R0-02

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, Room 242
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Phone: (518) 457-4349 FAX: (518) 457-4198

John P. Cahill
Commissioner

Fax to
M. Duchesneau
K. Healy
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Mary

November 5, 1998

Mr. Stephen SMA Absolom
Chief, Engineering and Environmental Division
Seneca Army Depot Activity (SEDA)
5786 State Route 96
Romulus, NY 14541-5001

Dear Mr. Absolom:

Re: SEAD-63
Draft EE/CA Approval Memorandum
Seneca Army Depot, Site ID No. 850006

The New York State Departments of Environmental Conservation (NYSDEC) and Health have reviewed the Draft Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum for the Miscellaneous Components Burial Site (SEAD-63.) We have no objection to SEDA moving forward in the development of an EE/CA for this site.

We note there is discussion in the Approval Memorandum in which elevated levels of certain constituents in groundwater are attributed to effects of sample turbidity. Perhaps low-flow sampling should be performed during the planned removal action so that groundwater analyses from samples with low turbidity could be available for the post-removal action discussion of the environmental conditions of this site.

If you have any comments or questions on this matter, please contact me by telephone at (518)457-3976 or by e-mail at jaquinn@gw.dec.state.ny.us.

Sincerely,

James A. Quinn
Bureau of Eastern Remedial Action
Division of Environmental Remediation

c: C. Struble
D. Geraghty
M. Peachey

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

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EXPRESS MAIL

Stephen M. Absolom
BRAC Environmental Coordinator
Directorate of Engineering and Housing
Seneca Army Depot Activity (SEDA)
Romulus, New York 14541-5001

Dear Mr. Absolom:

Re: Draft Engineering Evaluation / Cost Analysis (EE/CA) Approval Memorandum, Miscellaneous Components Burial Site (SEAD-63)

This is regarding the above referenced document prepared by Parsons Engineering Science (Parsons ES) for SEDA through the U.S. Army Corps of Engineers New York District and Huntsville Division.

EPA has no objections to the Army preparing a Draft EE/CA for SEAD-63. SEDA has informed us that the non-time critical removal action shall be consistent with the efficient performance of any long-term remedial action, with respect to the release or threatened release concerned. In order that the Army proceeds in the most cost effective manner possible, EPA advises that any alternatives discussed in the EE/CA meet the cleanup objectives for the future land use of SEAD-63, as discussed in the *Reuse Plan and Implementation Strategy for the Seneca Army Depot.*

A facsimile of this letter will be sent to you today. If you have any questions, please call me at (212) 637-4322.

Sincerely yours,

Carla M. Struble, P.E.
Federal Facilities Section

cc: J. Quinn, NYSDEC
D. Geraghty, NYSDOH
R. Scott, NYSDEC-Avon

T. Enroth, USACE-NY
K. Healy, USACE-HD
M. Duchesneau, Parsons ES

January 26, 1999

Engineering and
Environmental Office

Ms. Carla Struble
USEPA Region II
Emergency & Remedial Response Division
290 Broadway, 18th Floor, E-3
New York, NY 10007-1866

Mr. James Quinn
New York State Department of Environmental Conservation
Bureau of Eastern Remedial Action
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, NY 12233-7010

SUBJECT: Status of RI/FS and Proposal for Completion of PRAP at SEAD-25 (Fire Training and Demonstration Pad) and SEAD-26 (Fire Training Pit)

Dear Ms. Struble/Mr. Quinn:

The purpose of this letter is to provide you with the status of the RI/FS at SEADs 25/26, to present two issues which need resolution prior to completion of the PRAP at these sites, and to provide you with our proposal for resolving these issues. Our hope is to resolve these issues in the near future so that a PRAP for these sites may be submitted to you as soon as possible.

Table 1 is a summary table showing the SEAD-25/26 RI/FS deliverables we have submitted to date, as well as the comments we have received from you. Currently, we are awaiting comments/approval from NYSDEC on the Final RI and comments/approval from both agencies on the Draft Final Feasibility Study. We are in the process of responding to USEPA's comments on the Final RI replacement pages dated December 28, 1998. Currently, the draft PRAP is due to the agencies on February 26, 1999. We would like to obtain resolution of the issues outlined below prior to submitting this document.

