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**FEMP COMMENT RESOLUTION FOR THE SCQ
(10/31/91)**

02/06/92

**9
COMMENTS**

GENERAL COMMENTS

1. Section 1: The Introduction should indicate why it is necessary to have all of the different sampling programs under one QAPP.

Response. The following paragraph has been added to the Introduction. "The Fernald Environmental Management Project (FEMP) is a former uranium processing facility owned by the U.S. Department of Energy (DOE). The current mission of FEMP is waste management and environmental restoration. As such, FEMP is subject to a wide range of environmental statutes and regulations. Collection and analysis of environmental samples is an integral part of fulfillment of the site mission and compliance with environmental regulations. A single sample of a specific medium from a specific location may be capable of providing data for a number of restoration, waste management, and regulatory uses. Therefore, it is necessary that all sampling and analysis be conducted in a manner designed to provide useable valid data of known quality so that use across programs is possible and so that the level of uncertainty associated with such use is known." Comment incorporated.

2. Section 2: This section should include more information on the constituents present at the FEMP site. Explain what the expected contaminants are and the matrices involved.

Response. The section on each OU will be expanded based on the Initial Screening of Alternatives Reports, and will describe waste sources, known extent of contamination, constituents of concern, and a description of ongoing programs. The source documents will be appropriately referenced so that the reader knows where to go for a more in-depth view. Comment incorporated.

3. Section 3: This section should contain a generalized description of the chain-of-command. Names are not necessary but positions and titles should be described.

Response. The description of project organization and management will be expanded. FEMP requests that OEPA transmit the details of their organization which they would like included. Comment incorporated.

4. Section 4: This section needs to contain QC limits on the precision, accuracy, representativeness, completeness and comparability.

Response. The quantification of comparability may be hard to accomplish in a meaningful fashion. Therefore, the SCQ was generated to implement controls on sampling and analysis to make data more comparable. Representativeness of a data point is a subject that must be defined in

the DQO process for a specific sample. Limits for accuracy and precision are part of the analytical methods in the FEMP Laboratory Analytical Methods manual.

5. Section 6: This section should contain procedures concerning decontamination as it relates to sampling. This section also needs some discussion of QC sample procedures for each medium discussed in this section.

Response. Decontamination procedures will be moved from Section 5 and Appendix J to Section 6 and Appendix K. It should be noted that the decontamination procedures presented were designed to prevent the spread of contamination, and do not differentiate between cross-contamination of samples to spreading of contamination beyond a contaminated drilling site. Details of the proper procedures for collecting various field QA/QC samples will be described.

6. Section 7: This section needs minimum requirements for chain-of-custody for the various labs and subcontractors.

Response. Minimum requirements for chain-of-custody for FEMP are included. This includes all organizations.

7. Section 10: A table with the various "out of control" situation and the appropriate data flags is needed to reduce the confusion in this section.

Response. Descriptions of flags and responses to various "out-of-control" events are specified in the individual procedures and analytical methods as appropriate. The Data Validation Plan (Appendix D) discusses how to flag data for various "out-of-control" events.

8. Section 12: This section should describe both internal and external audits and the schedule on which these audits are to be performed.

Response. Internal and external audits have been described. Schedules are based on the activity. WEMCO EC & QA performs surveillances daily on field activities. The coverage any one activity gets is dependant on the total number of field activities going on at any one time. Laboratories on the FEMP approved list shall be audited at least once a year. It is not feasible to include exact dates for the expected duration of the project (the RI/FS activities at FEMP are currently scheduled through 1997). DOE will provide OEPA with audit and surveillance reports concerning environmental sampling and analysis upon request. An example audit schedule has been added as Table 12-1. Comment addressed.

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9. Section 13: Specific preventive maintenance procedures are needed. Please incorporate.

Response. Incorporation of specific maintenance procedures for all equipment used in support of FEMP projects is not feasible. There are many different makes of specific types of equipment (e.g. PIDs, GS/MS) which require different maintenance due to difference in construction. Requiring that all equipment be maintained according to SOPs specifically designed for that equipment, and that complete records be maintained provides adequate auditable information. As each piece of instrumentation used is required to have its own maintenance file, complete records will be available. Comment addressed, not incorporated.

10. Many sections of this document are impossible to evaluate because the methods [laboratory analytical] are missing. It was our understanding that this document was to be the complete QAPP. Please provide the [analytical] methods.

Response. Analytical methods will be provided with the next QAPJP submittal. Comment incorporated.

SPECIFIC COMMENTS

1. Section 2.1.1 page 1, para 1, sent 2: The "site" also includes all contamination that has traveled off of FMPC [FEMP] property.

Response. It is noted that from a regulatory agreement standpoint the "site" includes the property and all contamination originating from the property (see definition of "site" in the glossary). The referenced use was based on property ownership and physical geography. The word "site" in the referenced paragraph will be changed to "FEMP." Comment incorporated.

2. Section 2.2.2, pg.4: The operable unit definitions in the Amended Consent Agreement should be quoted completely in this section.

Response. Comment incorporated.

3. Section 2.2.2, pg.5, para.3: Correct the operable unit 2 description of "sanitary landfill" to "solid waste landfill" to agree with the Amended Consent Agreement (see also Section 2.2.4, pg.7, para 2).

Response. Comment incorporated.

4. Section 5.2.5 page 8, para 1, sent 2: Instrument instructions should be provided in this document.

Response. There is currently a wide variety of surface geophysical instruments on the market. This field is in a stage of rapid innovation, and methods and resolutions are constantly being improved. Instruments vary widely based on desired results, and many instruments can be set up a number of ways based on physical surroundings, size and shape of expected targets, anticipated fluid properties, and degree of saturation. All of these items must be considered with individual use, and therefore should be documented in project-specific plans. As there are no current uses of these tools on site, it does not make sense to include operating instructions. However, the need to have predetermined controls if these instruments are used is obvious. Instructions are required as part of project-specific plans. Clarification added to text. Comment not applicable to intent of document.

5. Section 5.2.6.1: It is unclear as to the procedures to be used. Please explain.

Response. The method to use for conducting and analyzing slug tests should be based on a number of items, including but not limited to, expected and observed aquifer response, degree of confinement, thickness of saturated zone, well construction, and ability to handle evacuated fluids. As the micro hydrogeology at FEMP varies widely over small areas (e.g. large unconfined regional aquifer of high hydraulic conductivity, occasional clay interbeds, pumping wells, numerous perched zones in glacial drift of widely varying hydraulic conductivity and degree of confinement, semi-confined zones, aquitards contributing various amounts of recharge, etc.), the method to be used at any one location should be based on the specific conditions encountered and documented in the project-specific plan and report. Clarification added to text. Comment not technically applicable.

6. Section 5.2.6.2 page 10, para 1: Explain more clearly which of the pump tests will be used.

Response. Every pump test is different, based on intended data use, and expected and observed aquifer response. To predetermine this for all cases would be detrimental to the quality of the program. As with slug tests, these shall be determined on a case-by-case basis and documented in project-specific plans. Clarification added to text. Comment not technically applicable.

7. Section 5.2.8, page 14, para 1: Explain more clearly which radiological survey will be used.

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Response. There are a number of types of field surveys, from frisking with hand-held instruments to sophisticated isotope-specific surveys using extremely sensitive counters. This field is expected to grow rapidly in the near future, and new instruments and methods are common. Because the rate of radioactive decay is constant with time, comparability between methods should be high as long as sufficient calibration and source checking is incorporated. As DQOs for these surveys vary widely, depending on intended data use, description of the specific method to be used on a specific project should be included in a project-specific plan. Comment incorporated.

8. Section 6.2.4.2 page 10, para 1, sent 2: Replace "bothe" with "both".

Response. Comment incorporated.

9. Section 6.2.4.2 page 10, para 4: Explain more clearly what is meant by "...on a regular basis..."

Response. QA/QC sample analysis is clarified to indicated that they will be included with each analytical batch. A minimum requirement for performance evaluation samples of once per year is included.

10. Section 6.7 page 26, para 2, sent 2: It is unlawful to send non-hazardous samples as hazardous [49CFR 173.22(a) and 171.2(a)].

Response. The referenced sections of 49 CFR do not prohibit the transportation of non-hazardous material as hazardous. Rather they prohibit the transportation of hazardous material that is improperly classed, described, packaged, marked or labeled. 49 CFR 172.401(a) and 172.502(a) prohibit the labeling and placarding, respectively, of any container unless the label and placard are representative of the hazardous material stored in the container. In addition, 49 CFR 172.401(b) and 172.502(b) prohibits the marking, labeling, or placing of a sign on a package or transport container which by their color, design, or shape could be confused with or conflict a hazardous material label or placard.

Samples collected from FEMP are governed by the guidelines established in 49 CFR 172.101(c)(12) and 172.402(h). These state that materials or samples for which the hazard class is to be determined by laboratory testing and analysis may be assigned a tentative shipping name, hazard class, and identification number and in turn packaged and labeled accordingly based on the shipper's tentative determination based on defining criteria in the subchapter, the hazard precedence prescribed in 49 CFR 173.2, and the shipper's knowledge of the material. For environmental samples this means process knowledge information, as well as

information from previous sampling events, may influence the shipper to transport samples as hazardous material until the laboratory results prove otherwise. Comment not applicable.

11. Section 6.7.3 page 28, Bullet 5: Please correct to read "pH about 12.30 or less"

Response. Clarification added to text. Comment incorporated.

12. Section 7.1.3 page 3, para 1: Please choose whether a sample tag or label is to be used. Please provide the pre-printed label/tag to be used.

