

EPA QA Field Activities Procedure

1. PURPOSE

This Quality Assurance (QA) Field Activities Procedure describes the U.S. Environmental Protection Agency's (EPA) Quality Program requirements for field activities and provides implementation instructions for a sustainable management system of those activities.

2. SCOPE

This Procedure applies to all EPA organizations and their sub - organizations (this includes, but is not limited to, an office, region, national center or laboratory) whose EPA employees conduct field activities. This Procedure does not apply to non-EPA organizations such as contractors or grantees unless these requirements are explicitly stated and agreed upon in the extramural agreement. This Procedure describes all ten elements needed to implement EPA Quality Program field activities requirements unless an organization applies for and receives an approved waiver from the Chief Information Officer (CIO). Field activities are defined as environmental information operations (EIO) conducted by EPA employees at a site or location external to EPA buildings in support of environmental laws and regulations, EPA programs or Executive Orders.

Each EPA organization conducting field activities shall define the scope and applicability of this Procedure and document implementation of this Procedure by incorporating it into the organization's Quality Management Plan (QMP) and standard operating procedures (SOP) or other applicable controlled documents or program - specific guidance.

This Procedure is not required for EPA programs whose primary goal is for education by conducting demonstrations such as for: educational monitoring or use of EPA equipment for volunteer monitoring through the Participatory Science Equipment Loan Program.

Field activities include, but are not limited to:

- planning and conducting inspections, facility permit operations including maintenance and self-monitoring practices, field recordkeeping, and collection of samples or measurements for gathering information or potential evidence for all EPA programs; or

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- planning and implementing field studies, investigations, and evaluations for gathering information or potential evidence, including, but not limited to observations such as photographs or digital images, collection of samples or measurements, deployment of field equipment/instrumentation for real time monitoring, and engineering evaluations for EPA programs that conduct ambient and compliance monitoring, and other short- and long-term studies and evaluations.

3. AUDIENCE

The audience for this Procedure is all EPA employees responsible for field activities in support of EPA's mission.

4. AUTHORITY

This Procedure is issued under Reorganization Plan No. 3 of 1970, 84 Stat. 2086 (July 9, 1970), which is the source of the Agency's housekeeping authority and the Information Quality Act, Section 5152 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. No. 106-554). This Procedure builds upon existing Agency and government-wide policies and guidance documents, including the Agency's Environmental Information Quality Policy. This Procedure will be implemented consistent with applicable law.

5. PROCEDURE

This Procedure describes all ten elements (See 5.1-5.10) needed to implement EPA Quality Program requirements necessary for consistent and scientifically sound field activities used in support of EPA decisions, data gathering or information dissemination. Project or program specific requirements are defined and specified in Quality Assurance Project Plans (QAPPs), QMPs and other relevant documents.

5.1 Personnel and Training

- 5.1.1 Personnel responsible for field activities shall have appropriate qualifications, education, training, experience and knowledge of the requirements of the field activities to be conducted. These requirements include, but are not limited to, environmental sampling training, safety and health training for all EPA employees conducting field activities and mandatory training for EPA employees with an inspector credential.

Safety and health training requirements apply to all EPA employees conducting field activities as described in the current versions of:

- [Safety and Health Training Requirements for Agency Employees \(EPA Order 1440.2\)](#);
- other field related requirements identified in program-specific policies, QMPs and SOPs.

For EPA credentialed inspectors, training records will be maintained to document personnel compliance as described in the current version of:

- [Training Requirements for EPA Personnel who are Authorized to Conduct Civil Compliance Inspections/Field Investigations and EPA Inspector Supervisors \(EPA Order 3500\)](#).

5.1.2 Field groups are defined as organizations which consist of EPA personnel conducting field activities or providing support to those in the field. Field groups shall have a documented system to ensure that relevant training records for personnel conducting field activities are current and maintained. These records shall include external or internal training courses, on - the - job training, competency assessments and evaluations when applicable.

5.1.3 Training records shall be maintained consistent with [EPA Records Schedules](#).

5.2 Document Control

Within the context of field activities and this Procedure, controlled documents are generated internally for each organization and describe how work will be conducted. Controlled documents may include but are not limited to policies, SOPs, QAPPs, guidance, blank template forms and checklists, and work instructions pertaining to field activities. All instructions, standards, written procedures, worksheets, check lists and reference information relevant to the field activities shall be current, accurate and readily accessible by the appropriate staff.

