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December 14, 2000

Ms. Mary Kruger
U. S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington DC 20460

Dear Ms. Kruger:

Attached are EEG comments on the three Savannah River Site quality assurance and waste characterization documents for which the EPA opened a public comment period in the Federal Register on November 13, 2000 (Volume 64, Number 219, pp. 67741-67742).

The EEG would appreciate an EPA response to comments 1, 6, and 8 on the SRS Waste Certification Plan. EEG's other comments are specific to RCRA and transportation issues and do not require an EPA response, although any additional responses are welcomed.

Sincerely,

Matthew K. Silva
Director

MKS:BAW:rb
Attachments

cc: Dr. Inés Triay, CBFO
Mr. Steve Zappe, NMED



The SRS Waste Certification Plan, QAPD, and QAPjP were briefly, rather than exhaustively, reviewed. While these documents appear to be well-written the kinds of issues commented on indicate that there may be similar concerns elsewhere in the documents.

SRS Waste Certification Plan (WSRC-RP-99-01095), Revision 0

Several of the comments below relate to both the SRS Waste Certification Plan and the WIPP WAC, Revision 7, on which it is based.

1. Though both Sections 3.3.1 and Section B.1 requires identification and quantification of the 10 CCA radionuclides, Section B.1 also states that trace radionuclides, identified as less than 5% of the total, need not be identified. The text does not clearly point out that each of the 10 CCA radionuclides are to be reported even if they are in the <5% category.

The WIPP WAC Revision 7 (DOE/WIPP-069) Appendix A Introduction also does not make it clear that each of the 10 CCA radionuclides need to be reported even if they are <5% of the total activity. Unless the EPA has agreed that the 10 CCA radionuclides do not need to be reported when <5% of the total activity, both the SRS and CBFO documents should be revised to make the point clearly. The WAC should be revised in either case--the wording could be interpreted in either direction.

2. Sections 3.3.1, B.1 and B.3 indicate that isotopic ratios can be determined from acceptable knowledge data, and that these isotopic ratios are used to establish the quantity of some of the radionuclides that are not directly measured. This practice was examined during the November 7-16, 2000 audit of SRS by the CBFO and EPA, and the conclusion was that only when verified in accordance with 40 CFR 194(b) would the isotopic ratios from AK be allowed (see CBFO Corrective Action Report 01-005 from the audit). Resolution of the CAR should include rewriting of the applicable statements in these sections of the Waste Certification Plan.

The statements in Section B.3 indicate that SRS was aware of potential problems with isotopic ratios, but also does not clearly establish what is to be done when they do appear (p. App. B-5):

The isotopic ratios used for radioassay may be established by acceptable knowledge (AK) data when adequate data exist to support the isotopic information. For retrieved waste or new waste streams where isotopic ratios are not known, assay measurements may be used to confirm or establish isotopic ratios.

3. Section 3.3.5 states that in meeting external dose limits for containers, "Internal payload container shielding shall not be used to meet these requirements, except for the pipe component configuration." (p. 3-13). This could be interpreted as allowing shielding beyond the specifications for pipe component in Appendix 1.3.11 of the TRUPACT-II SARP. Additional shielding would conflict with the Appendix 1.3.7 (TRAMPAC)

Section 3.2 statement indicating that only the shielding provided by the configuration shown in Appendix 1.3.11 may be used.

The statement in the SRS Waste Certification Plan is an exact copy of a similar statement in the WIPP WAC (Section 3.3.5). Both the SRS Plan and the WIPP WAC statements should be rewritten during the next revision to preclude the use of additional internal shielding beyond that of the SARP pipe component description. For SRS, this is not an immediate issue, as it will be some time before pipe components are used (if they ever are). The issue is more immediate for the WIPP WAC, as other sites currently planning use of pipe components should be made aware of the limitation.

4. Section 3.6.1 states (p. 3-22):

The SRS WIPP Disposal Program personnel assign the associated TRUCON content code to a payload based on the RTR examination or visual examination which is used to determine the packaging configuration and the package contents.

TRUCON codes assignment requires information that cannot be supplied by RTR or visual examination--for instance, the location and process of waste generation, the type of radioassay performed, the chemistry of the waste constituents, and other factors. AK should be added to the methods used to assign TRUCON content codes.