Response. Two-part labels will be used. An example is included (Form 7-2).

13. Section 7.1.5 page 5: Please provide a copy of the Chain-of custody form to be used at the site.

Response. A copy of the Site-Wide Analysis Request/ Custody Record has been included (Form 7-1).

14. Section 8.4: It is impossible to evaluate the adequacy of this section without the methods. Please provide.

Response. Analytical methods will be provided along with next QAPJP submittal. Comment incorporated.

15. Section 8.4.3 page 4: The calibration protocols have not been provided in Appendix J as stated in this section. Please provide.

Response. The words "...Appendix J, Calibration Protocols for Analytical Laboratory Instruments" has been replaced by "...the appropriate analytical methods" in the last sentence of subsection 8.4.3. Comment no longer applicable with change.

16. Section 9.2 page 1, para 2: The analytical methods have not been provided. Please make it more clear that when the methods are provided they will be in separate volumes and not in Appendix L.

Response. The words "presented" in sentence 1 and "included" in sentence 2 of paragraph 2 were replaced by "listed." The sentence "Actual methods are provided in full in the FEMP Laboratory Analytical Methods Manual." was added to the end of the paragraph. Comment incorporated.

17. Section 10.2.2 page 2 sent 7: Please state the specific statement of work to which you are referring.

Response. The references to CLP SOWs were deleted. The methods now refer to those in the FLAMM. Comment no longer applicable.

18. Section 10.3.5 page 7, number 3, sent. 1: See specific comment #15 [17?].

Response. See response number 17.

19. Section 10.3.7 page 8, sent 2: See Specific comment #15 [17?].

Response. See response number 17.

20. Section 12.2.2 page 3, para 1: Please provide the checklist to be used for audits.

Response. Checklists for audits are audit specific, based on the items of interest and driver for the audit. Preparation of the checklists are the responsibility of the audit team prior to the audit. This preparation not only helps the team decide what the important points of an audit are, it also helps the team familiarize themselves with the audited organization before the audit begins. Clarification added to text. Comment addressed.

21. Section 14.3 page 2: To avoid confusion please rewrite this equation as:

$$RPD\% = 100 * \frac{(D_1 - D_2)}{(D_1 + D_2)/2}$$

Response. This is a good idea.

22. Appendix A page 13, line item TCLP: TCLP is RCRA method 1311.

Response. True. Comment incorporated.

23. Appendix C.2.5 page 5, para 1, sent 1, word 12: Remove the errant "the".

Response. Comment incorporated.

24. Appendix C page 14: Page 2 of the DQO Summary Form is missing. Page 1 has been entered twice. Please fix.

Response. The correct page will be included in the next submittal.

30. Appendix F.1.2 page 2, sent 4: Please explain what is meant by "Subsection F.***" and/or correct the error.

Response. Numbering corrected.

31. Appendix F.1.2.7 page 3, Sent 3: Since data is to be verified and validated during the previous step of this process explain how data transcription errors will be alleviated during manual data entry.

Response. Manual data entry will be performed in duplicate and the two sets of entered data will be compared. Discrepancies between the two sets will be resolved by comparison to the original data sheets and corrections will be made as necessary to the entered data. Clarification added to text. Comment incorporated.

32. Appendix H.1 page 1, para 3: For lab data to be "accepted" the lab procedures at the time of sample analysis, not present procedures, must be adequate.

Response. As stated, laboratories analyzing samples must successfully analyze performance evaluation samples and be audited by FEMP before any actual samples from FEMP will be sent to that lab for analysis. Once the lab successfully passes the FEMP evaluation it may be used. EPA and OEPA will be notified of the intent to use the lab beforehand. These agencies may approve the lab based on FEMP data or conduct their own audits. If approval is not granted outright, then data collected between the time of FEMP approval and time of agency approval may be considered suspect. However, the lab procedures must remain the same throughout the period or else they will have violated the FEMP requirements. If an agency audit reveals significant procedural problems, suspect data may be qualified or rejected outright, and use of the lab will be discontinued until the deviation is corrected. Comment not applicable.

33. Appendix J.4.8.2 page 31, 7b (Note): Replace the word "Avoud" with "Avoid".

Response. Comment incorporated.

34. Appendix K.4.1.6 page 12, Bullet 2: $K_4Fe(CN)_6$ and $K_3Fe(CN)_6$ solutions are not particularly toxic if heated vigorously they can produce highly toxic gas.

Response. Comment noted.

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35. Appendix K.4.1.6 page 13, number 2: Explain this procedure more clearly.

Response. "...allowing sample to flow over..." has been replaced by "immersing" and "in a bath of sample water or a flow box" has been added at the end of the sentence. Comment incorporated.

36. Appendix L: Provide the missing methods.

Response. Analytical methods will be provided with the next submittal of the QAPjP. Comment incorporated.

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USEPA REGION V QUALITY ASSURANCE SECTION COMMENTS ON THE INITIAL DRAFT QUALITY ASSURANCE PROJECT PLAN FOR THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY AT THE DEPARTMENT OF ENERGY - FEED MATERIALS PRODUCTION CENTER (FERNALD, OHIO) SUPERFUND SITE

INTRODUCTORY RESPONSE. The site-wide QAPjP (SCQ) was written to provide appropriate and auditable control over all sampling and analysis activities conducted for FEMP in order to enhance data comparability and to prevent duplication of sampling efforts which result in wasted resources and unnecessary generation of waste. It was not written as a QAPjP specifically addressing investigations for the site-wide operable unit, which will not be scoped until the Record of Decision for each of the other operable units (OUs) are final.

The SCQ is intended to be an implementable document which meets regulatory requirements and incorporates appropriate guidance. Emphasis has been placed on defining requirements for planning sampling and analysis activities, implementing the plans, and assessing the effectiveness of the planning and the implementation. This is consistent with the intent of QAMS-005, DOE Order 5700.6C, and draft ANSI/ASQC E4.

The format of this document follows QAMS-005 as much as possible, considering the intended use of the SCQ. Substantive elements of ANSI NQA-1 and DOE Order 5700.6C have been added to supplement the QAMS-005 elements in order to maintain the control necessary to achieve comparable data of known quality across programs at the FEMP. ANSI NQA-1 and DOE Order 5700.6C will be addressed in more detail in the site Quality Assurance Management Plan (QAMP), which is currently being developed (a QAMP meeting the requirements of DOE Order 5700.6c includes the elements of a Quality Assurance Program Plan specified by QAMS-004).

Analytical Support Levels (ASLs) have been defined (Section 2) based on the level of QA/QC and reporting required. ASLs are not based on where analyses are performed (e.g. mobile lab versus fixed lab) or on contractual requirement (e.g. CLP). ASL A analyses are qualitative and are usually performed in the field, providing real time or short time results. ASL B analyses may be qualitative or quantitative with QA/QC requirements based on specific project needs. Standard sub-levels of ASL B have been defined with specified QA/QC for use in activities such as site characterization where large numbers of samples will be collected to identify the presence or absence of contaminants. Confirmatory samples analyzed at ASL C or D will be used to support these ASL B analyses.

ASL C and D analyses are identical. The difference is in the level of reporting required. ASL C reporting packages consist of all analytical and QA/QC results. ASL D reporting packages includes the ASL C package plus all raw instrument data. Laboratories will be required (through contract) to archive the necessary information required to upgrade an ASL

C reporting package to ASL D. Significant time and resource savings in data management and validation are envisioned through the use of the abbreviated reporting package. ASL C reporting packages will be supported by a project specified percentage of ASL D reporting packages to confirm that use of the abbreviated reporting packages is appropriate. Some highly sensitive projects could require the use of exclusively ASL D analyses.

ASL E is not the equivalent of CLP Special Analytical Services. ASL E is reserved for non-standard methods, including research and development or highly modified standard methods. Analysis of VOAs at low detection limits is not considered and ASL E analysis. Also, radiological analyses are not considered non-standard at FEMP.

A companion document to the SCQ is the FEMP Laboratory Analytical Methods Manual (FLAMM), which will be submitted with these responses to comments on the SCQ. Because of the number of samples of various media collected at FEMP and the number and types of constituents analyzed, it is necessary to use a number of laboratories for analytical services. The analytical methods define the types of equipment to be used for each analysis, calibration and maintenance requirements, the QA/QC required at each ASL, the precision and accuracy of the analysis, and the required reportables. Within the SCQ, these types of information reference the FLAMM, rather than repeating them and inviting inconsistencies in future revisions.

GENERAL COMMENTS

As noted during previous meetings with the Department of Energy and its contractors, the site-wide QAPjP should present all options, procedures etc which may be utilized by the operable units. Although the individual operable unit plans will focus on the specific options or procedures actually exercised, all options and procedures which are presently available must be included in the site-wide QAPjP. If additional or alternate procedures become available at a later date, these should be incorporated into an Addendum to the site-wide QAPjP. If additional procedures are highly specific to a single operable unit, these should be included in the individual operable unit QAPjP.

If additional phases of either the site-wide or operable units becomes necessary, QAPjP Addenda will be required.

Title/Signature Page.

Signature spaces must be included for all project management and quality assurance management entities as described in section 3.0 comments below.

Response. The EPA Region V Quality Assurance Manager signature space shall be added. DOE Contractors are bound to the QAPjP requirements through contracts, and do not have approval responsibilities. Comment

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incorporated as stated in response to Section 3 comment.

Table of Contents.