5.2.1 Field groups shall maintain a system for document control relating to activities including the preparation, review, approval, issuance, revision, revocation and archiving of documents. Written procedures shall be developed that ensure:

- a. all controlled documents are reviewed by subject matter experts and approved for use by authorized personnel prior to issue;
- b. all controlled documents include a unique document control identifier/number, and all revisions are identified;
- c. all controlled documents are current and periodically reviewed and revised to maintain their accuracy;
- d. current versions of appropriate documents are available at all relevant locations;
- e. documents are reviewed as defined by an organization's review cycle in QMPs or SOPs. A summary of changes is documented for reference;
- f. revisions to documents are reviewed and approved by the same functional position that performed the original review unless designated otherwise;
- g. superseded documents are removed from use and maintained in accordance with EPA Records Schedules;
- h. new, revised documents are distributed;
- i. briefings or trainings on the information presented in controlled documents are provided, whenever possible; and
- j. prior to distribution, all electronic documentation must follow the digital accessibility requirements as outlined in [EPA's Section 508 Policy and Procedures](#).

5.3 Records Management

- 5.3.1 Field groups shall maintain records in accordance with the Federal Records Act, EPA Records Management Policy, and applicable agency procedures and directives. Records shall be created digital or digitized in accordance with National Archives and Records Administration requirements.

- 5.3.2 Field records, or records created as a result of field activities, can vary across media type. Examples of field records include, but are not limited to, field logbook entries, electronic field measurement data logs, completed chain of custody forms, photographs, digital images, maps, completed inspection forms, facility records, location description or global positioning system (GPS) coordinates and reports.
- 5.3.3 Field groups shall establish and maintain procedures that ensure:
- a. all records shall be stored and retained in such a way that they are readily accessible; to then be digitized into an electronic format to the maximum extent possible by following the [Digitization/Validation of Temporary Records Procedure](#), pursuant to Executive Order M-23-07;
 - b. observations, calculations and measurement entries shall be clearly recorded at the time they are made or performed;
 - c. the types of information in project record files shall be defined by the EPA organization in their QMP;
 - d. permanent, indelible ink shall be used for manually recorded records. When weather conditions do not make it possible to use permanent, indelible ink, entries shall be made in non-smear pencil. The penciled entries shall be captured permanently by photocopying, scanning or photographing the penciled entries;
 - e. error corrections for paper and, where possible, electronic records, shall use a strike through method, and be initialed and dated, so the previous entry is still legible; and
 - f. tracked changes, version control or back-up processes shall be used when storing and editing electronic records to prevent unauthorized access or amendment.

5.4 Field Sampling and Information Management

- 5.4.1 Field groups shall establish and maintain procedures for the identification, transportation, handling, protection, storage, and retention of samples and other appropriate information during field activities. The procedures shall ensure:

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- a. field samples and other potential evidentiary information are maintained under custody at all times during field studies, investigations, and inspections. Samples and data are in custody if they are:
 - i. within the direct possession or the control (i.e., within the view) of an individual designated to have sample handling responsibilities; or
 - ii. placed in a designated secure area to prevent tampering; or
 - iii. maintained in a manner that ensures the integrity of the samples is not compromised, when placed in an unsecure area.
 - b. all samples, sub-samples, measurements, and other appropriate information collected are uniquely identified to ensure items cannot be confused physically or when referred to in records or other documents;
 - c. a chain of custody record is maintained for the collection of environmental samples, and it shall include as appropriate, but not be limited to, the date, time types of samples collected, location, and each person who takes possession; and
 - d. labels and chain-of-custody forms for potential evidence/samples are produced by electronic means like barcoding systems, when appropriate and to the extent possible. Hardcopy/manual means shall be available in the event of failure of the primary electronic device or when electronic means are not possible.
- 5.4.2 For organizations that collect potential evidence for enforcement purposes, sample and information security procedures must be in place and documented to demonstrate sample and information tampering did not occur from the time the potential evidence was collected until introduced into legal proceedings.

5.5 Field Documentation

- 5.5.1 Field groups shall establish and maintain procedures to document field activities, that ensure:

