

1630

**QAPP-DATA VALIDATION
U.S. DOE FERNALD
OH6 890 008 976**

06/20/91

**USEPA/DOE-FMPC
9
LETTER**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

1630

Original File 4454

REPLY TO ATTENTION OF:

June 20, 1991

Jack R. Craig
U.S. Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

RE: QAPP-Data Validation
U.S. DOE Fernald
OH6 906 008 976

Dear Mr. Craig:

While the United States Environmental Protection Agency (U.S. EPA) is waiting to receive a revised Quality Assurance Project Plan (QAPjP) from the United States Department of Energy (U.S. DOE), U.S. EPA has reviewed a Data Validation Plan (DVP) dated April 4, 1991. In accordance with discussions in our June 13, 1991, QAPP meeting, U.S. EPA is providing initial comments on this plan to assist U.S. DOE in development of the revised QAPP. These comments are in the enclosed attachment.

Please contact me at (312/FTS) 886-4436 if you have any questions.

Sincerely,

Catherine A. McCord
Catherine A. McCord *by M. Butler*
Remedial Project Manager

Attachment

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDO

JUN 21 1991

E-3085

1

SPECIFIC REVIEW COMMENTS**ADDENDUM TO REMEDIAL INVESTIGATION WORK PLAN - QUALITY ASSURANCE PROJECT PLAN (QAPP)****Feed Materials Production Center (FMPC), Fernald, Ohio**

Specific comments on the data validation program (DVP) prepared by the U.S. Department of Energy for data collected at the Feed Materials Production Center (FMPC) are presented by section, page, and paragraph (when appropriate) of the previous draft. If the location of the comment is different in the revised draft, the location is specified in parentheses..

Page v, vi

The acronyms NA, NK, BNA, P/P, ID, B/N, A, PEST, RF, and %D still need to be included in the LIST OF ABBREVIATIONS/ACRONYMS. A separate list of these acronyms is not given in the appendices.

Qualifiers to be used by validators need to be summarized.

Section 1.0, Page 1, Paragraph 5

Comment on review documentation needs to be addressed.

Section 1.0, Page 2, Paragraph 1

Comment on sample tracking has been addressed.

Section 1.0, Page 5, Paragraph 1

Comment on interference check samples needs to be addressed.

Section 1.0, Page 5, 5th bullet

The phrase "not reported with QA/QC documentation" is incorrect and is contradicted later in the paragraph. Delete "not" from phrase.

Section 1.0, Page 7, Paragraph 7

The terms "non-CLP" and "non-Level IV" need clarification. The statement "review of calibration and raw data of non-Level IV (non-CLP) QA/QC review cannot be performed since raw data are not reported" contradicts statements made on page 6, stating Level V "Data derived from non-standard methods have the same QA/QC documentation requirements as Level IV data and requires additional internal validation of the method by the laboratory." Non-CLP, non-Level IV data, such as Level V radiochemical analyses, require CLP equivalent documentation including calibration and raw data.

Section 2.0, Page 12, Paragraph 6 (Page 13, Paragraph 5)

Comment on lab analysis discrepancies and deficiencies needs to be addressed.

Section 2.0, Page 13, Paragraph 12 (Page 14, Paragraph 10)

Comment on qualifier "R" needs to be addressed. "R" should represent unusable, not unreliable, data; also, resampling and reanalysis are necessary.

Section 2.0, Page 14, Paragraph 10

The two EPA guidance documents for data validation are referenced as the source of the qualifiers proposed; however, the proposed qualifiers are not consistent with these EPA documents. Refer to Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses (1988a), page 16 and page 40. Radiochemical qualifiers should be similar to inorganic qualifiers. Organic and inorganic compound qualifiers should be described separately. Also laboratory qualifiers such as "B" should not be used as a validation qualifier; and the two types of qualifiers should be kept separate. The laboratory will qualify its data, this qualification should not be confused with a data validation.

The importance of consistency in qualifier use will be apparent when performing risk assessments, comparisons between sites, comparison against established criteria, and reviews by other agencies.

Section 2.0, Page 22 (Page 23)

Comment on nuclear-specific guidance documents needs to be addressed.

Appendix A, Pages A-5 and A-6

The order and titles of checklists in the back of the Appendix need to be the same as on the list given on pages A-5 and A-6. Because several pages (A-13, A-15, A-17, A-19, A-21, and A-23) of the checklist forms are missing, the order and titles of the checklists cannot be checked accurately.

Appendix A, Pages A-9 to A-11

Radiation Survey Sampling forms should be in the back of the Appendix. The question of which forms will be used to conduct the four types of surveys needs to be resolved.

Appendix A-II, Page A-26, Paragraph 5 (Page A-28, Paragraph 5)

Comment on holding times and preservation was addressed.