The Table of Contents will require revision to include changes indicated for comments on other QAPJP section, Appendices, Tables, Figures etc.

Response. All changes required in the Table of Contents due to document revisions will be made. Comment incorporated.

1.0 Introduction

The Introduction should specify the overall project objectives and the project status/ phase encompassed by the QAPJP. The Introduction should clearly describe how this site-wide QAPJP will be used with respect to individual operable unit plans and that the operable units will be addressed as Addenda to the site-wide QAPJP.

Response. "Intended Use" and "Implementation of the SCQ" subsections have been added to the Introduction to describe the relationship between the QAPJP, the Analytical Methods Manual, project-specific plans, and the site-wide health and safety plan. Comment incorporated.

2.0 Background and Intended Data Use.

a) The section should be retitled "Project Description" and should incorporate the following subelements:

- Site Description
- Site History
- Project Objectives
 - i. Specific Objectives
 - ii. Intended Data Usages
 - iii. Data Quality Objectives
- Target Parameters
- Sample Network Design and Rationale
- Project Schedule

Response. Section 2 will be retitled "Project Description." Subsections have been designed to give site users necessary background information in a useable format. The intent is to provide the information necessary to implement the requirements of the SCQ without inundating them with so much information that later sections ignored. A schedule has been added to the end of the section. All substantive requirements of subelements have been addressed. Other subelements will be addressed below. Comment incorporated.

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- b) The Site Description section should provide more detailed maps and descriptions of the facility and individual operable units, natural/man-made features, topography and local geology & hydrogeology.

Response. More detail about each OU has been added, including more detailed maps. Comment incorporated.

- c) The Site History section should focus on the general history of the facility through its CERCLA NPL status as well as its past and current data collection activities. Provide further detail regarding the individual operable units as well as expected types of contamination and summarized analytical data from past investigations (if available).

Response. More detail about extent of existing contamination and contributing sources has been added. Comment incorporated.

- d) The Project objectives section shall clearly relate project tasks to Specific Objectives, specify the Intended Data Usages of each type of field and laboratory analysis/measurement and finally, introduce the discussion of Data Quality Objectives (the latter which is detailed in Appendix C).

Response. A table has been added to clarify example specific objectives to be defined in PSPs. Comment incorporated.

- e) The Target Parameters section shall specify all field and laboratory analytical parameters/measurements as well as required detection limits for each matrix. If different types of analyses may be necessary for individual operable units and this information is currently available, please present this information.

Response. The Target Parameters section incorporates requirements to be included in PSPs. Comment addressed.

- f) The Sample Network Design and Rationale is best detailed in the individual operable plans. This section in the site-wide QAPjP can provide an overview of the sample networks planned for each operable unit (i.e. matrices, field & lab parameters etc) as well as the specifics of any site-wide investigations (i.e. air monitoring at the fence line, definition of background in the surrounding geographic area).

Response. Site-wide investigations are considered independent project at FEMP and are subject to the same requirements as any other project. "Sitewide" in the context of the SCQ means that it applies to all organizations at FEMP, not to a specific sitewide investigation. Sample network design and rationale are key elements of project-specific plan preparation (Section 6). A summary of the background sampling plan has

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been added. First item incorporated, second item not applicable, third item incorporated.

- g) The Project Schedule section should provide a bar chart of the timeframes of individual operable unit and site-wide investigations. The individual operable unit plans can detail the timeframes of sampling, field/lab analysis, data validation, data assessment and interim/final reports.

Response. Figures showing the schedule of the FEMP RI/FS's and the schedule defined in the Consent Agreement for each OU have been added. Comment incorporated.

3.0 Project Organization and Responsibilities

- a) The Project Organization and Responsibilities section should be reorganized to include the following subsections: Project Management, Quality Assurance Management, Laboratory Responsibilities and Field Responsibilities.

Response. The section has been reorganized to reflect the titles. Comment incorporated.

- b) The Project Management subsection should specify the individual responsibilities of USEPA, Ohio EPA, Department of Energy and its specifically named (not "prime") contractors.

Response. Individual responsibilities of each organization have been clarified. Contractors have been named. Comment incorporated.

- c) Quality Assurance Management subsection shall specify the QA responsibilities of the USEPA, Ohio EPA, D.O.E. and its engineering and laboratory contractors. USEPA has the following responsibilities: the USEPA Region V Regional Quality Assurance Manager is responsible for approval of the QAPjP, the USEPA Region V Quality Assurance Section is responsible for QAPjP review & recommends approval/disapproval of the QAPjP, the USEPA Region V Central Regional Laboratory (CRL) is responsible for external laboratory audits & co-responsible for external field audits and the USEPA Region V Central District Office (CDO) has co-responsibility with the CRL for external field audits.

Response. The information about EPA Region V has been added, as well as clarification of DOE and contractor responsibilities. Comment incorporated.

- d) Laboratory responsibilities shall name the laboratories, facility locations and individual analytical responsibilities of each laboratory. This should include all laboratories which are expected to be used for the project. If additional labs are added or if labs are deleted, addenda to

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the site-wide QAPjP should be provided as necessary.

Response. Laboratories are listed in a table, as well as the lab location and the analyses each lab performs for FEMP. Procedures for adding or discontinuing use of labs has been clarified. Comment incorporated.

- e) Field responsibilities for all contractors, subcontractors etc should be explicitly defined with title and affiliation for each responsibility.

Response. Clarification has been added as requested. Comment incorporated.

- f) The complete Project Organization as described in this section should be summarized into Figures A-3 and A-4. The hierarchies should be defined. The USEPA entities (USEPA RPM, USEPA Regional QA Manager, USEPA Region V Quality Assurance Section, Central Regional Laboratory and Central District Office) as well as those applicable to Ohio EPA must be incorporated.

Response. Figures detailing the organization and management structure at FEMP have been clarified. Comment incorporated.

4.0 Quality Assurance Objectives

- a) Revise the title to read "Quality Assurance Objectives for Measurement Data in Terms of Precision, Accuracy, Completeness, Representativeness and Comparability".

Response. A successful QA program must establish controls over planning, implementation, and assessment of data collection activities. Because of the site-wide nature of this document and the sheer magnitude of FEMP environmental projects, it is necessary to define QA objectives beyond PARCC. These include adequate training of sampling and analytical personnel, document control, defining types of field and analytical QA/QC checks, and records management. All of these items are administrative in nature, but must be met in order to have validated data and reasonable access to these data. These NQA-1 program plan type elements which must be included in this plan to ensure data comparability and to prevent duplication of efforts across the site. Comment not incorporated.

- b) The section should be rewritten to focus on:
- defining precision, accuracy, completeness, representativeness and comparability
 - specifying the QC procedures used to quantitatively measure precision, accuracy and completeness and to ensure that the qualitative objectives of representativeness and comparability are achieved for all field and lab measurements.
 - explicitly stating all field and laboratory QC limits applicable to

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the project.

Response. The section has been rewritten to define the terms. The QC sample requirements are specified in a Table and the QC acceptance criteria are written into analytical methods in the FLAMM. The comments have been incorporated primarily by reference to Sections 2, 9, 14, Appendix D and the FLAMM. Procedures to measure precision, accuracy, and completeness are included in Section 14 consistent with the title of Section 14. Achieving representativeness and comparability were the primary drivers behind generation of the SCQ, which requires that all sampling and analysis performed for the site be conducted to a consistent set of requirements and verified through surveillance and audit. All field and laboratory QC limits are dependent on the intended use of the data and the analytical method used.

- c) The information presented in section 4.4 is extraneous to the QA objectives of precision, accuracy, completeness, representativeness and comparability and should be deleted. Document control relative to custody or evidence should be detailed in section 7.0 (Sample Custody).

Response. The information may be extraneous to PARCC, but is essential to a complete QA program at a site where the number and types of ongoing projects present significant difficulties in ensuring data comparability. Because data from all programs will likely be used to some extent in CERCLA decision making, training requirements, use of controlled documents in sampling and analysis, and comparable methods of storing data are necessary. Comment not incorporated.

5.0 Field Activities

This section should be deleted since the QAPJP is concerned with the collection of RI/FS data. The information in this text should be incorporated into the appropriate section on sampling procedures (6.0) if the procedure is relevant to sample collection (i.e. monitoring well development, decontamination of sampling equipment). If the procedure is relevant to health & safety of project workers, the procedures should be incorporated into the Health & Safety Plan for the project.

Response. The activities in this section were broken out from those in Section 6 because they are activities which do not require the collection of physical samples. It duplicates the segregation of field activities found in the RI/FS QAPJP. From a site useability standpoint, it is desirable to retain this distinction. The SCQ is concerned with the planning, implementation, and assessment of environmental sampling and analysis activities at FEMP, not just with the collection of RI/FS data.

Although decontamination does not result in the collection of samples other than rinsates, it will be moved to Section 6 as requested. However,

monitoring well development is a necessary step in monitoring well construction, and must be completed whether the well is used for sampling ground water or for conducting hydraulic tests. Therefore, it is more appropriate that it be addressed subsequent to monitoring well installation requirements, rather than as part of ground-water sampling. First item not incorporated, second item incorporated, third item not incorporated.

6.0 Sampling Requirements

All of the sampling procedures included in this section and the Appendices are more in the realm of a general approach as opposed to a detailed, stepwise procedure. The procedures should be in a "cookbook" format for each sample matrix and applicable to the respective analysis procedures. Each sampling procedure must also explicitly detail the collection of all field QC samples for chemical & radiochemical analyses. The order of analytical sample fraction collection must be identified (i.e. "Volatiles, followed by semivolatiles, radiochemicals..."). All requirements for collection of samples based upon concentration (high concentration versus low) and parameters (chemical versus radiological) expected at Fernald must be comprehensive.