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- a. field activities are thoroughly documented, including the name, location, and date of the project/facility or field study, as well as the name of the project lead and team members involved;
 - b. field documentation contains facts and objective observations.
 - c. observations or information which are obtained in the course of field activities are recorded contemporaneously, when observed or collected, to prevent a loss of information; and
 - d. when collecting digital media, such as photographs, video and other audiovisual materials, the [Digital Camera Guidance for EPA Civil Inspections and Investigations](#) shall be considered. This Guidance has been developed for federally credentialed inspectors acting on behalf of EPA.
- 5.5.2 Field documentation such as logbooks are records and shall be retained via the appropriate Record Schedule. Both paper and electronic field documentation must follow the appropriate steps below.
- Field documentation includes, but is not limited to, logbooks, forms, checklists and notes in both electronic and non-electronic formats. Procedures for field documentation must include their management in recordkeeping repositories which facilitates their preservation, retrieval, use and storage.
- Paper-based documentation is digitized, as appropriate, following [Records Management Procedures](#). Electronic field documentation, such as electronic notebooks or personal digital assistant devices, must be secured and uploaded to a [Federal Risk and Authorization Management Program \(FedRAMP\)](#) certified cloud solution or other appropriate and secure storage system as determined by the field organization. In the event there is a failure of a system or device, backup processes are protected from unauthorized access or amendment.
- 5.5.3 Field documentation of measurements and sample collection shall include as appropriate but not be limited to:
- a. names of person(s) gathering or recording the data, documented by name or initial (after recording of full name once in the document);

- b. date and time of measurement or sample collection;
- c. measurement/sample identification;
- d. measurement/sample collection method or citation to associated documented procedure;
- e. measurement/sample collection equipment used, including identification numbers and the manufacturer name/model number, as appropriate, (see Section 5.6 for more information);
- f. preparation details, reagents, calibration standards, buffers, etc. including manufacturer, lot numbers and expiration dates;
- g. results of initial, continuing and closing calibration verification checks, or other appropriate calibration checks, as required by analysis methods;
- h. measurement values including unit of measure for non-logging equipment; if values are calculated, the original observed value and the calculated value shall be recorded;
- i. sample containers (number and type);
- j. sample preservation method, if required;
- k. physical description of the matrix measured or sampled;
- l. maps/sketches, if applicable;
- m. conditions that may adversely impact the quality of measurements/samples including but not limited to, rain, wind, smoke, dust, and extreme temperatures; and
- n. digital image logs, technology used and data source, if applicable.

5.6 Field Equipment Management

- 5.6.1 Field groups shall establish and maintain procedures for field equipment that ensure:

- a. Equipment records are established for measurement equipment that include at a minimum:
 - i. the identity of the equipment and its software, if applicable;
 - ii. the manufacturer's name;
 - iii. a unique identifier such as its serial number or identification number;
 - iv. the manufacturer's instructions or a reference to their location;
 - v. dates, results, and copies of reports and certificates for all calibrations, along with the due date for the next calibration, are maintained for each piece of measurement equipment;
 - vi. any damage, malfunction, modification or repair to the equipment; and
 - vii. each project the equipment is used on and a process to sign-in/sign-out the equipment.

- 5.6.2 Procedures established by the manufacturer, field staff and applicable SOPs are followed to ensure measurement equipment is properly maintained, utilized as appropriate and calibrated or verified before use.

- 5.6.3 Equipment that has been shown to be defective or outside specified quality control (QC) limits is taken out of service. Such equipment shall be isolated to prevent its use and clearly labeled/marked as being out of service until it has been repaired and shown by calibration or test to perform within the required limits or operate correctly, as applicable.

- 5.6.4 Equipment requiring calibration shall be labeled, coded or otherwise identified to indicate the status of calibration. Equipment calibration labels shall be consistent with the requirements of the applicable laboratory accreditation under which they were calibrated.

- 5.6.5 On-going field equipment maintenance and repairs shall be either conducted in-house or through established service contracts or vendors

as needed. Personnel responsible for ensuring equipment maintenance and repairs are conducted appropriately shall be identified.

- 5.6.6 Reagents, solutions and similar substances used in support of gathering data (e.g., test kits, buffer solutions/tablets, calibration solutions, enzymes solutions and calibration gasses) shall be handled, stored and maintained appropriately along with the required Safety Data Sheets. Once such field substance has expired or been deemed no longer of use, the substance shall be removed from inventory and discarded.

5.7 Field Activities Planning

- 5.7.1 Field groups shall establish and maintain procedures for the planning of field activities. The procedures shall address all applicable EPA, organizational, and program or project specific requirements.
- 5.7.2 Organizations shall establish and maintain procedures for the applicability and requirement of EPA approved QAPPs for field activities involving EIO.
- 5.7.3 Field activities shall be conducted in accordance with established procedures that are documented, reviewed and approved for use in the applicable QAPP.