Appendix A-II, Page A-28, Paragraph 2 (Page A-30, Paragraph 2)

Comment on qualifier "R" for Quantitation Limits needs to be addressed. The application of qualifiers described in Table A1 should be consistent with EPA guidance document

(1988a). The "R" for surrogate recoveries of less than 10 percent would be appropriate if the "R" definition on page 14 was corrected.

Appendix A-II, Page A-28, Paragraph 3 (Page A-31, Paragraph 3)

Comment on matrix-spike recoveries needs to be addressed.

Appendix A-II, Page A-28, Paragraph 4 (Page A-31, Paragraph 4)

Comment on identification of field duplicates needs to be addressed.

Appendix A-II, Page A-29, Paragraph 6 (Page A-32, Paragraph 6)

Comment on evaluation procedure for Internal Standards Performance needs to be addressed.

Appendix A-II, Page A-30, Paragraph 5 (Page A-33, Paragraph 5)

Comment on definition of qualifiers needs to be addressed. Qualifiers must be consistent with EPA guidance document (1988a).

Appendix A-II, Page A-31, Paragraph 1 (Page A-34, Paragraph 1)

Comments on proper preservation of samples and clear presentation of holding times information needs to be addressed. The holding times and preservations must agree with the EPA guidance document (1988a). There should not be two sets of criteria. Correct.

Appendix A-II, Page A-32 (Page A-35)

Comment on "A" was incorrectly addressed. The "A" should have been identified as the acid fraction and should not have been deleted. The qualifiers proposed are not those recommended by the EPA guidance document (1988a).

Appendix A-II, Page A-35 (Page A-38)

Comment on field precision needs to be addressed.

Appendix A-II, Page A-37, Paragraph 2 (Page A-40, Paragraph 2)

Comment on determining the qualified sample result needs to be addressed. Also, qualifiers used (e.g., X) should be those recommended by EPA guidance document (1988a). The text needs to be corrected to reflect the EPA criteria.

Appendix A-II, Page A-38, Paragraph 6 (Page A-41, Paragraph 6)

Comment on reference factor for continuing calibration has been addressed.

Appendix A-II, Page A-38 and A-39 (Page A-41 and A-42)

Comment on definition of "plus signs" needs to be addressed.

Appendix A-II, Page A-40 (Page A-43)

The phrase "verified positive results by GC/MS when greater than 10 μ g/L" was incorrectly addressed and changed to 10 g/L. The phrase needs to be addressed correctly and "g" should be replaced with " μ g." The text of Section VII needs to be recognized and clarified. In particular, volatile fractions are discussed under the semivolatiles in Section B (page A-43), and pesticide verification is addressed under the semivolatiles in Section B.

Appendix A-II, Page A-45, Paragraph 5 (Page A-48, Paragraph 5)

Comment on "holding times and preservation" needs to be addressed.

Appendix A-II, Page A-46, Paragraph 3 under Blanks (Page A-49, Paragraph 3 under Blanks)

According to EPA guidelines (1988b), "sample results > IDL but < 5 times the amount in any blank should be qualified as "U." Correct text to reflect the EPA guidelines (1988b).

Appendix A-II, Page A-46, Paragraph 4 (Page A-49, Paragraph 4)

Comment on qualifying sample results needs to be addressed.

Appendix A-II, Page A-47, Paragraph 10 (Page A-50, Paragraph 10)

Wording was changed to "unusable" from "usable," but the qualifier should be "R" instead of "X." Also, according to EPA guidance document (1988b), for evaluating ICP Interference Check Samples, the IDL should be used, instead of the CRDL. These two phrases should be corrected.

Appendix A-II, Page A-48 (Page A-51)

Comment on providing the cited table needs to be addressed.

Appendix A-II, Page A-49 (Page A-52)

Comment on evaluation of field precision needs to be addressed.

Appendix A-II, Page 49, Paragraph 3 (Page 51)

Comment on using "IDL" remains unresolved and should be adequately addressed.

Appendix A-II, Page A-50 (Page A-63)

Comment on changing "ICAP" to "ICP" needs to be addressed.

Appendix A-II, Page A-50 (page A-53)

Comment on aqueous and solid samples under "Actions to be taken" needs to be addressed.

Also, according to EPA guidance document (1988b), the IDL should be used instead of the CRDL, in comments under "action to be taken."

Comment on the "EPA control limits" in the last paragraph needs to be addressed.

Appendix A-II, Page A-51, Paragraph 6 (Page A-54, Paragraph 2)

The comment on the Furnace Atomic Absorption Scheme needs to be addressed.

Also, according to EPA guidance document (1988b), the IDL should be used, instead of the CRDL, in the comments under "action to be taken."

Appendix A-II, Page 51 (Page 54)

Comment on "Detection Limit Results" needs to be addressed.

Appendix A-II, Page A-51, Matrix Spike Result

According to EPA guidance document (1988b) the IDL should be used, instead of the CRDL, in evaluating Matrix Spike Results.

