



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

October 8, 1996

Mr. Stephen Chao
Naval Facilities Engineering Command
Engineering Field Activity, West
900 Commodore Way
San Bruno, CA. 94066-2402

Re: Quality Assurance Project Plans

Dear Mr. Chao,

Attached is a letter and questionnaire intended to help assess whether the U.S. Environmental Protection Agency (EPA) is effectively ensuring laboratory data quality assurance with the Navy at Moffett Federal Airfield. We acknowledge that work is proceeding to update Moffett's *Quality Assurance Project Plan*. We received the latest version in late August and are in the process of reviewing it for consistency with these EPA Office of Inspector General's (OIG) requirements. In order to comply with this EPA OIG request, we request that you fill out the questionnaire according to the directions in the attached letter.

Sincerely,

A handwritten signature in cursive script that reads "Michael D. Gill".

Michael D. Gill
Remedial Project Manager
Federal Facilities Cleanup Office

Attachment: EPA letter of 30 September 1996 re: Review and Amendment of QAPPs for Federal Facility Cleanup Sites

cc (w/o enclosure): Mike Young (PRC) (email)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

September 30, 1996

Distribution: Region IX Federal Facilities Environmental Program Managers (List of Facilities Attached)

Subject: Review and Amendment of Quality Assurance Project Plans for Federal Facility Cleanup Sites

Dear Environmental Program Manager:

As you are aware from my letter of September 23, 1996, the United States Environmental Protection Agency's (EPA) Office of Inspector General (OIG) for Audits recently completed an extensive audit to assess whether EPA Region IX was effectively ensuring laboratory data quality assurance under the Federal Facility Agreements (FFAs) with the Department of Defense (DOD). The principal conclusions outlined in the OIG audit report¹ were that DOD quality assurance project plans (QAPPs) were not designed to adequately detect laboratory quality problems, and that DOD QAPPs were not fully implemented. These problems were found to result in serious data quality deficiencies and the use of data of unknown quality for environmental decision-making.

EPA Region IX and the EPA OIG feel that overall data quality could be improved and the detection of laboratory fraud could be facilitated by ensuring that key quality assurance (QA) activities are required by QAPPs. These QA activities include periodic review and revision of QAPPs, obtaining laboratory data on magnetic tapes, performing data validation, analyzing performance evaluation samples, conducting laboratory audits, establishing data quality objectives for environmental measurement collection activities, and documenting QAPP implementation. A specific rationale for each of the requested QA activities is provided in subsequent sections of this letter.

Below are outlined the steps EPA Region IX would like you to follow to ensure implementation of key QA activities. These activities are being requested for all federal facility sites in Region IX included on the National Priorities List (NPL) and for all closing bases in Region IX not included on the NPL. A questionnaire that should be used to document the steps taken by

¹"Environmental Data Quality at DOD Superfund Sites in Region 9," U.S. EPA OIG Report of Audit, E1SKF5-09-0031-5100505, September 26, 1995.

Environmental Program Manager
September 30, 1996

your facility to implement critical QA activities has been provided as an attachment to this letter. The questionnaire should be completed and returned to EPA Region IX by **November 15, 1996**.

1. **Submission of Laboratory Audit Reports.** Copies of laboratory audit reports summarizing auditing activities and findings, and any corresponding corrective actions that were implemented as a result of these audit activities, should be submitted to EPA Region IX for all audits conducted within the last calendar year. The Region intends to review these audit reports as part of an effort to determine the reliability of DOD's quality assurance programs.
2. **QAPP Review and Revision.** Existing QAPPs should be amended on an annual basis, or as necessary, to incorporate changes in QA requirements. QAPP revision generally is necessary under the following circumstances:
 - when changes in project objectives or scope of work (e.g., collection and analysis of additional samples) to be performed occur;
 - when additional information becomes available regarding the nature and extent of contamination;
 - when organizational changes occur; or
 - when new or more sensitive analytical methods or new contract laboratories will be used.

Maintaining QAPPs that are current will help to ensure that consistent, approved, and documented procedures are implemented by all project personnel.

3. **Verification of QAPP Requirements.** New QAPPs should include, and existing QAPPs should be updated as necessary to incorporate, the following requirements:
 - **Data Stored on Magnetic Tape.** A provision should be included in each QAPP for obtaining gas chromatography (GC) and gas chromatography/mass spectrometry (GC/MS) data on magnetic tape from contract laboratories for maintenance in project files. It is not considered to be adequate for the laboratory to archive the tapes; the tapes should be obtained by DOD along with other laboratory data deliverables. This will ensure that, in the event that data quality problems are identified, the tapes will be available for review. QAPPs additionally should include a provision for providing magnetic tapes containing environmental data to the Region upon request.