5. Section 3.6.4 states (p. 3-26):

Compliance with the less than 500 ppm flammable VOC limit will be demonstrated through headspace gas sampling and analysis of each payload container prior to shipment. Per the requirements of the WIPP WAP and the SRS WIPP Disposal Program's QAPjP, all waste containers must be headspace gas sampled and analyzed for VOCs, including flammable VOCs prior to shipment to the WIPP.

A Class 2 modification to the WIPP WAP approved by the NMED on August 8, 2000 allows statistical sampling of homogeneous waste streams containers rather than sampling of each individual container. The SRS QAPjP still currently requires each container to be sampled, but will likely be altered to reflect the changes to the WAP before homogeneous waste streams are processed. However, since the flammable VOC limit is a transportation issue, not a RCRA one, the SRS Waste Certification Plan and other documents should be altered to address the flammable gas limit independent of the WAP requirements.

The WIPP WAC states in Section 3.6 4 (p. 3-24):

If an upper limit cannot be established for the amount of potentially flammable VOCs in a content code or if the theoretical limit of 500 ppm is exceeded, a gas sampling program shall be implemented.

Had SRS followed the intent of the WIPP WAC then this comment would not have been necessary. However, it should be pointed out that the WIPP WAC is erroneous in considering the 500 ppm limit to be "theoretical"--the limit is a clear requirement from Section 5.4 of the TRAMPAC. The WIPP-WAC statement should be modified during the next upgrade to the document.

6. Section B.1 of the SRS Waste Certification Plan states that (p. App B-2):

NDA Measurements taken prior to SRS Site Certification by the CAO may be used provided that data are traceable and of sufficient quality to meet current QA requirements.

The CAO QAPD, fulfilling the requirements in 40 CFR 194.22(b), prescribes a somewhat stiffer qualification method. Section 5.4 of the current CAO QAPD (Revision 3) requires qualification of existing data for scientific investigations in support of the compliance certification application to use any combination of four specific methods to qualify existing data. Any NDA measurements taken at SRS prior to site certification must meet the requirements of Section 5.4 of the QAPD, which states the following (pp. 5-4 and 5-5):

This section contains requirements unique to the post qualification of data and information that are relied upon to support the WIPP compliance application and were collected prior to the implementation of this QAPD...The qualification process shall be conducted in accordance with approved procedures that provide for documentation of the decision process, the factors used in arriving at the choice of the qualification method, and the decision that the data are qualified for their intended use.

SRS should establish the procedures for the qualification of pre-certification NDA data in accordance with the QAPD requirements and reference them in as a part of the statement quoted above.

This comment is constructed under the assumption that the QAPD, and 40 CFR 194.22, requirements are not considered implemented at SRS until the site becomes certified by the CBFO and EPA, respectively. To prevent confusion, these organizations should notify the EEG if this assumption is not correct.

7. One of the data quality objectives (DQOs) established in Section B.2 of the SRS Waste Certification Plan is to (p. App B-3):

...To identify and confirm the activities of each radionuclide of concern.
The radionuclide inventory is established in 40 CFR 194.

40 CFR 194 does not include a radionuclide inventory; rather, it requires the DOE to establish and justify an inventory of radionuclides of concern in the CCA. The CCA would seem to be the document to be referenced, not 40 CFR 194.

8. Section B.3 of the SRS Waste Certification Plan states (p. App. B-3):

The PAN system establishes radionuclide ratios relative to a radionuclide whose mass is directly determined.

The PAN system is not capable of establishing radionuclide ratios; during the CBFO audit of SRS November 7-16, 2000 it was determined that SRS was using only AK to establish radionuclide ratios. The SRS should correct this statement, perhaps as part of the resolution of CBFO CAR 01-005.

9. Editorial errors noted in the SRS Waste Certification Plan:

- a. The penultimate paragraph on page 3-11 of the SRS Waste Certification Plan contains the acronym "TDP" where "TDOP" is likely meant.
- b. Section 3.5.5 of the SRS Waste Certification Plan would seem to lack a period at the end of the first sentence in the following (p. 3-20):

Any waste container which has not undergone headspace gas sampling and analysis to determine volatile organic compounds concentrations is not acceptable at WIPP Sites are required to characterize their waste in accordance with the WIPP's waste analysis plan.