Response. More detail has been added to the procedures for sampling, including the collection of field QC samples, the order of analytical sample fraction collection. All water, soil, sediment, and biological sampling methods are based on expected low concentrations. Waste sampling methods are considered high concentration sampling methods. Samples covered under Section 6.6 "Miscellaneous Samples" may be considered high or low concentration, which is identified in the PSP.

7.0 Sample Custody

It is required that all explicit, stepwise field custody, laboratory custody and final evidence file procedures be provided. Field custody shall detail the initiation and maintenance of custody from the point of sample generation through field transfers, in-field analyses and/or shipment to an off-site laboratory. All procedures for completing custody documents (tags, labels, forms, logs, etc.), copies of all forms and the chronological sequence should be provided as part of the procedure.

Response. The requirements for chain-of-custody includes all of the above mentioned requirements. A three part chain-of-custody form (Form 7-1 and instructions for completion have been included.

Laboratory custody section shall detail the continuation of custody from the point of sample receipt through in-house transfers, sample preparation/analysis and final disposal. All custody forms/logs and associated instructions for complete must be provided in the procedure.

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Response. Laboratory custody requirements for sample tracking have been included with the appropriate form.

The section on the final evidence file must detail the contents of the file, who (affiliation, title) shall function as file custodian, how long files shall be maintained and that USEPA shall be offered all files prior to disposal.

Response. All information supporting FEMP CERCLA decisions shall be included as part of the evidence file, as required by the Consent Agreement. The FEMP Administrative Record Coordinator is the file custodian. The files shall be maintained for ten years past the time that remedial actions at the site have been completed. If DOS decides to dispose of the files, they shall be offered to EPA as specified in the Consent Agreement. Comment incorporated.

8.0 Calibration Procedures and Frequency

Since no analytical procedures were provided, no comments can be provided at this time. As noted below under analytical procedures, the requirements for initial and continuing calibrations (concentrations, frequency and conditions which trigger recalibration) must be stated for all field, chemical and radiochemical analyses. This section should summarize the calibration information and provide reference to attached analytical procedures which detail the calibration procedures.

Response. Calibration procedures, frequencies, acceptance criteria, and recalibration requirements are specified in the individual analytical methods in the FLAMM. Comment incorporated.

9.0 Analytical Procedures

As noted during the recent meeting, no analytical procedures were provided for review. All field and laboratory analytical/measurement procedures must be provided as an attachment to the QAPjP. If an SW-846 method is proposed for analysis, all lab specific information (i.e. detection limits, QC limits), calibration concentrations, sample preparation, sample/extract cleanup procedures, method options exercised, etc must be detailed.

Response. Analytical procedures are included in the FLAMM. Comment incorporated.

10.0 Internal Quality Control Checks and Frequency

In addition to the information presented in the text, the internal QA checks for field measurements/analyses must be incorporated.

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Response. The internal QA checks for field measurements are verified through surveillance. Checks within commonly performed procedures are included in the checklists referenced in Section 12. More detail on collection of QA/QC samples has been added to the sample collection methods in Appendix K. Comment incorporated.

11.0 Data Reduction, Validation and Reporting

Data reduction, data validation and data reporting procedures must be defined for both field and laboratory data. Data reduction procedures can be addressed by referencing the section of the field of lab analytical/measurement procedure which address the reduction of raw data to final results.

Response. Laboratory data reduction is addressed in the individual analytical methods. Comment incorporated.

Data validation procedures for all field and laboratory analyses/measurements must be included. Validation of radiological data is missing completely. The validation procedures must incorporate both the field and lab quality control built into the sampling and analysis procedures. Since the analytical procedures were not available for review, further comments on the validation procedures will be provided in the next revision (when the analytical SOPs are expected).

Response. The data validation procedures were built around the field and analytical methods which are being validated. Therefore, details on radiological data validation can only be completed when the methods are in a proper format. The data validation plan will be revised or added to consistent with the methods.

Data reporting should be addressed by providing a complete list of all data deliverables which document the complete analysis or measurement. Provide examples of all forms used to report data. An example of a data deliverables package is the CLP SOW data deliverables. In order to validate analytical data, a complete data package would be necessary.

Response. Data reporting is addressed in the individual methods. The level of data validation is commensurate with the Analytical Support Level (ASL) of the data requested. A complete data package is necessary to validate data. However, a complete data package at ASL B or C is not the same as a complete data package at ASL D. Guidelines for data reporting at each ASL have been added to Subsection 11.3. Validation of data at different ASLs will vary, and is described in Appendix D.

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12.0 Performance and System Audits

It is necessary to separately detail field and laboratory audit procedures. Internal audits are those conducted by the Department of Energy and its contractors while external audits are those conducted by the USEPA Region V.

Response. Field and laboratory audit (and surveillance) procedures have been separated. Clarification of self and independent assessments performed by DOE and its contractors has been added. A separate paragraph describing external assessments by EPA has been added. Comment incorporated.

Provide the detailed checklists of all items examined and procedures used during internal field and laboratory audits. Specify who (title, affiliation) shall conduct the field & lab audits and how results of the audits shall be reported.

Response. Specific checklists for field surveillance activities have been added. Checklists for system audits are generated by the audit team specific to the purpose of the audit. This allows the audit team an opportunity to familiarize themselves with the audited organization and streamlines the actual conduct of the audit. An example checklist for a subcontractor laboratory audit has been included. Comment incorporated.

External field audits are the responsibility of the USEPA Region V Central Regional Laboratory (CRL) and Central District Office (CDO). External laboratory audits are the responsibility of the USEPA Region V CRL.

Response. A paragraph detailing these items will be added to Section 12. Comment incorporated.

13.0 Preventative Maintenance

Provide detailed preventative maintenance (PM) procedures for all field and laboratory equipment used to generate measurements and analyses for the remedial investigation. These may be incorporated as sections of the field or lab analytical/measurements procedures. The PM procedures shall specify the frequency of all PM activities.

Response. PM for analytical laboratory equipment is addressed in the analytical methods. PM for commonly used field equipment has been included as a table in Section 13.

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14.0 Specific Routine Procedures used to Assess Data Precision, Accuracy and Completeness

The only major correction to this section should be the equation used to calculate completeness in section 14.5. The numerator (V) and denominator (T) should be defined as:

V = number of required measurements judged valid
T = total number of required measurements

This definition will avoid a calculation of completeness which would incorrectly elevate the % completeness.

Response. Comment incorporated.

15.0 Corrective Actions

It is necessary that this section be rewritten to detail the hierarchy for identifying, developing, approving and implementing corrective action. The section should identify the stages at which corrective action can likely occur: during field activities, during laboratory analysis and during data validation and/or data assessment. Provide examples of typical corrective actions at each of these stages. Additionally note the types of corrective action which may require approval by the highest levels of project management (i.e. including the D.O.E. and USEPA)

Response. The introductory portion of this section has been clarified to incorporate the requested information and explain how it relates to the actual identification, implementation, and verification of corrective actions specified in the following subsections. Comment incorporated.

16.0 Quality Assurance Reports to Management

- a) The section should specifically state that field audit results will be included as part of the QA reports to management.
- b) Identify all project management personnel who shall receive and review the QA reports.

Response. Surveillance reports were specifically included as part of the QA reports to management. This is also specified in Section 12. Surveillance reports shall be distributed to the manager responsible for the action and to the manager of the FEMP designated QA organization at a minimum. Requirements for expanded distribution have been included for activities affecting Consent Agreement activities. Comment incorporated.

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Appendices.

Comments relevant to the Appendices were noted in section 1.0 through 16.0 comments above.

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RADIATION SECTION COMMENTS ON THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT "SITE-WIDE QUALITY ASSURANCE PROJECT PLAN" DATED OCTOBER 5 [31], 1991

GENERAL

As requested, the Radiation Section has reviewed the draft "Site-Wide Quality Assurance Project Plan (QAPjP) for the Fernald Environmental Management Project (FEMP) prepared by Westinghouse Environmental Management Company (WEMCO) with support from the United States Department of Energy (DOE).

In general, WEMCO followed current Agency guidance in the development of this QAPjP, but there are number of issues that will need clarification before it can be referenced to direct environmental sampling and analysis to support the ultimate remediation of the site.

1. The mission of this project as presented by WEMCO was to establish one QA plan for all sampling done at FEMP. A more appropriate statement would be to establish a multi-dimensional QA program to direct all sampling and analysis to support the ultimate remediation of the site.

Response. Comment incorporated.

2. This site-wide QAPjP is a hybrid version fitting somewhere between a Quality Assurance Program Plan and a project plan. By definition a QAPjP would need to include the level of detail that you describe in Project-Specific Plans (PSP's) (Section 6.1) for this document to direct all environmental sampling and analysis. Considering the magnitude of the projects in each Operable Unit a document of this size would not be useable. Therefore, this QAPjP has to clearly define it's objectives in relation to PSP's.

Response. "Intended Use" and implementation of the SCQ subsections have been added to Section 1 to describe how this document interacts with other documents, including PSPs. Comment incorporated.

3. Specific issues also need to be addressed for PSP's. In section 6.0, it is not clear who will be reviewing and approving PSP's. Indicating that PSP's will be approved as specified by individual project requirements is not adequate. The format that these documents will be written is not indicated. A mechanism should be included to verify how sub-contractors and/or analytical labs will be required to follow all QA specifications.