Table 1

Deliverables to Date	SEDA Submittal Date	NYSDEC Comment Date	USEPA Comment Date
Draft RI	6/27/96	9/24/96	5/9/97
Draft Final RI	10/3/97	2/9/98	3/26/98
Final RI	5/20/98	none received	7/13/98
Replacement Pgs #1 RI	9/17/98	none received	12/28/98
Draft FS	12/21/97	5/5/98	7/30/98
Draft Final FS	11/20/98		

ITEM #1: Exposure Point Concentrations Used in Baseline Risk Assessment

Recently, it has come to our attention that the exposure point concentrations (EPCs) used in the Baseline Risk Assessment (BRA) for SEADs 25 and 26 may have been selected improperly. Parsons ES, in performing the BRA, selected the 95% Upper Confidence Limit (UCL) of the mean as the EPC for all constituents of concern, even when this value was greater than the maximum hit. Unusually high sample quantitation limits (SQLs) often caused the 95% UCL of the mean to exceed the maximum hit, sometimes by orders of magnitude. Parsons ES used the 95% UCL of the mean as the EPC for all constituents of concern on the following basis:

1) The maximum value detected was used as the EPC in the draft version of the RI. Comment #29 of USEPA's comments on the Draft RI dated 5/9/97 refers to Table 6.3, the list of EPC values, and states "Maximum values are used as the exposure point concentration. This practice is inappropriate when the 95% UCL is lower than the maximum recorded value, as is the case in this data set." Parsons ES understood this comment to mean that only the 95% UCL should be used as the EPC in all cases.

2) Section 5.3.2 of RAGS addresses unusually high SQLs stating that if SQLs cannot be reduced through re-analysis, samples with unusually high SQLs should be eliminated from "the quantitative risk assessment if they cause the calculated exposure concentration to exceed the maximum detected concentration for a particular sample set." However, "Supplemental Guidance to RAGS: Calculating the Concentration Term" Publication 9285.7-081 states that the highest measured value may be used as the concentration term, but "the true mean still may be higher than this maximum value".

In an effort to assign the appropriate EPC, Parsons ES attempted to follow both RAGS and its Supplemental Guidance by defining an unusually high SQL as one that was greater than 1.5 times the average SQL. As explained on page 6-43 of the RI, if the 95% UCL of the mean was greater than the maximum, unusually high SQLs were eliminated until either a) the 95% UCL of the mean no longer exceeded the maximum detected concentration, or b) no more unusually high SQLs were present. In the case of PAHs in particular, since the average SQLs were unusually high themselves due to matrix interferences, the procedure used resulted in several instances where the 95% UCL still exceeded the maximum detected concentration significantly. This generally was the case for PAHs and pesticides.

Mr. Keith Hoddinott of USCHPPM recently contacted Mr. Mark Maddaloni of USEPA about this issue to determine when use of the 95% UCL of the mean is appropriate. Mr. Maddaloni responded that he was not familiar with any situations where a calculated 95% UCL of the mean that exceeds the maximum hit would be used in the risk assessment. He also referred to RAGS discussion on elimination of unusually high SQLs.

Based on Mr. Hoddinott's discussion with Mr. Maddaloni, we propose that the BRA be modified such that the EPCs used in the risk assessment do not exceed the maximum detected concentration. This would entail replacing 95% UCL of the mean where it exceeds the maximum detected value, with the maximum value as the EPC. Our review of the data indicates that in doing this, the major conclusions of the remedial investigation do not change.

Media of interest based on risk remain the same: media which exhibited unacceptable risk still exhibit unacceptable risk. However, ecological quotients, hazard indices and carcinogenic risks calculated for certain constituents of concern decrease significantly when the maximum value replaces EPCs elevated due to unusually high SQLs. Certain constituents of concern in the current version of the RI are no longer constituents of concern when the EPC is replaced with the maximum value. We feel that by modifying the document, a more accurate assessment of the site risks would result, even though we do not expect these changes to have a significant impact on the action to be taken at the site.

