



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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LAND, CHEMICALS &
REDEVELOPMENT
DIVISION

FEB 10 2020

Colonel Patricia A. Csànk, USAF
Commander
673rd Air Base Wing and Joint Base Elmendorf-Richardson
10471 20th Street, Suite 139
Joint Base Elmendorf-Richardson, Alaska 99506

Re: Notice of Deficiency: Resource Conservation and Recovery Act Permit Application,
Joint Base Elmendorf-Richardson (AK8570028649)

Dear Colonel Csànk:

The U.S. Environmental Protection Agency has conducted a completeness and technical review of the JBER RCRA permit application submitted in April 2013. We have determined that the permit application does not meet the requirements of 40 CFR Part 270 and have developed a Notice of Deficiency (NOD) for the specific deficiencies identified. JBER must correct the deficiencies identified and submit a revised application within 60 days of receipt of this letter. The EPA will review the revised application and any further deficiencies will be addressed in the issuance of additional NOD(s). The EPA has sent numerous letters and has had telephone meetings on February 6, 2018 and February 4, 2019, with the EPA's management regarding JBER's delay in submitting a permit application that is reflective of potential changes to your waste management practices. In any case, JBER is still required to maintain a permit for closure of the RCRA Open Burn/Open Detonation Unit at Eagle River Flats.

If you have any questions, please contact Sean Macduff at (206) 553-2851 or macduff.sean@epa.gov. Per 40 CFR § 270.11(d)(1), please submit a signed hardcopy of the certification page, along with an electronic copy of the permit application and the RCRA Part A and Part B enclosures.

Sincerely,

A handwritten signature in blue ink, which appears to read "Timothy B. Hamlin", is written over the typed name.

Timothy B. Hamlin
Director

cc: Mr. Edward Kowalski
EPA, ECAD

Mr. Nick Vidargas
EPA, ORC

Ms. Susan Detwiler
EPA AOO

Mr. John Halverson
ADEC CSP

I. INTRODUCTION

The following is the U.S. Environmental Protection Agency's technical review of the RCRA Permit application (application), dated April 2013, for Joint Base Elmendorf Richardson (JBER), Alaska. The Part A and Part B sections of the application have been reviewed for technical adequacy, completeness, and compliance with applicable regulations. A majority of the comments focused on the Waste Analysis Plan (WAP) and the closure plans for the permitted storage unit (Building 11735), and the Open Burn / Open Detonation (OB/OD) unit at Eagle River Flats.

Additionally, as part of the EPA's review of the WAP, we evaluated the WAP's consistency with the EPA's 2015 Guidance Manual, *Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes* (EPA 530-R-12-001). Our review indicates that some components of the WAP require further detail and/or revision to be fully compliant with the regulatory requirements of 40 CFR § 264.13 and improve usability of the WAP. These deficiencies are summarized below and specifically identified in Section IV and attachment A.

The WAP would be greatly improved by including the information recommended in the WAP guidance such as:

- Expanding the facility description (section 2.2 page 2-6 thru 2-9);
- Including sample waste profiles;
- Detailing and developing a rejection and a discrepancy policy that minimizes and rectifies deficiencies in the waste analysis program (sections 2.10 and 2.11 page 2-76 thru 2-76).

Our review indicates that the TSDF (building 11735) Closure Plan is very generic, with JBER intending to submit additional detail on sampling, analysis, and clean closure documentation just prior to initiation of closure activity. However, the Closure Plan submitted as part of the permit renewal should provide enough detail that a third party could accurately bid on and implement TSDF closure, including sampling and analysis components. No more than minor modifications and updates should be needed at the time of closure. We find that the Closure Plan is most deficient in describing:

- Selection and application of clean closure levels, including background concentrations for sealed concrete and soil;
- Random and targeted sampling plans for TSDF structures, concrete, and soil to document clean closure and removal confirmation;
- Types of samples to be collected and analytical parameters to be assessed

Similar to the TSDF closure plan, the OB/OD closure plan must be current and provide enough detail that a third party could implement the plan. The OB/OD Closure Plan is also missing two important components: The Unexploded Ordnance (UXO) Avoidance Plan and boring logs from the site investigation conducted in 1996. Our review indicates that the Closure Plan lacks enough detail on:

- Selection and application of clean closure levels;
- The schedule for closure activities, documenting that all necessary activities can be completed within 180 days after receipt of the final volume of hazardous waste;
- The current status of nonhazardous waste storage at the OB/OD pad and plans for the retention basin on the western portion of the pad;
- Plans for multi-increment sampling (MIS) at the pad, particularly for volatile organic compounds (VOCs);

- Confirmation sampling of the area following any necessary corrective actions to confirm that clean closure has been achieved;
- Evaluation of surface water and sediment in the vicinity of the OB/OD pad; and
- Contingency closure/post-closure plans to be implemented if clean closure cannot be achieved.

