the prime contractor to collect, analyze, report, and store data. AFCEE may perform magnetic tape evaluations of the laboratories or of the prime contractors when warranted by project PE results, on-site evaluation results, or by other state/federal investigations.

The prime contractors may choose subcontractors to provide field sampling services and is responsible for conveying specific requirements of the project to the subcontractors. Implementation of a scientifically sound, comprehensive QA/QC program supported by a detailed record keeping system is critical to generating acceptable data. The data generation process begins with environmental samples being taken. ERS performs sampling system evaluations to ensure the sampling system meets AFCEE requirements as stated in the current version of the *AFCEE Quality Assurance Project Plan (QAPP)* and site specific contract documents (i.e., the Field Sampling Plan and Work Plan).