ITEM #2: Extent of Sediment Removal in the Ditches at SEAD-25.

The Draft Final Feasibility Study presents two remedial alternatives which meet risk-based remedial action goals for a residential scenario at SEAD-25. These two alternatives include soil and groundwater remediation, proposed under the industrial scenarios as well, and removal of sediment so that risk-based remedial action goals under a residential scenario may be met. In Section 2 of the Draft Final version, remedial Case II proposes to remove sediments from both the ditch which runs to the northwest of the site and the ditch on the south and eastern sides of the site (see Figure 4-5 of the RI attached). Sediment included in Case II includes the location of samples SD25-1 through SD25-9.

Carcinogenic risk from exposure to sediments under the residential scenario is derived primarily from the presence of PAHs which exist in both ditches. Noncarcinogenic risk under the residential scenario is due to the presence of metals and pesticides, which are present primarily in the northwestern ditch only. It is the Army's position that the presence of PAHs in these ditches is not definitively due to past activities at SEAD-25 and could possibly be derived from past activities or incidences upstream from these ditches. If this were the case, removing the sediment from these ditches would only temporarily alleviate the risks due to these compounds, as these compounds may reappear due to an upstream source. Based on this rationale and the absence of metals and pesticides in the ditch along the eastern and southern boundary of the site, we propose to leave the sediments in the eastern and southern ditches in place and only remove the sediment from the northwestern ditch, that includes sample locations SD25-6, 7, 8 and 9. Removal of the northwestern ditch is referred to as Case III.

In support of this proposal, we have recalculated the human health risk under the residential scenarios (RA25-3R and RA25-3AR) which would result if only the northwestern ditch sediments were removed. New exposure point concentrations were calculated by removing samples SD25-6,7,8 and 9 from the data set. When a constituent present in the complete data set was no longer present in the new data set (i.e. where samples SD25-6 through SD25-9 were removed), one half the SQL was used as the EPC for this constituent. As shown in Table 2 attached, human health risk criteria would still be achieved under the residential scenario with the removal of only the northwestern sediments (Cases I and III). The resulting risk would be only slightly higher than that where sediments from both ditches are removed (Cases I and II).

The Army, therefore, proposes to incorporate removal of sediments from the northwestern ditch in the Proposed Remedial Action Plan (PRAP) for SEAD-25. Although removal of sediments from the site is not necessary to meet risk-based remedial action goals under the industrial scenario, the incremental cost in achieving residential risk-based goals is minimal when compared to the reduction in risk achieved.

We would like to obtain your input on our proposals for the above issues so that we may work towards submittal of the PRAP for SEADs 25 and 26 in the near future.

Questions may be directed to Stephen Absolom, BRAC Environmental Coordinator, at (607) 869-1309.

Sincerely,

Donald C. Olson
LTC, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

Mr. Randall Battaglia, CENAN-PP-HE
Mr. Keith Hoddinott, USACHPPM (Prov.)
Mr. John Buck, USAEC
Mr. Edward Agy, AMSIO-EQE
~~Mr. Don Williams, CEMRD-EP-C~~
~~Mr. Stephen Absolom, SEDA~~
Ms. Alicia Allen CEHNC-PM-ND

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Stephen M. Absolom
BRAC Environmental Coordinator
Directorate of Engineering and Housing
Seneca Army Depot Activity (SEDA)
Romulus, New York 14541-5001

Re: *Action Memorandum for the Miscellaneous Components Burial Site (SEAD-63)*
Seneca Army Depot, Romulus, New York

Dear Steve:

This is in reference to the above subject document dated October, 1999. EPA reviewed the subject document and submits the following comments. The general comments address concerns that pertained to the entire document. The specific comments address concerns for individual sections.