Comments detailing these and other deficiencies are provided below.

II. PART A (40 CFR § 270.13)

1. EPA ID number missing from EPA form 8700-12. Revise the Part A to include EPA ID number.
2. All 11 entries/fields of the Hazardous waste permit part A form (8700-23) are missing. Revise application to include sections 6-11 and ensure that both Building 11735 and the OB/OD are described.
3. Signature and date of the operator is missing from EPA form 8700-12. Revise the Part A to include the signature and date of the operator.
4. The topographic map is missing. Revise the Part A to include topographic map.

III. FACILITY DESCRIPTION (40 CFR 270.14(b))

5. The application needs to address and describe all hazardous waste activities, not just the “JB ER TSD facility.” Please describe the OB/OD Pad, the central accumulation area, and all the satellite accumulation areas. Describe how waste is generated, sampled, stored, and eventually shipped offsite. A list of all satellite accumulation areas should be provided. Common waste streams should be discussed. Describe how JB ER uses contractors in the waste management process. Discuss frequency, quantity, and types of waste received from offsite and the coordination required for proper management.
6. Transportation routes and procedures as depicted on Figure 1 on page 1-2 and described in Section 1.2 on page 1-9 are vague, do not identify the gates used, do not identify Building 11735, and do not identify and describe waste acceptance routes and procedures from offsite areas (waste from remote sites). Revise the facility description to update the transportation route and acceptance procedures. (40 CFR § 270.14(b)(10))
7. The topographic map, Figure 2 in Appendix 1, should include the OB/OD pad and all other known SWMUs (the central accumulation area and satellite accumulation areas are SWMUs), not just Building 11735. Revise the facility description and update figure 2 to ensure that all applicable requirements listed in 270.14(b)(19) are addressed.
8. The map showing geographic features, Appendix 3, has no legend. Please revise the facility description to include a legend.

IV. WASTE ANALYSIS PLAN

9. "TSDf workers" mentioned on page 2-1 and 2-3 needs to be defined. Are these DLA federal, DLA contractor, JBER civilian, or other contractor employees? Revise the WAP and define.
10. The responsibilities on page 2-3 need to be assigned. Revise the WAP and assign responsibilities.
11. Hazardous waste central and satellite accumulation areas need to be identified and described. Include locations, waste streams, and how waste is managed.
12. Offsite waste generation and transportation needs to be described. The entire process of offsite waste acceptance and management at JBER is missing. Is the waste transported via plane, truck, boat, etc? A list of all the offsite generators, waste streams, quantity and frequency of waste transported to JBER needs to be described. Please describe how the waste arrives at JBER, who receives it, where and how long is it stored before it is moved to the TSDf (building 11735). Revise application and describe how the offsite waste is coordinated/managed by various personnel (military, federal, contractor). Discuss who is responsible for the waste upon arrival and what are the procedures for waste that is rejected from building 11735.
13. The central accumulation area's role in transporting and managing onsite waste from satellite accumulation areas to building 11735 needs to be described.
14. "Remediation waste" needs to be defined and described. Are the wastes RCRA/CERCLA/TSCA remediation waste? Revise the WAP and define remediation waste.
15. The term "hazardous waste generator" is not defined in this section (4.2) or in the referenced appendix A (Generator Waste Analysis Guidelines). Who exactly is responsible for waste characterization, the SAA personnel (where the waste is technically generated), the CAA, or building 11735? Is waste characterization done by military, federal, or contractor personnel?