5.8 Reporting on Field Activities

- 5.8.1 Field groups shall establish and maintain a procedure for the preparation of a written report that summarizes results of all field activities, including inspections or investigations.
- 5.8.2 Unless the written report is in the form of an externally peer reviewed journal article or reports written for enforcement purposes, the written report shall include as appropriate, but not be limited to:
- a. date, title and page numbers;
 - b. name of the organization preparing the report;
 - c. name of the customer;

- d. results and observations;
- e. dates any samples were collected and analyzed, and the analytical methods used;
- f. name, title, and signature of the individual authorizing the report;
- g. details of any environmental conditions during the field activity that may affect the interpretation of the activity's results;
- h. a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their original intended application (applicable to published EPA reports);
- i. a documentation of report review by the QA manager (QAM) (or other authorized official as identified by the field group or the appropriate manager) before publication to ensure that an adequate discussion of QA and QC activities is enclosed; and
- j. prior to distribution, final reports must follow the requirements as outlined in EPA's Section 508 Policy and Procedures.

5.9 Internal Audits

- 5.9.1 Field groups shall establish a procedure consistent with requirements of the organization's QMP to conduct internal audits to verify that their operations comply with this Procedure.
- 5.9.2 Personnel performing the audits shall be qualified and independent from the activities being audited.
- 5.9.3 Roles and responsibilities of management and staff for planning, implementing and reporting of internal audits, including the need for corrective actions, shall be described in the procedure.
- 5.9.4 Internal audit reports shall specify which implemented field activities or program(s) were audited and the audit results. These audit results will include, but not be limited to noteworthy practices or conditions (i.e.,

strengths), recommendations that identify opportunities for improvement, best practices and findings requiring correction action (which are nonconformances or deviations from standards and documented practices; for example QAPPs, SOPs and reference methods.)

5.10 Corrective Action

- 5.10.1 The organization shall establish and maintain a procedure for addressing findings requiring corrective action(s) from internal and external audits of field activities. Management and staff roles and responsibilities in the corrective action process shall be specified.
- 5.10.2 The procedure shall describe the process for developing, tracking and assessing the effectiveness of corrective actions and should seek to identify and address any root causes of the problem.
- 5.10.3 The organization in consultation with the affected field groups shall document and implement any required changes resulting from corrective actions.

6. ROLES AND RESPONSIBILITIES

The information on roles and responsibilities outlined here is specific to the implementation of this Procedure. Please refer to the current version of the [Environmental Information Quality Policy and Procedure](#) for more detailed information on the roles and responsibilities for implementation of the Quality Program.

6.1 EPA Administrator:

The Administrator will promote and ensure the use of consistent field operations of this Procedure as an integral component to supporting EPA's mission to protect human health and the environment. The Administrator may re-delegate the responsibilities for this Procedure to the Assistant Administrators and Regional Administrators.

6.2 Assistant Administrators and Regional Administrators:

Assistant Administrators (AAs) and Regional Administrators (RAs) will ensure that policies and procedures to support field activities are developed and implemented for their programs consistent with their specific missions and will

dedicate sufficient resources to support the effective implementation of this Procedure within their organizational units. Each AA or RA may re-delegate the responsibilities for this Procedure to appropriate senior managers.

- 6.3 Office of Mission Support (OMS), Deputy Assistant Administrator (DAA) for Information Technology/Information Management (IT/IM)/Chief Information Officer (CIO):**The OMS DAA for IT/IM/CIO is responsible for informing AAs, RAs, and the CIO Strategic Advisory Council of any issues related to the quality of Agency environmental information operations encompassed by this Procedure.

If requested, the OMS DAA for IT/IM CIO will review an EPA organization's waiver request (Section 9) regarding the implementation of this Procedure and make a final determination.

6.4 Field Groups:

These groups or organizations consist of EPA personnel conducting field activities or providing support to those in the field. Preferably, there will be an overall Project Manager and a Team Lead on site for each sub-group who are responsible for ensuring this Procedure is followed.

6.5 Quality Assurance Managers

EPA QA Managers (QAMs), or other designated staff, will assure that the appropriate aspects of this Procedure and any additional needed procedures are documented in their organization's QMP and oversee their organization's implementation of this Procedure.

6.6 Content Creators and Authors

Content creators and authors are employees, field inspectors, interns and others involved in the daily development, distribution and dissemination of electronic information. Regardless of their role, content creators and authors are responsible for making sure that the content they create conforms with Section 508 Standards as defined by EPA's Section 508 Policy. This applies to email, documentation (example: reports, journal articles), presentations, spreadsheets and PDF documents, in addition to audio, video and multimedia files. All electronic content that is public facing must conform with the standards in addition to electronic content that is not public facing.