GENERAL COMMENTS:

1. As stated in Section 2.9, page 2-68, of the Action Memorandum, gross alpha ARARs for groundwater were exceeded in two groundwater samples at SEAD-63. According to Section 2.9 the source of these elevated levels will be investigated as part of the proposed removal action. This should be more prominently stated in both the Action Memorandum (Section 9.0), and the EE/CA. While the groundwater sampling from existing and additional monitoring wells is included in the cost estimate information in Appendix H, it is not explicitly mentioned in the text of the EE/CA.

Human Health Risk Assessment

2. Toxicological profiles for the selected Human Health Risk COCs were not included. Although references for the toxicological profiles were provided, toxicological profiles should be included in an appendix.

3. The intended future use for the SEAD-63 area is wildlife conservation. The three exposure scenarios (construction worker, park worker, and recreational child) presented in Appendix F (Section F.3.5.2, page F-15) are adequate to evaluate the potential future receptors under this anticipated land use. The residential exposure scenario included for comparison purposes (Section 2.8, page 2-63) is not required, and is incomplete since the associated risk tables in Attachment A of Appendix F do not include the calculations for residential exposure to sediment and surface water.

Ecological Risk Assessment

4. The selection of soil COPCs for the ERA is unclear. Table F-10, Fate and Transport Properties, and Table F-11 TRVs include many more constituents than do Tables F-12 and F-13. Please review to ensure that the chemicals assessed in the various steps of the ERA are consistent. The note at the bottom of Table F-12 states that soil samples used in the ERA were taken from a depth of 0-2 ft. below ground surface. Analytical results for surface soils could not be found by the reviewer, so it was not possible to determine the validity of surface soil COPC selection. Table 2-11 shows results for soil samples but does not list surface soil samples. Please clarify where surface soil samples were collected and include analytical results for surface soil in the report.

5. The report describes the existence of drainage ditches (Page 2-6, Section 2.3) and the collection of sediment samples. Although the lack of permanent water precludes screening sediment concentrations against aquatic criteria, the treatment of these sediment samples as soil samples to which terrestrial receptors might be exposed, should be considered. This may be especially important given the large number of constituents that were detected in sediments, but not in surface soils, and the fact that some contaminants (PAHs) were detected at higher concentrations in sediments than in surface soils (Table F-3).

6. Did you consider the potential risk to insectivorous and granivorous birds? While the concentrations in surface soils are probably too low for most contaminants to warrant the extra effort, the avian NOAEL for bis(2-ethylhexyl)phthalate is only 1.1 mg/kg/d, compared to 18.3 mg/kg/d for mammals. The higher sensitivity for birds to this chemical, along with the fact that HQs for the mouse and shrew are not much below one (Table F-13), may indicate greater risk to birds; a risk not addressed in this ERA.

7. For mercury, Table F-11 lists a value of 13.2 mg/kg/d, which is the small mammal NOAEL for mercuric sulfide. NOAELs for mercuric chloride (1 mg/kg/d) and methyl mercuric chloride (0.032 mg/kg/d) are more protective. Please determine which of these values for mercury is the most reasonable for the site, and please review other TRVs for accuracy. Although the TRVs may not be adequately conservative, the HQs would likely not exceed the significance value of one even if more conservative TRVs were used.

   While BAFs in Table F-10 accurately reflect literature values, the soil-to-plant transfer factors (STPs) do not. The STP values in this table could not be replicated by the reviewer although the equation from Travis and Arms (1988) in Footnote 2 of Table F-10 is correct. Please review these calculations.

Radionuclides

8. The choice of radiological COCs was not consistent between investigations of SEAD-63 and background. This complicates any evaluation. In general, the choice of radiological COCs should be based on site and process history. The radiological site history of Seneca Army Depot, which could provide information on potential sources and buried radiological materials at SEAD-63, is not documented in the Action Memorandum and EE/CA for SEAD-63. The document should include information on possible source of the Ra-226, Pm-147, and tritium (luminous signs or dial indicators), U-238, U-235, Pu-239 and tritium (nuclear weapons storage or service), and whether neutron sources were utilized at Seneca Army Depot. The radiological site history must be discussed to assess radiological COCs and development of satisfactory survey and sampling strategies.

   The Army should address radiological COCs in their QA/QC plan to provide the basis for the radiological survey, sampling, and analysis at SEAD-63.