In paragraph 5 under Matrix Spike Result, the < CRDL should be changed to > IDL.

In paragraph 7 under Matrix Spike Result, the > CRDL should be changed to < IDL.

The qualifiers used are not those recommended by EPA; "UL" should be changed to "UJ", "X" should be changed to "R," and "J" should be used instead of "K" or "L."

Appendix A-II, Page A-53, Paragraph 2 (Page A-55, Paragraph 2)

Comment on inserting the heading "Sample Result Verification" before the phrase "The raw data should be examined..." needs to be addressed.

Appendix A-II, Page A-53 (Page A-55)

The comment on discussing CRDL results needs to be addressed.

Appendix A-II, Page A-54 (Page A-57)

The comment on using the inorganic data assessment form needs to be addressed.

Appendix A-II, Page A-54 (Page A-57)

The comment on replacing the form with the "Quality Assurance Review - Inorganic Data Package Form" needs to be addressed.

Appendix A-II, Page A-55

The comment on Item 4, under "Sample Result Verification" needs to be addressed.

Appendix A-II, Page A-56, Paragraph 1

According to EPA guidance document (1988b) ">ICP CRDL" should be ">ICP IDL."

Appendix A-II, Page A-62 (Page A-65)

The comment on action limits needs to be addressed.

Appendix A-II, Page A-62 (Page A-65)

The comment on detection limits needs to be addressed.

Appendix A-II, Page A-64 (Page A-67)

Comment on defining "W" and "E" needs to be addressed.

Appendix A-II, Page A-70 (Page A-71)

Comment on instrument calibration needs to be addressed.

Appendix A-II, Page A-71, (Page A-74)

Comment on holding time needs to be addressed.

Appendix A-II, Page A-72 to A-74 "Blank Analysis Results Table" (Page A-75 to A-77)

Comment on revising this form needs to be addressed.

Appendix A-II, Page A-72 to A-74 (Page A-75 to A-77)

Comment on changing "IDLS" to "IDLs" needs to be addressed.

Appendix A-II, Page A-75 (Page A-78)

Comment on "Laboratory Precision Evaluation" table needs to be addressed.

Appendix A-II, Page A-78 (Page A-81)

Comments on defining "%R, %RD, and RPD" were not addressed. Also, "A" and "B" need to be identified.

Appendix A-II, Page A-80, Paragraph 2 (Page A-83)

Comment on duplicate samples needs to be addressed.

Appendix A-II, Page A-80 (Page A-83)

Comment on data validation for sample preparation and instrument calibration for radiological analysis needs to be addressed.

Appendix A-II, Page A-83 (Page A-85)

Comment on lower limit of background uranium needs to be addressed.

Appendix A-II, Page A-86 (Page A-88)

The comment on the checklist pertaining to the instrument calibration and sample preparation needs to be addressed.

Appendix A-II, Page A-86 (Page A-88)

Comment on "background count rate" needs to be addressed.

Appendix A-II, Page A-88, (Page A-90)

Comment on clarifying the location of "Specific Validation Checklist for Macroinvertebrate Surveys" needs to be addressed. The location of the Field Log has been addressed and appears to be clear.

Appendix A-II, Page A-89, (Page A-91)

The reference in item "G" needs to be corrected. Comment on item "H" needs to be addressed.

Appendix A-II, Page A-90 (Page A-92)

Comment on the biological checklist needs to be addressed.

Appendix A-II, Page A-91 (Page A-93)

Comment on wetlands deliniation checklist needs to be addressed.

Appendix A-II, Page A-91 (Page A-96)

Comment on checklist for Bioaccumulation Study needs to be addressed.

Appendix A-II, Page A-92 (Page A-96)

Comment on soils and sediment toxicity checklist was resolved.

Appendix A-II, Page A-101

A checklist for each type of geotechnical tests still needs to be included.

Appendix A-II, Page A-101

The "NBS" to "NIST" comment could not be checked because the geotechnical validation checklist needs to be resubmitted. The checklist should be resubmitted so this comment can be checked.

REFERENCES

EPA, 1987, Data Quality Objectives for Remedial Response Activities Development Process. EPA/540/G-87/003 (March).

EPA, 1988a, Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses, Hazardous Site Evaluation Division.

EPA, 1988b, Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, Hazardous Site Evaluation Division.

EPA, 1988c, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA Interim Final, EPA/540/G-89/004 (October).

EPA, 1989, Risk Assessment Guidance for Superfund Volume I Human Health (Part A) Interim Final, EPA/540/1-89/002 (December).

EPA, 1990a, Contact Laboratory Program Statement of Work for Organics Analysis (February).

EPA, 1990b, Contact Laboratory Program Statement of Work for Inorganics Analysis (July).

EPA, 1990c, Guidance for Data Usability in Risk Assessment, Interim Final (October).