

# **Field Operations Group Operational Guidelines for Field Activities**

## **1.0 Introduction**

The Field Operations Group (FOG) is comprised of EPA managers and senior personnel from the EPA Regions, NEIC, and Headquarters who are responsible for implementing compliance monitoring and ambient monitoring field programs. The FOG was created under EPA's Regional Science and Technology Organization and is charged with the primary goal of promoting national consistency among the Agency's field activities. The FOG initially established five consensus standards to manage programs common to all field measurement and sampling activities. In order to include field activities that cover both sampling and non-sampling activities, these five consensus standards have been expanded as outlined below:

## **2.0 Scope**

These Guidelines set forth recommendations to establish a quality management system for sampling and non-sampling field activities. Implementation is voluntary and not intended to supersede any program specific requirements. Each Region will define the scope for their organizations, as appropriate.

## **3.0 Organization and Management**

It is recommended that management designate one or more individuals, as appropriate, who irrespective of other duties and responsibilities, should have defined responsibility and authority for ensuring that the management system related to field activities is implemented and followed at all times.

## **4.0 Personnel**

- 4.1 Personnel responsible for field activities shall have appropriate qualifications, education, training, experience and a satisfactory knowledge of the requirements of the activities to be carried out. These requirements include, but are not limited to health and safety training and program specific inspector training.
- 4.2 Field groups should have a documented system to ensure that up-to-date records of training are maintained for field personnel. These records should include external or internal courses attended and relevant training received, including on-the-job training. For credentialed employees, training records will be maintained to document personnel compliance with EPA Order 3500.1 A1, EPA Order 1440.2 and field-related requirements.
- 4.3 Records should be sufficiently detailed to ensure that staff performing particular tasks has been properly trained and that their subsequent ability to perform these tasks has been formally evaluated.

- 4.4 Training records should be maintained consistent with Agency records retention schedules.

## **5.0 Document Control**

- 5.1 Within the context of field activities and these Guidelines, controlled documents are generated internally for each organization and describe how work will be conducted. Examples of controlled documents include policies, standard operating procedures (SOPs), SOP compendiums, guidance, blank template forms, checklists and work instructions pertaining to inspection planning, environmental sampling and standard inspection techniques.
- 5.2 Field groups should maintain a system for the control of all documents relating to their activities including the preparation, review, approval, issuance, revision, revocation and archiving of documents. Procedures should be developed that ensure:
- a) All controlled documents are reviewed and approved for use by authorized personnel prior to issue. Review of the controlled documents by various subject matter experts and users should be documented;
  - b) Controlled documents include a unique document control identifier/number and all revisions are clearly identified;
  - c) All controlled documents are current and accurate;
  - d) Current versions of appropriate documents are available at all relevant locations;
  - e) Periodically, documents are reviewed and, where necessary, revised to ensure continuing suitability and compliance with applicable requirements;
  - f) Superseded documents are removed from use throughout the organization but archived and readily accessible for a determined period consistent with EPA records management schedules;
  - g) Revisions to documents are reviewed and approved by the same functional position that performed the original review unless specifically designated otherwise;
  - h) Where practicable, the revised or new text is identified in the document.
- 5.3 Briefings and/or training on the information presented in controlled documents should be provided for users.
- 5.4 There should be a system for managing and distributing controlled documents so that only current versions of the documents are available for use.

## 6.0 Records Management

- 6.1 Field groups should maintain a records management system to suit their particular circumstances and to comply with applicable Federal, Agency and Regional records management regulations and retention schedules.
- 6.2 Within the context of field activities and these Guidelines, records provide objective evidence of actions taken and observations made. Examples of field records include (but are not limited to): field logbook entries, pH strip chart recordings, electronic field measurement data log, completed chain of custody forms, photographs, maps, and completed inspection forms, quality assurance project plans, reports, etc.
- 6.3 Field groups should establish and maintain procedures that ensure:
  - a) All records are legible and stored and retained in such a way that they are readily retrievable, either electronically or in hard copy format;
  - b) All records are held secure and in confidence, consistent with Agency policies and procedures for maintenance of enforcement-related documents, when applicable;
  - c) Observations, calculations, and measurement entries should be clearly and permanently recorded at the time they are made;
  - d) Technical records associated with field activities, include the identity of personnel responsible for the sampling or inspection activities;
  - e) Each page of project- related records is traceable back to the project;
  - f) Information that is to be included in files that contain project records is defined;
  - g) Electronic records have back-up processes and protection from unauthorized access or amendment;
  - h) Records that have been recorded manually are recorded in permanent ink. When weather conditions do not make it feasible to use permanent ink, then entries can be made in non-smear pencil. The penciled entries should be repeated with a permanent ink pen as soon as possible after the original entry;
  - i) Error corrections do not obliterate entries in the original record. Corrections should be made by marking through the error with a single line then initialing and dating the correction.