SPECIFIC COMMENTS

1. Action Memorandum, Section 5.3.3, page 5-15 and Table 5-2, page 5-16: The analytical criteria for discharge of groundwater to surface water, as presented, include only radiological parameters. It is expected that a New York State discharge permit would also include discharge criteria for non-radiological parameters, e.g., inorganics, and some sections of the EE/CA indicate that the Army anticipates this. Review and revise the Action Memorandum and EE/CA as required.

2. Appendix A, Section 5.2.4, page 5-3: The EE/CA section on material screening operations includes debris washing unit operations. The EE/CA text does not include a statement that the washwater will be collected, sampled, and analyzed, and treated, if necessary, prior to disposal. The cost estimate information in Appendix I also does not seem to include a line item covering the costs of washwater collection and storage, sampling, analysis, and treatment. Review and revise as necessary.

3. Appendix A, Section 5.2.7, page 5-4: Air monitoring requirements should also include the monitoring of particulate matter as per NYSDEC TAGM HWR-89-4031.

4. Appendix A, Section 7.0: Several of the NYSDEC references are outdated and should be replaced by the current versions.

5. Appendix H: The cost estimate information contained in Appendix H includes an estimate for the screening, separating, and stockpiling of dirt and C&D material by the firm of Sessler Excavating and Wrecking. For cost realism it should be ascertained that the company is aware that the estimate was solicited for work at a hazardous waste site and that all company

personnel assigned to work at this radiation site will need to be OSHA-trained to work on hazardous waste sites. It was further noticed that the estimate was based on an estimated soil volume of 36,000 CY. Clarify whether the quoted unit price is the same for the anticipated volume of 4,500 CY.

6. Appendix H, TRACES Estimate: The detailed cost estimate does not appear to include the disposal cost for the 2,700 CY of non-hazardous debris and soil at the Seneca Meadows landfill (Section 33.19 on Detail Page 5 & Summary Page 1). Review and revise as necessary.

   The TRACES estimate also assumes Level D personal protection. The Army should include a contingency for personal protection upgrades since the nature of the excavated material is unknown.

Human Health Risk Assessment

7. Appendix A, Sections 2.6.4 & 2.6.4.3, pages 2-34 and 2-35, and Table 2-6 &2-7: The number of groundwater samples in Section 2-6.4.3 (three) does not match the numbers indicated in Section 2.6.4 and the tables (six) do not match. Verify the number of groundwater samples and correct as necessary.

8. Appendix A, Table 2-15, page 2-65: The referencing table numbers are not included in the "Table Number" column. Revise accordingly.

9. Appendix F: There is no outline provided for Appendix F of this document. Please provide an outline which reorganizes sections pertaining to human health and ecological risk.

10. Appendix F, Section F.2, page F-3: The SEAD-63 Action Memorandum and EE/CA should contain information on data validation and usability applicable to SEAD-63. Data qualifiers from the Tables in Section 2 of the report have not been transcribed to Table F-3.

11. Appendix F, Section F.3.5.3, page F-23, 3rd ¶: There is a typographical error in the Total annual average emissions from excavation and grading calculation. Change 0.6 to 10.6.

Ecological Risk Assessment

12. Appendix F, Section F.6.2.2, page F-51: The ecological site characterization is not specific to SEAD-63. While information on the entire Seneca Army Depot can be helpful, the selection of receptors and pathways requires more information specific to the site. It would be better to provide a more focused, pertinent site habitat description for SEAD-63.

13. Appendix F, Figure F-2, page F-57: The ecological conceptual model shows a complete pathway for quantitative evaluation only for the ingestion of soils. As ingestion of plants and

insects is part of the exposure assessment for the mouse and shrew, the conceptual model should indicate that the biotic uptake pathway is quantitatively evaluated also. Please correct.

14. Appendix F, Table F-8, page F-66: Table F-8 should include sediment assessment and measurement endpoints.

Radionuclides

15. Action Memorandum, List of Acronyms, page TOC-6: The units for radioactivity concentration are not provided while other unit acronyms are spelled out. Include all radioactivity units in the list of acronyms.