7. RELATED INFORMATION

- [Environmental Information Quality Policy](#)

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- [Environmental Information Quality Procedure](#)
- [Training Requirements for the US Environmental Protection Agency Personnel who are Authorized to Conduct Civil Compliance Inspections/Field Investigations and EPA Inspector Supervisors](#), EPA Order 3500 (June 19, 2014).
- [Quality Management Plan Standard](#)
- [Quality Assurance Project Plan Standard](#)
- [Information Security - Identification and Authentication Procedure](#).
- [Safety and Health Training Requirements for Agency Employees](#), EPA Order 1440.2 (April 23, 2013).
- [Digital Image Guidance for EPA Civil Inspections and Investigations, U.S. EPA Office of Compliance](#), OECA (June 13, 2017).
- Executive Order M-23-07
- [Section 508 Policy and Procedures](#)

8. DEFINITIONS

Competencies: Skills, knowledge, abilities, behaviors and other characteristics that an individual, field group or organization needs to perform work roles or occupational functions successfully.

Credentialed Employees: Authorized representatives of EPA with the authority to conduct inspections, investigations and sampling under at least one of EPA's statutes.

Environmental Information: Includes data and information that describe environmental processes or conditions which support EPA's mission of protecting human health and the environment. Examples include, but are not limited to:

- direct measurements of environmental parameters or processes;
- analytical testing results of environmental conditions (e.g., geophysical or hydrological conditions);
- information on physical parameters or processes collected using environmental technologies;

- calculations or analyses of environmental information;
- information provided by models;
- information compiled or obtained from databases and software applications;
- decision support tools, websites, existing literature, and other sources;
- development of environmental software, tools, models, methods, and applications; and
- design, construction, operation or application of environmental technology.

Environmental Information Operations: A collective term for work performed to collect, produce, evaluate or use environmental information and the design, construction, operation or application of environmental technology.

FedRAMP: Federal Risk and Authorization Management Program (FedRAMP) is a government-wide program that provides a standardized approach to security assessment, authorization and continuous monitoring for cloud products and services.

Field Activities: Environmental information operations (EIO) conducted by EPA employees at a site or location external to EPA buildings in support of environmental laws and regulations, EPA programs or Executive Orders.

Field Groups: Organizations which consist of EPA personnel conducting field activities or providing support to those in the field.

Management System: A set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives (International Organization for Standardization (ISO) (9000:2015)). A management system establishes an organization's structure, policies, objectives, principles, authorities, roles and responsibilities, accountability and implementation plan for conducting work and achieving the stated objectives.

EPA Organization: An EPA office, region, national center or laboratory.

Quality Assurance: Management of an integrated system of activities involving planning, implementation, documentation, assessment, reporting and quality improvement to ensure that a process, item or service is of the type and quality needed and expected by the organization.

Quality Control (QC): The overall system of technical activities that measures the attributes and performance of a process, item or service against defined standards to verify that they meet the stated requirements, operational techniques and activities that are used to fulfill requirements for quality.

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Quality Management: The aspects of the organization's overall management system that drive the implementation of an organization's Quality Program. Quality Management includes strategic planning, allocation of resources and other systematic activities (e.g., planning, implementation, documentation and assessment) pertaining to an organization's Quality Program.

9. WAIVERS

An organization's Quality Program shall incorporate all ten elements of this Procedure unless there is a compelling reason not to do so and sufficient justification is provided and documented.

Organizations that wish to request a waiver for a particular Procedure requirement shall address their request to the EPA DAA for IT/IM/CIO.

10. POLICY(S) SUPERSEDED

- QA Field Activities Procedure (CIO 2105-P-02.1, July 7, 2005)
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11. CONTACTS

For information about this Procedure or the Quality Program, please contact the Office of Mission Support (OMS), Office of Records, Administrative Systems and eDiscovery (ORASE), Enterprise Quality Management Division (EQMD), or email quality@epa.gov.

***Carter Farmer
Chief Information Officer
U.S Environmental Protection Agency***

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**APPENDIX A:
ACRONYMS & ABBREVIATIONS**

AA	Assistant Administrator
CIO	Chief Information Officer
DAA	Deputy Assistant Administrator
EIO	Environmental Information Operations
EPA	Environmental Protection Agency
EQMD	Enterprise Quality Management Division
FedRAMP	Federal Risk and Authorization Management Program
GPS	Global Positioning System
IM	Information Management
IT	Information Technology
ISO	International Organization for Standardization
OMS	Office of Mission Support
ORASE	Office of Records, Administrative Systems and eDiscovery
QA	Quality Assurance
QC	Quality Control
QAM	Quality Assurance Manager
QAPP	Quality Assurance Project Plan
QMP	Quality Management Plan
RA	Regional Administrator
SOP	Standard Operating Procedures