Response. Table 3-1 details who reviews PSPs. Section 1.4 describes implementation of the SCQ, including preparing PSPs. Compliance by subcontractors and laboratories is a contractual issue required by Section 3 of the SCQ. This is an auditable item. Comment incorporated.

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4. From this document it is not clear what projects are currently in progress at the site. Will the QA specifications proposed in this QAPJP differ from what is being required at present? The process of how the QAPJP will be implemented should be discussed. Will it affect sampling activities, analytical methods, data management systems, and how quickly implementation will take place at all levels?

Response. The SCQ is intended to be a requirements document for all environmental sampling and analysis at FEMP. Programs currently in progress at the site include the RI/FS for each OU, RCRA Ground-Water Monitoring, various RCRA closure activities, Radiological Environmental Monitoring, Clean Air Act monitoring, and Clean Water Act monitoring as stated in the Introduction (Section 1). However, the projects under each of these programs is in a state of dynamic flux. The QA specifications in the SCQ built on those already existing at the site. The idea was to improve comparability between projects by standardizing requirements using ASLs. Implementation of the SCQ will primarily be accomplished by revising project procedures and continuing with activities to upgrade data management and validation. Some sampling activities and analytical methods will be affected; however, the effect will have to be evaluated on a project-by-project basis based on data needs. The changes to data management systems are reflected in the SCQ but are in response to a recognized site need, not a result of the SCQ. The requirements of the SCQ are being folded into everyday activities of programs through the initiative of project personnel or in response to WEMCO EC & QA Surveillance observations. No change required to document.

5. This QAPJP should contain methods how background determinations will be made. It is essential to provide the criteria used to justify where background determinations will be made and how this data will be calculated to define the scope of this project.

Response. A summary of the FEMP background sampling plan has been added to Section 2. Comment incorporated.

SPECIFIC COMMENTS

Title Page

1. Signature provisions should be included for; 1. the Regional Quality Assurance Manager; 2. prime contractor.

Response. A signature line will be added for the EPA Region V Quality Assurance Manager. Because this is a DOE document applicable to all contractors at FEMP, only DOE will sign off. All contractors will be bound to QAPJP requirements through contract. First item incorporated, second item not applicable.

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2. Sub-contractors as appropriate (i.e., laboratories, sampling sub-contractors, drillers, etc.) should be required to follow all QA specifications in PSP's.

As stated in Section 3, all contractors and subcontractors at FEMP will be required to adhere to the QAPJP, and by inclusion, the PSPs. Comment incorporated.

Section 1

1. Page 1. Include all projects that will be collecting environmental samples. There is no mention of operations in support of NESHAP obligations or RCRA closures.

Response. Stack monitoring in support of NESHAP requirements and RCRA closures have been added to the list in Section 1.

Section 2

1. Section 2.2.4. The section does include a discussion of the important site contaminants or target compounds for each operable unit, but fails to include required detection limits.

Response. Specifying detection limits, which are instrument and method specific, is not a goal of the SCQ. Quantitation and reporting limits are very important to the representativeness and comparability of data collected at the site. Quantitation limits will be included in a table. Reporting limits, if different from quantitation limits, will be specified in PSPs.

2. General. Section 2 should include;
 1. a description of individual project specific plans for each operable unit and how the development relates to the site-wide quality assurance project plan.

Response. Project-specific plans as described in the SCQ are a planning requirement for future projects (after SCQ approval and implementation). Existing RI/FS work plan addenda fulfill the substantive requirements of project-specific plans. A full rescoping of the OU-3 RI/FS is in progress and scheduled to be submitted to EPA for review in June 1992. A discussion of how the PSPs relate to the SCQ is included in Section 1, and requirements for PSPs are detailed in Section 6. First item not applicable, second item incorporated.

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2. a description of dates anticipated for start, (or what has been done up-to-date), milestones, and completion of the project and sampling activities. A milestone table or a bar chart consisting of project tasks and timelines is appropriate.

Response. A schedule as defined in the amended Consent Agreement will be added for each OU. An anticipated schedule for completion of each task shall be made a requirement for PSPs in Section 6. Comment incorporated.

3. a succinct description of monitoring (sampling) network design and rationale for each analytical category i.e. inorganic, organic, radiologic, biological and geotechnical.

Response. A description of monitoring system design and rationale are required as part of the PSPs (Section 6). More detail has been added in Section 2. Comment incorporated.

4. diagrams or site maps of sampling locations.

Response. Individual sampling locations shall be noted in PSPs. The maps of the site have been improved to be more informative. Comment incorporated.

3. Page 1. An comprehensive list of chemicals and radionuclides that were used or handled during the life of the plant should be included in this section.

Response. The RI/FS for OU-3 is currently being rescoped and is scheduled to be submitted for EPA review in June 1992. This OU consists predominantly of the former process area, including the facilities and equipment contained therein. One of the tasks in the rescoping is to determine what types of operations were conducted at each facility and what types of materials were involved. This will result in a comprehensive list of chemicals and radionuclides used or handled during the life of the plant. As this effort is currently ongoing, it would not be appropriate to include a list here that would likely be added to in the very near future. Comment deferred to the OU-3 Work Plan addendum to the RI/FS Work Plan.

4. Section 2.2.4, Page 7. In OU-5, volatile-organic contamination along Paddys Run Road is suspected to be from a source other than FMPC. What data does DOE have to support this assumption?

Response. OEPA is currently overseeing a RI/FS being conducted by industries along Paddys Run Road to determine the source and extent of this contamination. This shall be noted in Section 2. Comment incorporated.

5. Section 2.4 Page 10-13. The type and frequency of quality control checks for each Analytical Support Level (ASL) should be clarified for all analytical categories. Table A-1 presents a comparison of ASL methods by analytical category, but a discussion is needed to justify the rationale behind the proposed sampling matrices and quality assurance objectives.

Response. The type and frequency of the various QC samples are specified for ASLs C and D and for the defined sublevel of ASL B. Acceptance criteria for the laboratory QC samples are included in the analytical methods in the FLAMM and in the Data Validation Plan (Appendix D). Evaluation of the field QC sample results is addressed in the Data Validation Plan.

6. Table A-1 Appendix A. All QA objectives should be specified in this table. Referencing the method is not adequate. QA objectives for ASL E should be determined before this analytical method is used. Criteria for determining ASL E QA objectives should be discussed.

Response. Because ASL E covers non-standard methods, QA objectives must be specified on a case-by-case basis. ASL E refers to a level of quality assurance, not to a specific method.

7. Section 2 Page 11. The radionuclide examples for analytical support levels C and D, states that these levels will require a full set of QA/QC samples per batch. This example should define what a full set will entail.

Response. QC sample frequencies and types for ASL C and D radionuclide analyses are specified in Table C-1. The table specifies what a full set comprises. A full set does not need to be defined for the example. Comment not incorporated.

Section 4

1. Page 3-4 An example should be added to clarify when trip blanks would be indicated for ASL B and E.

Response. ASL E is reserved for non-standard methods, and requirements are specified on a case-by-case basis based on project objectives and the type of analysis. Therefore, it is not possible to specify when trip blanks are required in the SCQ. A sentence has been added to the definition of trip blanks stating that requirements for trip blanks at ASLs B and E shall be specified in the PSP.

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2. For the trip blank analysis method, describe the guidelines used to determine whether conditions encountered during sample container shipment and handling have affected sample quality. Describe the analytical procedure required for trip blanks.

Response. Procedures for the evaluation of trip blank, rinsate blank, and preservative blank results are specified in the data validation plan (Appendix D). These samples will be analyzed as if they are regular field samples.

3. For the field blank analysis method, describe the guidelines used to determine whether sample collection process or conditions have effected sample quality. Describe the analytical procedure required for field blanks.

Response. See response to Section 4 comment 2.

4. For the equipment rinsate sample analysis, describe the guidelines used to determine the effectiveness of the decontamination process?

Response. See response to Section 4 comment 2.

5. The criteria used to accept the quality of sample preservatives need to be provided.

Response. When preservative blanks are required, the samples are generally sent along with actual project samples and blanks. Therefore, the quality of preservatives is not accepted or rejected. Rather, the effect of preservative contaminants may need to be evaluated consistent with the method for evaluating other blank contamination described in the Data Validation Plan. No change required.

6. Section 4.2.2 Page 7. The statistical control bounds have been defined as ± 3 standard deviations from the mean. Results outside of these limits are considered out of control. The mechanism for determining whether an outlier will be accepted or rejected should be described in this section or a reference provided. The reader will assume that environmental measurements outside the statistical control bounds will be invalidated.

Response. The discussion of statistical control bounds has been deleted. QC acceptance criteria are specified in the analytical methods in the FLAMM, along with the required corrective actions for out of control events. The data validation plan (Appendix D) discusses how to address out of control conditions and add qualifiers to the data if necessary. Comment no longer applicable.

7. Quality assurance objectives should be discussed for field activities i.e. sampling, measurements and screening including the project required acceptance limits and the means to achieve these QA objectives.

Response. Project-required acceptance limits for use of individual screening methods will be specified in PSPs. QA checks in the field are defined in methods in appendices J and K.

Section 5

1. General. This section should include policies and guidelines for radiological field screening surveys.

Response. Policies and procedures for radiological field screening surveys have been added to Section 5. These include calibration requirements, method for determining the lower level of detection, how to determine the survey technique to be used, and what information will be required in PSPs.