16. Action Memorandum, Section 5.1.7, page 5-5: Envirocare, Inc. in Clive, Utah is proposed as the destination for any radiological containing debris or soils exhibiting radionuclides greater than cleanup goals. Envirocare requires waste characterization and analysis for radionuclides and chemicals. Ensure that the derived concentration guideline level (DCGL), or levels above the DCGL, are acceptable concentrations for the specific radionuclides of concern. Some radionuclide DCGLs may not be acceptable for disposal at Envirocare.

17. Action Memorandum, Section 5.1.9, 2nd ¶, page 5-5: The third-party oversight contractor's QA/QC plan mentioned in this section should indicate that it will address radiological survey and sampling/analysis issues.

18. Action Memorandum, Section 5.3.2, page 5-12; Table 5-1, page 5-13: This section presents the cleanup goals for radionuclides of concern. As indicated in previous comments, the basis for the choice of radionuclides is not clear. The list of radionuclide cleanup goals is extensive and includes many naturally occurring radionuclides. If some nuclides are not realistic contaminants of concern, they should be removed. However, preliminary DCGLs were calculated using RESRAD for the listed radionuclides of concern using a total dose equivalent of 10 mrem/year. It is important that these DCGLs be treated and used as preliminary values because no evidence exists that radionuclide contamination is expected at levels significantly different from the background screening levels. These DCGLs are useful for discussion and perspective purposes only, but EPA may not approve of their use as site cleanup or action levels. When a more complete and comprehensive picture of the radiological impact of SEAD-63 is derived (during removal action activities), then a more accurate dose assessment will be possible based on the identified radionuclides of concern.

19. Appendix A, Table 2-5, page 2-32: The maximum value of 60.4 pCi/g for tritium in a background sample is suspect. It appears to be too high, and is not consistent with the other measurements. The value should be reviewed for possible lab contamination, typographical mistakes, or other errors.

20. Appendix A, Table 2-5, page 2-32: For a comparison of background to SEAD-63 soil data, there are too many "NR" and "NA" entries. This indicates a lack of consistency between background soil and SEAD-63 characterization methodology.

21. Appendix A, Table 2-10, page 2-48: Some data in the table is inconsistent. For example, for Ac-227 in the background data set, the minimum is given as 0.1, the maximum as 0.01, and the average as 0.11. Similarly, for U-235 in the SEAD-63 data set, the average value for U-235 exceeded the maximum value. Review the table and revise as necessary.

22. Appendix E, RESRAD Inputs and Outputs: The RESRAD input and output results appear consistent with typical modeling scenarios presented to the RESRAD program (no verification calculations were performed as part of this review). The choice of factors to define a "site occupancy" is not correct for scenarios other than a "resident." For example, the fraction of time spent indoors (0.1) and the fraction of time spent outdoors (0.4) used for the "construction worker" scenario needs to be multiplied by the fraction of a year that the construction worker works onsite.

A facsimile of this letter will be sent to you today. If you have any questions, please call me at (212) 637- 4323.

Sincerely yours,

Julio F. Vazquez, RPM
Federal Facilities Section

cc: S. Spaszko, NYSDEC
D. Geraghty, NYSDOH
R. Scott, NYSDEC-Avon
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John P. Cahill
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January 14, 2000

Mr. Stephen Absolom
Chief, Engineering and Environmental Division
Seneca Army Depot Activity (SEDA)
5786 State Route 96
Romulus, NY 14541-5001

Dear Mr. Absolom:

Re: SEAD-63 Action Memorandum
Seneca Army Depot, Site ID No. 850006

The New York State Department of Environmental Conservation has reviewed the Action Memorandum for the Miscellaneous Components Burial Site (SEAD-63), which includes the Engineering Evaluation/Cost Analysis (EE/CA) for this proposal, and offer the following:

1. NYSDEC does not accept a clean-up goal for cadmium and radionuclides based upon a "mini-risk assessment" back calculation. Furthermore, the limitations inherent in test-pit sampling (grab samples from an area of heterogeneous contamination) does not allow for confidence that each constituent detected previously at the site will not be detected at a higher level during post-excavation sampling (which was the reasoning behind the development of the stated clean-up goals in Section 5.3.1.) NYSDEC suggests that all debris should be excavated then adequate post-excavation sampling undertaken. The results of the post-excavation sampling can then be analyzed by SEDA and the regulatory agencies to determine whether or not additional excavation is warranted. Likewise, excavated soil should be stockpiled and sampled, and its suitability as backfill will be determined after a review of the sample results.