- **Data Validation.** A provision should be included in each QAPP for reviewing an appropriate percentage of data (i.e., a minimum of 10 to 20%) according to procedures consistent with those specified in the documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review" (February 1994) by a party independent of the laboratory. Data validation will ensure that data obtained from project laboratories are of known and documented quality, and that data are adequate for their intended use. It is recommended that the first data package for each method be reviewed, following full data validation procedures, for each new field activity. Additionally, a provision should be included for reviewing a larger percentage of data should serious analytical problems be identified during data validation.
- **Performance Evaluation Samples.** A provision should be included in each QAPP for analyzing double blind performance evaluation (PE) samples (i.e., introduced into the sample stream in the field, disguised as environmental samples) as part of the project quality system, and providing results of PE sample analyses to EPA Region IX. The analysis of PE samples will allow for an independent evaluation of a laboratory's ability to generate accurate data and properly identify chemicals of concern.

Each QAPP should specify the following information: (1) the frequency at which PE sample analyses will be performed; (2) acceptance criteria for PE samples analyses; and (3) oversight/corrective action measures for noncompliant PE samples. Ideally the submission of PE samples should occur at the beginning of the field effort so that potential problems can be identified and corrected early in the project, and should be coordinated with auditing activities. Additionally, PE samples should be obtained from a source that is independent of the laboratory conducting the project analyses.

- **Laboratory Audits.** A provision should be included in each QAPP for conducting pre-award and periodic laboratory audits by an entity independent of the laboratory, and providing copies of audit reports to EPA Region IX. Conducting laboratory audits will allow for an evaluation of the adequacy of all laboratory

operating systems related to data generation, including sample handling, preparation, and analysis.

Each QAPP should specify the following information: (1) the procedures and criteria that will be used for conducting audits; (2) the frequency at which laboratory audits will be conducted during the planned site activities; (3) the information that will be provided in audit reports; and (4) the requirements for audit follow-up activities and corrective actions, including severe laboratory deficiencies, assessing data usability, and resampling.

- **Data Quality Objectives.** Each QAPP should include reasonable data quality objectives (DQOs) for environmental measurement collection activities following the guidance provided in the EPA document, "Guidance for the Data Quality Objectives Process" (EPA QA/G-4). Establishing DQOs will help to ensure that data of sufficient quality and quantity are collected to support defensible decision making in a resource-effective manner by minimizing the collection of unnecessary, duplicative or overly precise data.

Each QAPP should provide evidence, or should reference another planning document that provides evidence, that the DQO process was considered in defining project objectives, such as by specifying acceptable decision errors, sampling design, laboratory requirements, QA/QC procedures to ensure that data that meet project needs are collected, etc.

- **Quality Assurance Officer.** A quality assurance officer (QAO) who is a government (i.e., Air Force, Army, or Navy) employee should be identified in each QAPP. In general, DOD is required by either the FFAs or QAPPs to appoint a QAO. The QAO should be a government employee to ensure that any possible conflict of interest is eliminated in performing independent evaluations of data quality. It is not appropriate to assign QAO responsibilities to engineering contractor personnel as they perform field sampling activities and are sometimes involved in laboratory analyses.
4. **Verification of QAPP Recommendation.** New QAPPs should include, and existing QAPPs should be updated as necessary to incorporate, the following recommendation:

Environmental Program Manager
September 30, 1996

- **Electronic Data Validation.** Each QAPP should recommend the use of electronic data validation techniques. The use of electronic data validation will promote consistency and efficiency in the data review process.
5. **Documentation of QAPP Implementation.** A requirement for documentation of QAPP implementation should be in place for each QAPP in use. For example, the requirement for documentation of QAPP implementation could be included in the scope of document preparation portion of a work plan. Documentation of QAPP implementation should provide evidence of compliance with specific QA activities required by the QAPP, such as conducting laboratory performance audits, performing the required minimum data validation, performing PE sample analyses, etc. Consistently documenting QAPP implementation will ensure that all QAPP requirements are met and that all key QA activities are executed to ensure that data of adequate quality are generated.

Please complete the attached questionnaire and return it to EPA Region IX by November 15, 1996 with copies of the requested audit reports as applicable. If you are unable to provide the requested information by November 15, 1996, please provide a written request for a time extension. The questionnaire should be completed with respect to all QAPPs in current use and QAPPs that will be used to direct future work at the facility.

EPA's point of contact for this information is Michelle Schutz of my staff (415-744-2393). All written communications should be forwarded to:

Ms. Michelle Schutz
U.S. Environmental Protection Agency
75 Hawthorne Street, Mail Code H-9-4
San Francisco, CA, 94105

EPA appreciates your cooperation in providing the requested information and implementing the requested QA activities.