## 7.0 Evidence Management

- 7.1 Evidence management procedures should support Federal criteria for various types of evidence (testimonial, real, documentary, and demonstrative) to be introduced in U.S. civil or criminal trials or hearings.
- 7.2 Evidence includes but is not limited to facts, tangible items and documents which the Agency will use to prove its case at a civil or criminal trial. Within the context of field activities and these Guidelines, evidence includes samples, measurements, or documentation such as field notes, instrument charts, laboratory reports, photographs, or technical reports obtained during a field investigation or inspection.
- 7.3 Field groups should establish and maintain procedures for the identification, transportation, handling, protection, storage, and retention of samples and other evidence during field studies. The procedures shall ensure:
  - a) Evidence is maintained under custody at all times during field investigations and inspections. Evidence is in custody if it is:
    - i. within the direct possession or the control (i.e., within the view) of an individual designated to have evidence handling responsibilities;
    - ii. placed in a designated secure area; or
    - iii. secured to prevent tampering (e.g., placed within a container that has been secured with custody seals).
  - b) All samples, measurements, and other evidence shall be uniquely identified to ensure items cannot be confused physically or when referred to in records or other documents.
  - c) A chain of custody record shall be maintained for the collection of environmental samples which details each person who takes possession of the samples.
  - d) If electronic systems (i.e., bar coding of evidence/samples, F.O.R.M.S. II Lite, Scribe, etc.) are used for evidence labeling or chain of custody generation, hardcopy/manual systems should be available in the event of failure of the primary electronic system or device.

## 8.0 Field Documentation

8.1 Field groups should establish and maintain procedures to document field activities. The documentation procedures should ensure that:

- a) Field activities are thoroughly documented;
- b) Field documentation contains **only** facts and objective observations because they may be used as documentary evidence in civil or criminal hearings;
- c) Observations and/or data which are obtained in the course of inspections are recorded contemporaneously when observed or collected to prevent a loss of information;
- d) Documentation of individual photographs, video and other audio-visual materials collected during inspections and field activities. Recommended procedures are outlined in *Digital Camera Guidance for EPA Civil Inspections and Investigations* U.S. EPA Office of Compliance OECA July 2006.
- e) The following information should be included in all field documentation:
  - i.) Project/facility name
  - ii.) Project/facility location
  - iii.) Project/inspection leader
  - iv.) Sample/inspection team members
  - v.) Investigation/inspection dates

8.2 When logbooks are used to document field activities, the documentation will be in a dedicated, bound logbook with sequentially numbered pages. If bound field logbooks cannot be used, then the field group must make provision for the notes to be bound, such as binding loose-leaf data sheets, prior to going in the field.

When electronic field documentation is utilized, such as electronic notebooks or PDAs, then provisions must be made to document the above-mentioned items within the notes and to back-up the notes. The original data must be backed up to another media such as a laptop computer, USB drive or CD prior to leaving the site. It is recommended that the data should be backed up on a daily basis when field notes and/or measurements are recorded electronically.

8.3 For field measurements and sample collection, documentation should include but not be limited to, as appropriate:

- i.) Date and time of measurement or sample collection
- ii.) Location description and/or GPS coordinates
- iii.) Measurement/Sample identification
- iv.) Measurement/Sample collection method
- v.) Measurement/Sample collection equipment used, including identification numbers and the manufacturer name/model number as appropriate

- vi.) Calibration standards, buffers, etc. including manufacturer, lot numbers, and expiration date
- vii.) Initial and continual calibration data and meter end checks
- viii.) Measurement values for non-logging equipment
- ix.) Sample containers (number and type)
- x.) Sample preservation (chemical, ice, etc.)
- xi.) Physical description of matrix measured or sampled
- xii.) Maps/sketches
- xiii.) Conditions that may adversely impact the quality of measurements/samples, if applicable (rain, wind, smoke, dust, extreme temperatures, etc.)
- xiv.) Photograph log

## 9.0 Field Equipment

Field groups should establish and maintain procedures for field equipment that ensure:

- a) All measurement equipment is uniquely identified (i.e. identification number);
- b) Procedures established by the manufacturer and field staff are followed to ensure measurement equipment is properly maintained and calibrated;
- c) Measurement equipment should be calibrated before being put into service and thereafter according to an established procedure;
- d) Calibration records for each piece of measurement equipment are maintained;
- e) Up-to-date instructions on the use and maintenance of measurement equipment, including any relevant manuals provided by the manufacturer of the equipment, should be readily available for use by the appropriate personnel;
- f) Equipment records should be established for measurement equipment that include at least the following:
  - i) the identity of the equipment and its software, if applicable;
  - ii) the manufacturer's name,
  - iii) the equipment's serial number or other unique identifier;
  - iv) the manufacturer's instructions or a reference to their location;
  - v) dates, results and copies of reports and certificates of all calibrations and the due date of next calibration;
  - vi) any damage, malfunction, modification or repair to the equipment; and
  - vii) each project the item is used on and a record of sign-in and sign-out;
- g) Equipment that has been shown to be defective or outside specified quality control limits is taken out of service. Such equipment should 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 correctly;

- h) Whenever practicable, equipment requiring calibration should be labeled, coded or otherwise identified to indicate the status of calibration including the date when calibration is due. The date when last calibrated may also be included.
- i) Records should be maintained to document the standards, reagents, etc used to calibrate equipment and should contain (at a minimum): the manufacturer, the standard/reagent lot number, and the expiration date of the standard/reagent; and
- j) If possible, field groups should have an individual designated with overall responsibility for on-going field equipment maintenance, facilitating equipment repairs, etc either conducted in-house or through established service contracts/vendors.

## **10.0 Field Inspections and Investigations**

- 10.1 Field groups should establish and maintain procedures for the planning of field investigations, including inspections. The procedures should take into consideration all applicable Agency and program-specific requirements.
- 10.2 Field sampling and measurement activities should be conducted in accordance with applicable SOPs, quality assurance project plans and sampling and analysis plans.
- 10.3 All instructions, standards or written procedures, worksheets, check lists and reference data relevant to the field investigations/inspections should be current, accurate and readily accessible by the staff.

## **11.0 Reports**

- 11.1 Field groups should establish and maintain a procedure for the preparation of a written report to summarize results of field activities, including compliance inspections.
- 11.2 Each report should include at least the following information unless there are valid regulatory or legal reasons for not doing so:
  - a) report title;
  - b) name of the organization preparing the report;
  - c) name of the customer;
  - d) sample/measurement/inspection results;
  - e) name, title and signature of the individual authorizing the report;
  - f) details of any environmental conditions during the field investigation that may affect the interpretation of the report results.

## **12.0 Audits**

### **12.1 Internal Audits**

- 12.1.1 Field groups should periodically conduct internal audits to verify that their operations comply with these Guidelines.
- 12.1.2 The personnel performing the audits should be qualified and independent from the functions being audited whenever possible.
- 12.1.3 The roles and responsibilities of management and staff for planning, implementing and reporting of internal audits (including the need for corrective actions) should be described in a procedure.
- 12.1.4 Internal audit reports should specify which implemented program(s) were audited and the results including positive findings and findings which require corrective actions.

### **12.2 Corrective Action**

- 12.2.1 Field groups should establish and maintain a procedure for addressing findings from internal audits through corrective actions whenever nonconformities with these Guidelines are identified. The roles and responsibilities for management and staff in the corrective action process should be specified.
- 12.2.2 The procedure should include an investigation to determine the root cause(s) of the problem. Corrective actions should be commensurate with the magnitude and the risk of the finding.
- 12.2.3 Field groups should document and implement any required changes resulting from corrective actions.

## **13.0 References**

EPA Order 1440.2 *Health and Safety Requirements for Employees Engaged in Field Activities* July 1981

EPA Order 3500.1 A1 *Training and Development for Individuals Who Lead Compliance Inspections/Field Investigations* December 23, 2002

CIO 2105-P-01-0 *EPA Quality Manual for Environmental Programs* U.S. EPA reissued January 2008

44 U.S.C Chapter 31 *Federal Records Act*

EPA Policy 2161 *Records Management*

*EPA Credential and Inspector Training Policy Compendium* U.S. EPA Office of Compliance April 2008



*Federal Rules of Evidence* U.S. House of Representatives Committee on the Judiciary December 1, 2008

*Ensuring the Admissibility of Evidence at Trial and Providing Effective Testimony as a Government Witness* James J. Cha, U.S. EPA Region 5 and Timothy J. Chapman, U.S. Department of Justice June 2007 revision

*Digital Camera Guidance for EPA Civil Inspections and Investigations* U.S. EPA Office of Compliance OECA July 2006

*National Policy: Requirements for Retaining Inspection Field Notes* U.S. EPA Office of Compliance OECA February 26, 2009