2. SEDA proposes that the entire Q area is to become a wildlife refuge. However, RESRAD scenarios need to be modeled for at least 1000 years, and since it is difficult to predict specific land uses over such a time period, modeling for unrestricted future use needs to be performed. Moderate density residential and industrial/commercial uses will need to be considered also. Although exceeding the DCGLs may be unlikely, consideration of ALARA will still apply. Any radionuclides left on site will have to satisfy the sum of the fractions rule.

3. When performing RESRAD analysis, attention must be paid to chain values and isotopes that are or will most likely be in equilibrium. For instance, Ra-226/Pb-210, U-238/U-234 and the Thorium chain members listed (Th-232, Th-228, Ra-228). As an example, a residual Th-232 level of 60 pCi/g, which is below the proposed DCGL of 68.46 pCi/g, would, through decay, eventually result in levels of Th-228 and Ra-228 well in excess of their respective proposed DCGLs. The DCGL values should all be internally consistent due to such equilibrium.

4. The discussion on land use in Section 2.4 is dated. Future documents should recognize the closure of certain areas of the Base and the transfer and re-use plans for these areas.

5. Figure 5-1 of the Action Memorandum is titled Soil and Sediment Areas to be Remediated. However, no areas of sediment removal are indicated. If no sediment is planned for removal, the title of this figure should be changed.

6. Section 5.1.3 of the Action Memorandum states that "[t]his work should eliminate the potential for future remedial actions." This statement is premature; the need for future remedial action at this site will be assessed after the removal action. If, on the other hand, SEDA feels that adequate information is available to support this statement, then SEDA should be proposing a Record of Decision.

7. NYSDEC's TAGM 4046, referenced throughout the document, should be included by reference in Section 5.2.1 of the Action Memorandum and Section 3.2.1 of the EE/CA.

8. Section 5.3.3 and Table 5-2 reference 12NYCRR Part 38 as support for the proposed discharge criteria for ground water or surface water. This citation should be re-checked for accuracy. In any case, project-specific discharge criteria for remediation-derived waste water will have to be issued by NYSDEC prior to discharge through a SPDES equivalent permit, while discharge to a sewer may necessitate a modification to the receiving treatment facility's SPDES permit prior to discharge. Also, there is no footnote (2) provided on Table 5-2 although one was apparently intended. These comments also apply to Section 3.3.3 and Table 3-2 of the EE/CA.

9. Section 9.0 does not include a recommendation for re-sampling of the site ground water. As discussed elsewhere in the document, a re-sampling of on-site wells is needed and could be performed concurrent with this removal effort.

10. Page 1-1 of the EE/CA refers to the proposed action as a "remedial" action, which is phraseology usually reserved for post-ROD actions. The document should consistently refer to the proposed action as a removal action.

11. SEDA should analyze the results presented in Appendix D for "background" radionuclide analysis, and provide explanations as appropriate. For example, given the half-life of Co-57 and Co-60, there is either a relatively recent source of Cobalt soil contamination near SB12-8, or the analytical results are not accurate. In either case, investigation or

explanation is needed. Confirmation of the acceptability of the background data is essential as the NYSDEC Cleanup Guideline TAGM is based on background levels.

Additional comments from the New York State Department of Health may be forwarded at a later date. If you have any comments or questions on this matter, please contact me by telephone at (518)457-3976 or by e-mail at jaquinn@gw.dec.state.ny.us.

Sincerely,

James A. Quinn
Bureau of Eastern Remedial Action
Division of Environmental Remediation

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