Chemical and Physical Analyses (40 CFR § 264.13(a))

16. The WAP must be clear and specific when identifying all hazardous waste management activities that will or may be conducted pursuant to the RCRA permit. The WAP should be expanded to include additional facility details. 40 CFR §264.13(a) requires that the applicant provide a complete description of the procedures, the chemical and physical analyses of the waste, and detailed information on the activities conducted by the facility that requires a RCRA permit. The WAP is currently unclear with regard to specific hazardous waste operations and proposed waste verification activities at the site. Expand the introductory section of the WAP to include a discussion of:
 - Example waste profiles;
 - Processing activities generating the waste streams;
 - Areas for storage and/or processing of each waste type (e.g., container storage areas);
 - List of wastes managed and accepted;
 - Offsite waste acceptance and management procedures;
 - Outbound waste screening procedures;

- Any constraints regarding the waste managed;
- Any limitations to consider when conducting waste analyses;
- The range of waste characteristics JBER can accept, for example whether there is a viscosity limit on the waste oil stream; and
- Any wastes the TSDF cannot accept.

Although the WAP references the RCRA Permit and the JBER Operations Plan 19-3 for much of this information, relevant information should also be summarized within the WAP. This information is critical for evaluating the appropriateness of the waste analysis parameters, the sampling and analytical methods, and the waste reevaluation frequencies. For clarity, the information may be summarized in a table that includes the waste identity, waste code, generating process, hazardous waste management unit, rationale for hazardous waste designation, and chemical/physical characteristics.

As part of this discussion, also clarify whether JBER transports hazardous waste or is only a storage facility. The Part A Application indicates that JBER is not a transporter of waste. However, Section 4.0 of the WAP (page Att. 2-4) suggests that JBER may have plans to “store or transport waste.”

Containerized Waste (40 CFR § 264 Subpart I)

17. Provide information that demonstrates how JBER confirms that the containerized waste is compatible with both the container construction materials and the surfaces where wastes are stored.

Waste Analysis Provided by Generators (40 CFR §§ 264.13(b) and (c))

18. Revise Section 4.1 of the WAP (page Att. 2-4) to indicate that spent solvents are also accepted at the facility. The bulleted list references solvents but should include spent solvents as well. Additionally, Section 4.1 of the WAP states that the wastes accepted by JBER fall into one of seven waste families. However, Appendix A Section 2.0 (page A-2-1) states that the wastes accepted by JBER fall into eight families. Revise the WAP to clarify this discrepancy.
19. Section 4.2 of the WAP (page Att. 2-6) refers to Figures 2-4-1 and 2-4-2 as providing details on how wastes are characterized. Revise the figures for accuracy. For example, Figure 2-4-1 indicates that, if the waste is unknown and it is a liquid, it will be field screened using the procedures shown in Figure 3. Figure 3 does not exist in the WAP, but there is a Figure 2-4-3 which provides field screening procedures. Revise the WAP figures for accuracy.

Parameters and Rationale (40 CFR § 264.13(b)(1))

20. Table 2-4-2 of the WAP provides the rationale for hazardous waste determination. However, the table only addresses a portion of the wastes listed in the Part A Application. For example, no U or F wastes are included on the table. Revise the WAP to include rationale for all wastes accepted and/or generated at JBER. Additionally, the rationale column on the table includes single letter codes, such as “v” for photographic wastes. However, “v” is not defined in the notes section of the table. Revise the table to ensure that all codes are defined.

Test Methods (40 CFR § 264.13(b)(2))

21. The WAP must specifically indicate that the most recent version of each test method will be used in conducting sample preparation and analysis. Confirm that all currently listed test methods in Table 2-4-1 have not been superseded by updates. The most recent compendium of SW-846 (May 2019) should be reviewed for updates and incorporated by reference for the test methods that will be used at the facility. For example, SW-846 Method 6010B has been updated to SW-846 Method 6010D, and SW-846 Method 8081A is now SW-846 Method 8081B.

In addition, ensure that all analytical methods that will be used for characterizing waste are included in the WAP. Methods and procedures for determining color, consistency, pH, specific gravity, reactivity, and total solids should also be identified. Revise the WAP to include this information.

Finally, Table 2-4-1 indicates that polychlorinated biphenyl (PCB) analyses are not included for sludge material. Provide the rationale for not including this analysis, or revise the WAP to include PCB analysis for sludge.