2. Section 5.2.8 Page 14. Radiation surveys conducted in support of decontaminating and decommissioning of facilities and equipment should include all standard operating procedures and acceptance criteria or their should be a reference to the PSP's.

Response. Surveys conducted in support of D&D vary according to type of equipment and material. These shall be included in PSPs as they are identified. Clarification has been added to Section 5 addressing this comment. Comment incorporated.

Section 6

1. This section should include procedures for conducting surface radiation field measurements. There is no reference to the sampling and analysis plan dated November 1991. Specific locations for surface radiation measurements should be included in this section.

Response. The submittal of this document for EPA review pre-dated the November 1991 submittal. Specific locations for surface radiation measurements are dependant on the intended data use and the DQOs. Requirements for procedures for radiation measurements are included in Section 5. Instrument-specific procedures shall be prepared and submitted with the first designated use of those instruments in PSPs. If the use is determined to be standard and ongoing, the procedures shall be added to the SCQ. Applicable portions of comment incorporated in Section 5.

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2. Section 6.1.2. Although this sub-section is titled "Preparation and Implementation of PSP's", it does not discuss how PSP's will be implemented. The review process for PSP's should be described. Have all the PSP's been written? There are intermittent references to procedures identified in PSP's, giving the reader an assumption that they have been written. A list should be provided with the title of each PSP and what project it will be directing.

Response. Implementation of the SCQ, including preparing PSPs, has been added as Section 1.4. Responsibilities for review are noted in Table 3-1 referenced to Subsection 3.2, Quality Assurance Management.

Section 8

1. Section 8.3 Page 2. All appropriate requirements specified for field measurement and testing equipment should be added as an attachment to PSP's once identified by FEMP. These requirements should include:
 1. list of all field measurement and test equipment used for a specific project
 2. manufacturer
 3. required calibration frequency
 4. number and title of applicable calibration procedure

Response. These items have been noted in Section 8 as applicable to any use of measuring and test equipment. Comment incorporated.

Section 12

1. Specific criteria that laboratories will be audited against should be discussed. Key individuals that will be performing audits should be identified. Will external field and laboratory audits be performed? If so, who will be performing these audits?

Response. These criteria have been moved from Appendix E to Section 12 and example audit checklists have been added. Comment incorporated.

TECHNICAL REVIEW COMMENTS, SITE-WIDE QUALITY ASSURANCE PROJECT PLAN (QAPP),
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT (FEMP), FERNALD, OHIO

GENERAL COMMENTS

1. The October 31, 1991 revision of the FEMP QAPP is a significant improvement over the previous revision (DOE 1990) submitted by DOE. The sections on site background, data quality objective (DQO) development, and analytical support levels (ASLs) have been expanded. The overall technical approach appears adequate. However, additional details should be added to the QAPP.

Response. Comment noted.

2. Risk-based detection limits, precision, and completeness control limits and analytical methods should be summarized in a table for all media. Sample collection methods, holding times, and storage procedures should also be summarized in a table. Equations for deriving risk-based detection limits should be provided in the text and these detection limits should be calculated for all media. Standard equations should be developed in the site-wide QAPP then used for the individual operable units. Site-wide QA/QC criteria should be provided rather than deferring to QAPPs for the individual operable units.

Response. Concerns pertaining to risk assessment issues would be more appropriately addressed in the "Risk Assessment Work Plan Addendum, Fernald Environmental Management Project, Remedial Investigation and Feasibility Study," DOE Fernald Office, October 1991. This plan is currently undergoing its second review by EPA. Due to the complex nature of the Fernald site, some of the issues will need to be addressed in the PSPs for individual OUs. QA/QC criteria for the site are standardized for the site by ASL in the SCQ. QA/QC criteria for individual samples depends on the intended use, type of sample, and type of analysis. Sample collection methods are described in the appropriate section of the SCQ. A table which includes holding times and preservation requirements for sampled parameters is included. Risk assessment items not incorporated, sample collection items incorporated.

3. Table A-3 presents generic National Pollutant Discharge Elimination System (NPDES), Resource Conservation and Recovery Act (RCRA), and EPA Contract Laboratory Program (CLP) analytical methods. The text should identify the specific methods that will be used in the RI/FS. Complete references should be provided for the methods listed in the table. Radiological methods should be included in the table. Several of the CLP methods are followed by the letter "M." The text should explain the meaning of this qualifier. Any modifications to CLP methods to achieve risk-based detection limits for the remedial investigation and feasibility study (RI/FS) should be described, and the methods should be prepared in the

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format of special analytical services (SAS) requests, and be included as attachments to the QAPP.

Response. Table A-3 was included to show sources for FEMP defined methods. These methods will be included with the next submittal of the QAPJP, and Table A-3 will be deleted. Comment no longer applicable.

4. Several routine environmental monitoring tasks, associated with lower level ASLs, are listed in Appendix C. The DQO summary forms are unclear as to whether these routine monitoring activities will be used in the RI/FS and the baseline risk assessment. Data generated from some of the routine activities, such as monitoring domestic wells, should be included in the baseline risk assessment, and it is recommended that these data be associated with higher ASLs (D or E).

Response. As stated in the ASL definitions in Section 2, ASL E is reserved for non-standard methods in the true [technical] sense. The ASLs were defined based on the amount of QA/QC and validation required, not on contractual arrangements or location of actual sample analysis. As such, ASLs C and D have the greatest amount of QA/QC associated with them (equivalent), and ASL D has the most reporting and validation requirements.

It is agreed that data from routine activities such as monitoring domestic wells should be included in the baseline risk assessment, although this is not the primary purpose of data collection. While these data have not historically been generated using ASL D methods, there is a known and verifiable level of QA/QC associated with them. Even though each sampling round is not validatable at the level associated with ASL D, the number of samples collected from each data point allows a level of verification based on repeatability and long-term trends not covered by standard CERCLA protocols. These trends may indicate that the data are sufficient for risk assessment purposes, or that a round of confirmatory sampling at ASL D is desired. In addition, EPA in Section 3.3.7 of its "Guidance for Data Useability in Risk Assessment" (Interim final, October 1990) addresses the use of various types of analytical services and concludes that data other than that produced by a CLP equivalent method and laboratory can be used in risk assessments. No firm conclusion can be made until the risk assessment team completes an evaluation of existing data and determines data needs. Comment not incorporated.

5. The QAPP presents several data qualifiers and terms such as FEMP required detection limits without adequate definitions. All data qualifiers, detection limits, and quantitation limits should be discussed and defined in the text.

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Response. The noted qualifiers and terms are associated with the FEMP defined methods. Early efforts at defining these terms tried to retain their CLP flavor as much as possible. However, as the method generation progressed, the meanings of some of these terms changed somewhat. A complete description of the qualifiers and terms will be available with the analytical methods. Comment incorporated in FLAMM.

6. Several sections of the QAPP, such as 10.3.5 and 10.3.6, are written as instructions for analysts. The purpose of the QAPP is to ensure that EPA requirements for quality assurance and quality control (QA/QC) (EPA 1983, 1987, 1990c) are met. Therefore, the wording of the QAPP should focus on meeting QA/QC criteria and performance standards rather than focusing on instructions for analysts. Instructions for analysts should be included in the individual laboratory standard operating procedures (SOPs).

Response. EPA (1983) states that the QAPjP should present the policies, organization, objectives, functional activities, and specific QA/QC activities designed to achieve the data quality goals. However, as noted at pre-QAPjP meetings held with EPA Region V and FEMP, the QAPjP is also the milestone that will be used to determine whether work meets these goals. Because of the number of players involved in the FEMP work, a level of control above individual laboratory SOPs is required to ensure comparability of data. Therefore, FEMP analytical methods are being developed for incorporation into all FEMP analytical laboratory contracts. This includes provisions for adherence to the QAPjP and to follow the step-by-step methods presented. Less control would not ensure that requirements for QA/QC are met. Comment not applicable.

7. Section 1.2, pages 4 and 5: The following QA/QC references should be included in this section: Data Quality Objectives for Remedial Response Activities, EPA/540/G-87/003, March 1987; and Guidance for Data Useability in Risk Assessment, Interim Final, EPA/540/G-90/008, October 1990.

Response. Comment incorporated.

8. Section 2.4, pages 9 through 13: This section describes the ASLs used at FEMP. Additional information should be provided in these descriptions. The examples provided for each level should be expanded to address the scope of each level including tasks such as routine monitoring, health and safety, treatability studies, etc.

Response. The descriptions of the ASL have been rewritten and additional discussion of the scope of each level has been added. Comment Incorporated.

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9. Section 3.3, page 5: This section describes QA management. The terms "DFQAPjP" and "DFQAPjO" are inadequately defined and discussed. Also, these positions should be included in Figure A-3 (FEMP Management Structure).

Response. The designated FEMP QA organization will be defined within the management structure as the Environmental Compliance and Quality Assurance Department of WEMCO. This organization is responsible for independent assessment of QA/QC. Every other organization responsible for actual data collection, analysis, and interpretation shall be responsible for self assessment, consistent with DOE Order 5700.6C. The use of unwieldy and ill-defined acronyms will be avoided. Comment incorporated.

10. Section 4.1.1, page 3, third bullet: The text states that cross-contamination is a concern for ASLs A through E analyses. However, rinsate samples are only specified for ASLs C and D. Rinsate samples should be specified for ASL E.

Response. See Response 4. Rinsate samples are only required for all defined ASL C and D sampling and analysis efforts. Rinsate samples can be specified for ASL A, B, and E efforts based on the intended data use, the data quality objective, and the level of acceptable risk of a false positive. This prevents the unnecessary generation of waste, analysis, validation and interpretation of unnecessary data, and requires planners and reviewers to be fully aware of the implications of their data collection efforts. Comment not applicable.