Sincerely,



Dan Opalski
Chief, Federal Facilities
Cleanup Branch

Environmental Program Manager
September 30, 1996

Attachment a/s

Distribution:

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September 30, 1996

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Copy to:

U.S. EPA Office of Inspector General (OIG) - Katherine Thompson
Assistant Deputy Under Secretary of Defense - Patricia A. Rivers

U.S. Navy Pacific Division - Leighton Wong
U.S. Navy Southwest Division - Chris Kotas, Nars Ancog
U.S. Navy Engineering Field Activity (EFA) West - Vincent
Clemente

U.S. Air Force Pacific Division - George Fujimoto
U.S. Air Force Center for Environmental Excellence (AFCEE) -
Major Eric Banks

U.S. Army Corps of Engineers - Ed Ketchum, Russell Davis

California Department of Toxic Substances Control - Tony Landis,
John Scandura

Hawaii Department of Health - Steve Armann
Arizona Department of Environmental Quality - Tim Steele
Guam Environmental Protection Agency - Jesus Salas



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Quality Assurance Questionnaire
Region IX Federal Facility Cleanup Sites

Name of Facility: _____

Environmental Program Manager: _____

Date: _____

Please complete the following questionnaire by circling "YES" or "NO" as appropriate and completing the written responses as necessary and return it to EPA Region IX by November 15, 1996.

1. **Submission of Laboratory Audit Reports.** YES NO
Copies of laboratory audit reports for all audits conducted within the last calendar year are provided as attachments to this questionnaire.

If no, specify the date by which the requested audit reports will be provided to EPA Region IX. (If copies of laboratory audit reports have already been submitted, state this.)

2. **QAPP Review and Revision.** Each existing YES NO
QAPP satisfactorily documents the current QA program and scope of work for the facility.

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to reflect the current QA program and scope of work.

9/30/96

Quality Assurance Questionnaire
Region IX Federal Facility Cleanup Sites

Specify title, date, and preparer of each QAPP reviewed (identify QAPPs requiring revision with an asterisk). Include all QAPPs requiring revision based on responses to Questions #3 through 9 below. [Write on the back of this sheet if more space is necessary.]:

3. **QAPP Requirement: Data Stored on Magnetic Tape.** Each existing QAPP includes a provision for obtaining GC and GC/MS data on magnetic tape from contract laboratories for maintenance in project files and for providing magnetic tape to EPA Region IX upon request. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to include this requirement.

-
4. **QAPP Requirement: Data Validation.** Each existing QAPP includes a provision for reviewing an appropriate percentage of data (i.e., a minimum of 10 to 20%) according to the requirements specified in the attached letter. YES NO

Quality Assurance Questionnaire
Region IX Federal Facility Cleanup Sites

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If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to include this requirement.

5. **QAPP Requirement: Performance Evaluation Samples.** Each existing QAPP includes a provision for analyzing double blind PE samples and providing PE sample results to EPA Region IX, and specify the information requested in the attached letter. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to include this requirement.

6. **QAPP Requirement: Laboratory Audits.** Each existing QAPP includes a provision for conducting pre-award and periodic laboratory audits and providing copies of audit reports to EPA Region IX, and specify the information requested in the attached letter. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to include this requirement.

7. **QAPP Requirement: Data Quality Objectives.** Each existing QAPP includes reasonable DQOs and evidence that the DQO process was considered in defining project objectives, or references another planning document that includes this information. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to incorporate this requirement.

9/30/96

Quality Assurance Questionnaire
Region IX Federal Facility Cleanup Sites

8. **QAPP Requirement: Quality Assurance Officer.** Each existing QAPP identifies a quality assurance officer (QAO) who is a government employee. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to identify a QAO.

9. **QAPP Recommendation: Electronic Data Validation.** Each existing QAPP includes a recommendation for the use of electronic data validation techniques. YES NO

If no, specify the date by which the applicable QAPP(s) will be updated (or amended) to incorporate this recommendation.

10. **Documentation of QAPP implementation.** A requirement for documentation of QAPP implementation is in place for each QAPP in use. YES NO

If yes, specify the document(s) (including title, date, and preparer) which include the requirement for documentation of QAPP implementation for each QAPP in use. [Write on the back of this sheet if more space is necessary.]

Quality Assurance Questionnaire
Region IX Federal Facility Cleanup Sites

Page 5 of 5

If no, specify the date by which the applicable document(s) will be updated (or amended) to incorporate this recommendation and the title of the document(s) that will include this requirement. [Write on the back of this sheet if more space is necessary.]

Please return the completed questionnaire to:

Ms. Michelle Schutz
U.S. Environmental Protection Agency
75 Hawthorne Street, Mail Code H-9-4
San Francisco, CA 94105

9/30/96