SRS Quality Assurance Program Description (WSRC-RP-99-01119), Revision 0

The EEG's sole comment on the SRS QAPD is based on the following statement from Section 1.4, Graded Approach (p. 12):

SRS shall implement the full requirements of the CAO QAPD and as such will not apply a graded approach to any of the characterization,

certification, or transportation activities accomplished in support of this program. Procurement activities which are related to the characterization, certification, or transportation of waste shall be managed in accordance with:

- WSRC Manual 1Q, Quality Assurance, Procedure QAP 7-2, Control of Purchased Items and Services

During the CBFO audit of SRS conducted November 7-16, 2000, the procurement process was found to be utilizing the graded approach; this should be specifically noted in this QAPD section. The CBFO audit report will apparently not note the use of grading in the SRS procurement process.

SRS Quality Assurance Project Plan

1. The SRS QAPjP contains a series of tables that the EEG has not noticed in documentation from other sites. These Tables (Table B3-12, Testing Batch Report Contents for radiography and VE; Table B3-13, Sampling Batch Report Contents for headspace gas and solids sampling; and Table B3-14, Analytical Batch Report Contents for headspace gas and solids sampling analyses) appear to be an excellent tool. A similar table could be constructed for NDA batch reports also.

2. Section A-3 states (p. 1):

In addition, waste containers are surveyed to determine if a waste stream is classified as contact handled (CH) or remote handled (RH) per the SRS Waste Certification Plan and implementing procedures. Data generated by these methods are assessed on a waste stream basis.

RH wastes are currently prohibited by the WIPP Hazardous Waste Facility Permit, and the QAPjP should make it clear that waste streams classified as RH are currently beyond the scope of the characterization process.

3. Section B1-1b(3), Field Reference Standards, states:

Since the direct canister method is used, after the initial accuracy check, field reference standard collection may be discontinued if the field reference standard results demonstrate the QAO for accuracy specified in Section B3-2.

This practice appears to be contrary to the requirements of the WIPP WAP, which states in Section B3-2 that:

A field reference standard must be collected using headspace-gas sampling equipment to assess the accuracy of the headspace-gas sampling operation at a frequency of one field reference standard for every 20 drums sampled or per sampling batch.

4. Section B3-1 states (p. B3-1):

Validation methods for radioassay quality assurance objectives are presented in Section B3-10.

Section B3-10 contains no specific radioassay QAO validation methods. However, it may not have been intended to--the validation techniques described in are generalized, and the SRS Waste Certification Plan Section B.7 states that NDA operating procedures contain facility methods for validation, including verification that the QAOs have been met.

5. The WAP portion of the HWFP states (Section B3-12):

Testing and sampling batch data reports and analytical batch data reports shall be forwarded to the site project office. Site QAPjPs shall specify the individual at the site project office who will receive these reports.

There does not appear to be an individual specified in the SRS QAPjP. Rather, Section B3-12 of the SRS QAPjP indicates in the comparable paragraph that:

Batch Data Reports and analytical batch data reports shall be forwarded to the SRS WIPP Records Facility.

No individual or title is specified. This portion of the SRS QAPjP should be amended to bring it in conformance with the WAP.

6. Section B4-1 states (p. 1):

The regulations specified by the Resource Conservation and Recovery Act and codified in 40 CFR 260 through 265, 268, and 270; and New Mexico Hazardous Waste Management Regulations codified in Title 20 New Mexico Administrative Code, Chapter 4, Part 1, (20 NMAC 4.1) Subparts I through VI, Subpart VIII, and Subpart IX; authorize the use of acceptable knowledge in appropriate circumstances by waste generators, or treatment, storage, or disposal facilities, to characterize hazardous waste. Acceptable knowledge is described in *Waste Analysis: EPA Guidance Manual for*

Facilities That Generate, Treat, Store and Dispose of Hazardous Waste (EPA, 1994). Acceptable knowledge, as an alternative to sampling and analysis, can be used to meet all or part of the waste characterization requirements under the Resource Conservation and Recovery Act.

40 CFR 264.13 requires a detailed physical and chemical analysis of a representative sample of waste before the waste can be treated, stored, or disposed of. §264.13 also requires that a Waste Analysis Plan (WAP) be developed which describes parameters to be tested for, and sampling and testing methods to be used to test of a representative sample of the waste to confirm the physical and chemical analysis. AK can only be used as an alternative to sampling and analysis if these requirements are met by the AK data. No DOE site, including SRS, has yet provided AK data that adequately meets the §264.13 requirements. This paragraph should be rewritten to reflect the WIPP waste characterization program.