11. Section 4.1.1, page 4, third bullet: The text states that split samples will be used to determine accuracy of the analytical laboratory and sample collection techniques. Accuracy is generally defined as the degree of agreement between a measurement and a true value. It is unclear how split samples, shipped to different laboratories, will address this criterium. The way the text is currently written, it appears that split samples are being used to monitor interlaboratory precision and not accuracy. This discrepancy should be resolved.

Response. The word "determine" has been replaced by "evaluate" as no quantitative determination can be made by the assessment of such samples by themselves (also true for field duplicates). However, when used in conjunction with other QA/QC samples, the occurrence of a problem within a system can be identified. Precision and accuracy of sample collection, handling and shipment systems in conjunction with interlaboratory precision can be qualitatively evaluated. Laboratory accuracy can be qualitatively evaluated when used in conjunction with other QA/QC samples. Comment incorporated.

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[REDACTED]

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[REDACTED]

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12. Section 4.1.2, page 5, second paragraph: the text should be rewritten to state, "Frequency of QC sample collection and analysis...."

Response. Comment incorporated.

13. Section 4.1.2, page 5, third bullet: The text should state that matrix spikes are used to monitor accuracy.

Response. Comment incorporated.

14. Section 4.1.2, page 6, second bullet. The text states that during a blind study the analyst knows which samples are QC samples, and that during double blind studies the analyst does not know which samples are QC samples. These definitions are incorrect. During a blind study the analyst does not know which samples are QC samples. During a double blind study neither the analyst nor the individual analyzing the data know which samples are QC samples. The text should be modified to reflect this change.

Response. As commonly used in analytical laboratories, blind studies are those in which the analyst is aware that the samples are QC samples, but is not aware of the expected concentration of constituents contained within. In double blind studies, the analyst is not aware he is analyzing a QC sample. No action required.

15. Section 4.2.1 and 4.2.2, pages 6 and 7: These sections propose statistical approaches for evaluating analytical precision and accuracy. Reliance on control charts for non radiological parameters will result in different accuracy and precision control limits for different laboratories. This will inhibit comparison of data on a site-wide basis, and could also impair data validation. Also, it has not been demonstrated that the analytical laboratories bidding for this work have adequate data at all concentration ranges for all analytes to complete useful control charts. Precision and accuracy control limits for nonradiological parameters should be based on those found in the CLP Statements of Work (EPA 1990a,b) to ensure interlaboratory consistency and data comparability.

Response. The discussion of statistical bounds has been deleted. QC acceptance criteria are specified in the analytical methods in the FLAMM, along with required corrective actions for out-of-control events. The data validation plan (Appendix D) discusses how to address out-of-control conditions and add qualifiers to data if necessary. Comment no longer applicable.

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16. Section 6.3.1, page 11: Surface soils should be defined with respect to depth below ground surface.

Response. The definition "those soils which can be collected with manually operated hand-held tools, generally within 3 ft of land surface" has been added. Comment incorporated.

17. Section 6.5.2, page 19. This section should include a bullet that addresses quantifying risks to ecological receptors.

Response. Comment incorporated.

18. Section 6.5.2.1, page 19: The text states soil and sediment data will be compared with applicable or relevant and appropriate requirements (ARARs) for flora and fauna. The text should be revised to state that ARARs do not exist for soil and sediment and that an approach for assessing toxicity in these media will be addressed in the operable unit specific work plans and sampling and analysis plans.

Response. Comment incorporated.

19. Section 6.5.2.1, page 20: The text inappropriately references EPA's Human Health Evaluation Manual (EPA 1989a) for the biological sampling. The correct reference is EPA's Environmental Evaluation Manual (EPA 1989b).

Response. Comment incorporated.

20. Section 6.6.3, page 22: sampling for asbestos should cite the relevant Occupational Safety and Health Administration (OSHA) requirements.

Response. References to 29 CFR 1001 and 1926 were added.

21. Section 10.2.1, page 2: The text should explain how "FEMP-Required Detection Limits" (RDLs) are derived.

Response. A summary of reporting limits for methods in the FLAMM is presented in Section 2 under the Target Parameters section. Comment incorporated.

22. Sections 10.2.6 and 10.2.7, pages 3 and 4: These sections mention the laboratory data qualifiers L, E, W, S, and +. These qualifiers should be defined.

Response. Data qualifiers are defined in the data validation plan (Appendix D). Comment addressed.

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23. Section 10.3.1, page 5: The text should explain how "Required Quantitation Limits" (RQLs) are derived, and the relationship of the RQLs to the RDLs.

Response. A summary of reporting limits for methods in the FLAMM is presented in Section 2 under the Target Parameters section. Comment incorporated.

24. Section 10.3, pages 5 through 10: This section describes quality control for organic analytes. It is currently written as instructions for analysts, and addresses control limits in vague, undefined terms. The text should be revised to provide specific QA/QC criteria. References to EPA (1990a) should be provided where appropriate.

Response. This section has been restructured to refer to methods in the FLAMM and the Data Validation Plan where appropriate. The text in question has been deleted. Comment addressed in FLAMM.

25. Section 10.4, page 9: this section should summarize specific QA/QC requirements for radiological parameters.

Response. General QA/QC requirements for radiological parameters are included. QA/QC specific to an analytical method are included in the method in the FLAMM. Comment addressed in FLAMM.

26. Section 11, pages 1 through 5: This section should provide a summary of all data qualifiers. The text should specify samples that will be validated according to EPA (1988a,b) requirements.

Response. Data qualifiers are defined in Appendix D, Data Validation Plan. No change required.

27. Section 12, page 1: This section should state that QA audit results will be made available to EPA, and that EPA has the option of conducting their own QA/QC audits.

Response. Comment incorporated.

28. Section 14.2, page 1: Analytical control limits for accuracy should incorporate EPA (1990a,b) requirements.

Response. Analytical control limits for accuracy are included in the analytical methods in the FLAMM. The methods in the FLAMM are based, in part, on the 7/88 CLP SOWs, plus the EPA 600 Series methods, and SW-846 methods. Use of the EPA (1990 a,b) control limits is not consistent with all of these methods. The limits used are most like those from the 7/88 CLP SOW which is most applicable to the method in the FLAMM.

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29. Section 14.3, page 2: Analytical control limits for precision should incorporate EPA (1990a,b) requirements.

Response. See comment 28 above.

30. Section 14.6, page 4: This section should provide a technical approach for developing method detection limits and quantitation limits.

Response. A table of planned Required Quantitation Limits for the methods in the FLAMM is included in the SCQ (Table 2-2). Method Detection Limits will be determined according to the requirements of 40 CFR 136, Appendix B, as discussed in the SCQ. If different detection or quantitation limits are required than those achievable with the methods currently in the FLAMM, those requirements will be addressed in a project specific plan.

31. Section 15.2, page 4: The text references "U.S. Environmental Protection Agency, 1991." However, no references are included with Chapter 15.

Response. Appropriate reference was added (Region V model QAPjP). Comment incorporated.

32. Appendix A should be revised to include radiological parameters.

Response. Radiological parameters will be added to the appropriate tables as the methods are finalized.

33. Table A-1 should address QA/QC requirements for ASL C.

Response. ASL C is included within the brackets generally encompassing ASL C and D; ASLs B, C, and D; ASLs C, D, and E; or ASLs B, C, D, and E. It should be noted that ASL C requirements are identical to ASL D except for the reporting package and validation. Comment not applicable.

34. Table A-3 lists NPDES, RCRA, and CLP methods. This table should be revised to identify methods used for RI/FS activities, methods used for routine environmental monitoring activities, methods used for waste management, etc. As discussed in the general comments, a DQO summary table should be developed. This table should identify proposed analytical methods and associated accuracy, precision, and completeness. Detection limits should be adequate to address data needs of the baseline risk assessment.

Response. Table A-3 has been replaced by a table listing the methods in the FEMP Laboratory Analytical Methods Manual. DQO summary tables for specific samples will be included in PSPs. Comment incorporated.

35. Table A-3 presents generic NPDES, RCRA, and EPA CLP analytical methods.

The text should identify the specific methods that will be used in the RI/FS. Complete references should be provided for the methods listed in the table. Radiological methods should be included in the table. Several of the CLP methods are followed by the letter "M." The text should explain the meaning of this qualifier. Any modifications to CLP methods to achieve risk-based detection limits for the RI/FS should be described, and the methods should be prepared in the format of a special analytical services (SAS) request, and be included as attachments to the QAPP.

Response. See general response 3. Table deleted, comment no longer applicable.

36. Appendix B should include examples of chain-of custody forms, sample labels, sample custody forms, sample analysis request/packing lists, sample tracking forms, summary sampling logs, sample geologic logs, and well completion log forms.

Response. Forms and instructions for completing custody requirements have been included, referenced to Section 7. Lithologic logs and well-completion logs have been added, referenced to Appendix K.

37. In Appendix C the logic flow for the DQO process should be revised. Risk assessment exposure assumptions and data needs are currently scattered throughout the logic process. Simplified exposure assumptions should be integrated into the problem definition. Data needs should be addressed in the logic statement. As currently written, the logic process will result in repeating the same information for all areas of concern. Issues such as risk-based detection limits should be developed on a site-wide basis and summarized in a table. Other risk-assessment issues, such as slope factors, reference doses, exposure assumptions, acceptable risk levels, etc., should also be addressed as site-wide issues and be summarized in a table. The domain of the decision should be limited to issues such as area and hot spots. Receptors and land use should be part of the problem definition.

Response. Risk assessment exposure assumptions and data needs have been eliminated and a more generalized approach based on "Planning for Data Collection- The Data Quality Objectives Process for Environmental Decisions" (EPA Quality Assurance Management Staff, October 1991, draft) has been included. The more general description of the DQO process is more appropriate for the SCQ.

Risk-assessment specific information is more appropriately addressed in the "Risk Assessment Work Plan Addendum," individual OU PSPs, and eventually, the work plan for the site-wide OU. Comment no longer applicable.

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38. Section C.2, page 3: This section should include additional guidance for project scoping and developing DQOs. For example, the importance of summarizing available information, developing site-specific conceptual site models, and identifying data gaps should be discussed.

Response. This section has been revised to contain the material presented in response 37 above incorporating the suggestions of EPA (1991). Comment no longer applicable

39. Section C.2.1, page 3: Problems should be stated in terms of testing a hypothesis. The descriptions of the areas of concern should emphasize identifying potential sources and exposure pathways. Waste sources, quantities, mobility, and toxicity should be summarized. Problem identification should also include describing receptors and exposure pathways and completing a conceptual site model and identifying specific data gaps. If appropriate, potential indicator chemicals or risk drivers should be identified. Receptors, exposure pathways, and land use scenarios should be addressed in this section.

Response. See response to comment 37 above. Comment no longer applicable.

40. Section C.2.2, page 4: The list of alternative actions should be one of the last parts of the logic process to be addressed.

Response. See response to comment 37 above. Comment no longer applicable.

41. Section C.2.3, page 4: Specific equations for determining risk-based action levels should be presented in this section.

Response. See response to comment 37 above. Comment no longer applicable.

42. Section C.2.5, page 5: Standard, site-wide exposure assumptions should be addressed early in the logic process, and not at this relatively late stage. If appropriate, indicator chemicals or risk drivers should be identified in this section. Existing contamination should be compared to ARARs and risk-based concentrations.

Response. See response to comment 37 above. Comment no longer applicable.

43. Section C.2.7, page 7: This section should focus on summarizing and prioritizing the data gaps developed in Section C.2.1 to develop a focused sampling and analysis program. Sampling needs should be prioritized to ensure that all critical data are collected and analyzed in a timely manner.

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Response. See response to comment 38 above. Comment no longer applicable.

44. DQO Summary Form, Page 13: Section 1 (or 3) of this form should include entries for routine monitoring, regulatory compliance, and health and safety. The way the form is currently written it appears that all activities are necessary for RI/FS or remedial design and remedial action (RD/RA). However, based on a review of the completed forms, it appears that many of the activities underway at FEMP are outside of the CERCLA process. Section 4 of the form should include imminent health risks as well as regulatory requirements

Response. The "others" category covers sample collection for routine monitoring, regulatory compliance, and health and safety. The form and instructions for its completion are based on the example provided in "Data Quality Objectives for Remedial Response Activities, Development Process" (EPA/540/G-87/003, March 1987). The form is intended to apply to the wide range of activities underway or anticipated for the Fernald site. The question of imminent health risks will be added to section 4 of the form and the instructions modified accordingly. Comment incorporated.

45. DQO Summary Form, Page 14. The second page of the form appears identical to the first page. An appropriate second page should be provided.

Response. The proper second page will be provided.

46. DQO Logic Flow Process, Sampling Residences Serviced by Private Ground-water Supply Wells - Metals: Overall, this example does not show adequate technical rationale for DQO development. Technical issues, such as contaminants of concern and action levels are not addressed. Section 1 addresses the problem only as related to DOE Orders. Potential threats to public health and exposure pathways are not addressed. Problems should be stated as a hypothesis to be tested.

Section 2 reaches a decision before all available information is presented. This is inappropriate. Decision making should be based on making the most use of the available data and information.

Section 3 should present specific action levels based on ARARs and health-based concentration for contaminants of concern. If available, background data should also be discussed.

Most of the information presented in Section 4 (such as physical site characteristics and exposure information) should be incorporated into a conceptual site model, and be presented at the beginning of the logic process. The frequency of analysis should be discussed as part of the study design.

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Sections 6 and 7 state that risk assessments will be done "at the programmatic level." It appears that use of data collected during routine monitoring of domestic wells will not be used in RI/FS risk assessments. However, no technical rationale for excluding these data is presented, and Section 3 states that these analyses will provide data for early detection of ground-water contamination. Based on this statement, critical samples from the domestic wells should be analyzed for contaminants of concern at an ASL appropriate for supporting the baseline risk assessment.

Response. The example was intended purely as a hypothetical situation to guide users. The example has been deleted. Comment no longer applicable.

47. DQO Summary Form AR-006, page 1, Section 3: Higher ASLs should be considered for critical data that will be used to support the RI/FS.

Response. The data generated from this activity is not quantitative for use in RI/FS risk assessment calculations, but a semi-quantitative indication of the airborne radionuclide matter. These data are used in a time integrated measurement of potential for offsite transport of radioactive particulates.

48. DQO Summary Form GW-001, page 2, Section 5: The category "ABN" should be included to meet the criteria listed in Section 9.

Response. Comment incorporated.

49. DQO Summary Form GW-002: Section 3 should include ASL level E to meet risk-based detection limits and to address any nonconventional parameters. Section 4 included "CEC." This does not appear to be an appropriate parameter for ground water.

Response. ASL E is identified for nonstandard methods. ASL E may be added later to meet lower detection limits than that identified in the standard method in the FLAMM. These detection limits will be identified in PSPs and the new methods will be incorporated into the FLAMM as required. CEC was deleted. Comment partially incorporated.

50. DQO summary Form GW-004: The parameters that will be analyzed during this activity are inconsistent in this form. Section 3 states total coliform bacteria and volatile organic compounds (VOCs) will be analyzed while Section 6 states uranium, VOCs, coliforms, and Chlorine residual will be monitored. This discrepancy should be addressed.

Response. Comment incorporated.

51. DQO Summary Form GW-006: Data from this activity should be used in the risk assessment. Section 3 should be revised to reflect this change.

Response. The data generated from this activity are not used as quantitative risk assessment data due to the lack of information on construction and installation of the wells. These data are currently used to assess general water quality and to direct the need for further investigations. Comment not incorporated.

52. DQO Summary Form GW-007: Data from this activity should be used in the risk assessment. Section 3 should be revised to reflect this change.

Response. See response to comment 51 above.

53. DQO Summary Form MS-005: ASL C should be considered for critical data of the treatability studies.

Response. Generally, treatability studies will be conducted at ASLs A, B, or E. ASLs for specific samples in treatability studies will be identified in PSPs and study specific DQOs. Comment noted.

54. DQO Summary Form SD-002: Sediment sampling will provide critical data for the human health and ecological risk assessments and for fate and transport calculations. ASL E may be required to obtain risk-based detection limits, and for non-HSL parameters.

Response. See response to comment 49 above.

55. DQO Summary Form SL-002: Uranium analysis should be included in Section 6.A.2.

Response. Full radiological analysis includes uranium. Comment not applicable

56. DQO Summary Form SW-002. Risk assessment should be identified as an appropriate data use in Section 3.

Response. Comment incorporated.

57. In Appendix D the quality control limits used to validate matrix spike/matrix spike duplicates and surrogate recoveries should be listed in this section.

Response. The quality control limits for matrix spike/matrix spike duplicates and surrogate recoveries will be included in the FLAMM. Comment incorporated into FLAMM.

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- DOE, 1990. Draft Quality Assurance Project Plan for the Feed Materials Production Center, Fernald, Ohio. November 7, 1990.
- EPA, 1983. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans. QAMS-005/80. U.S. Environmental Protection Agency. EPA/600/4-83-004, February 1983.
- EPA, 1987. Data Quality Objectives for Remedial Response Activities Development Process. U.S. Environmental Protection Agency. EPA/540/G-87/003, March 1987.
- EPA, 1988a. Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses. U.S. Environmental Protection Agency. Hazardous Site Evaluation Division. February 1, 1988.
- EPA, 1988b. Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses. U.S. Environmental Protection Agency. Hazardous Site Evaluation Division. July 1, 1988.
- EPA, 1989a. Risk Assessment Guidance for Superfund, Volume I Human Health Evaluation Manual (Part A). Interim Final. U.S. Environmental Protection Agency. EPA/540/1-89/002. December 1989.
- EPA, 1989b. Risk Assessment Guidance for Superfund, Environmental Evaluation Manual. Interim Final. U.S. Environmental Protection Agency. EPA/540/1-89/001A. March 1989.
- EPA, 1990a. Contract Laboratory Program Statement of Work for Organics Analysis. Multi-Media, Multi-Concentration. U.S. Environmental Protection Agency. Document Number OLM01.0 March 1990.
- EPA, 1990b. Contract Laboratory Program Statement of Work for Inorganics Analysis. Multi-Media, Multi-Concentration. U.S. Environmental Protection Agency. Document Number IL01.0 March 1990.
- EPA, 1990c. Guidance for Data Useability in Risk Assessment. Interim Final. U.S. Environmental Protection Agency. EPA/540/G-90/008. October 1990.
- EPA, 1991. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. Memorandum Prepared by Don R. Clay, Assistant Administrator, U.S. Environmental Protection Agency. OSWER Directive 9355.0-30. April 22, 1991.