Sampling Methods (40 CFR § 264.13(b)(3))

22. The WAP does not identify the specific methods to be used for obtaining representative samples from various waste materials. Table 2-5-1 identifies sampling equipment to be used, but the methods are not included in the WAP. The specific methods that will be used to obtain and analyze a representative sample of waste must be included in the WAP. Two options exist for collecting and analyzing a representative sample: use of the sampling methods referenced in 40 CFR § 261, Appendix I, or provision of a detailed description of an equivalent method. Revise the WAP to address this concern.
23. Section 3.3.1 of Appendix A to the WAP refers to Table 2-4-1 for analytical method-specific containers, preservation requirements, and holding times. Table 2-5-2 lists this information. Revise the WAP to eliminate this error.
24. Section 5.3.2 of the WAP (page Att. 2-25) indicates that disposable sampling equipment will be used whenever possible. Clarify whether the equipment identified in Table 2-5-1 are all disposable. The WAP should identify which equipment (e.g., pH meters, sampling probes, sample collection devices) is not commonly disposable and provide details on how decontamination of that sampling equipment will occur. This information is necessary to ensure that any cross-contamination is avoided.
25. Expand the WAP to refer to those specific sections of the Permit Renewal Application that detail training requirements for sampling personnel.
26. Section 3.3.1.3 of Appendix A to the WAP discusses sampling from storage tanks. Clarify under what conditions JBER would be sampling from a storage tank as part of the waste acceptance and verification process. Additionally, clarify why sampling methods for storage tanks and waste piles are included in the WAP given that, per Attachment 1 to the Permit Renewal Application, the TSDF only manages hazardous wastes in containers.

27. The chain of custody form is missing. Revise WAP and attach a copy of the form.
28. Lab certifications should be required for all analyses performed.

Frequency of Analyses (40 CFR § 264.13(b)(4))

29. Section 4.4.2 of the WAP (page Att. 2-17) states that waste profiles are subject to periodic evaluation. The WAP also states that, if necessary, validation sampling is performed. Revise the WAP to provide additional details regarding these analyses. Specifically indicate how often and under what conditions validation sampling is performed.
30. How is offsite waste validated? Who is responsible for validating offsite waste, building 11735 staff, military, federal, or other contractor personnel? This needs to be clear as to who is responsible for such validation.
31. Section 4.4.3 of the WAP (page Att. 2-18) indicates that the schedules for reevaluation frequency are provided in Appendix A. However, Section 5.1 of the WAP (page 2-23) refers the reader back to Section 4.4.3 for details on verification frequency. Revise the WAP to include accurate and specific references as to where this information is in Appendix A.
32. JBER proposes to verify composition of a given waste stream during the initial profiling effort and then reanalyze the waste stream if notified by the generator that the waste has changed. This verification approach is supplemented by annual recharacterization. However, it is recommended that random sampling/analysis also be conducted to verify that the wastes remain as expected.
33. The WAP states that, if a waste received fails verification screening or if screening results indicate that the waste does not match the waste profile, the shipment will require additional testing. Revise the WAP to include the specific steps to be followed for rejecting and/or reanalyzing a waste shipment. Allowable time frames for return of the shipment should be specified. The WAP should also state that, if the issue is not resolved within 15 days of receipt, JBER will contact EPA's Regional Administrator for direction to avoid an orphaned waste situation.

Additional Requirements for Wastes Generated Off-Site (40 CFR § 264.13(a)(4))

34. Section 4.1 of the WAP (page Att. 2-4) states that wastes accepted at JBER "usually fall into one of seven waste families..." Clarify under what circumstances a given waste would not fall into those seven categories and document how that situation will be handled to ensure proper waste management within the TSDF.
35. Section 5.3 of the WAP (page Att. 2-24) states that hazardous waste shipments are subject to visual inspection and that, if visual inspection or information on the file does not match the expected waste, the waste shipment will either be brought into conformance, sampled and analyzed, or returned to the generator. Revise the WAP to clarify under what circumstances the shipments will be sampled and analyzed versus returned to the generator.
36. Section 5.3.3 of the WAP (page Att. 2-29) states that the acceptance screening process is diagramed in Figure 2-4-3. The WAP should also discuss this screening process and clarify whether the screening process varies based on the form and consistency of waste.

37. Section 2.0 of Appendix A contains ten checklists for evaluating waste. Checklist 4, in particular, is very confusing. For example, Line 8 asks if there are any "F" listed constituents. However, no further directions are given as to how to proceed regarding whether the answer is yes or no. Revise Checklist 4 as necessary to clearly explain the steps in the analysis of hydrocarbon wastes (POL wastes). Line 1 states that, if the product is not an oil, go to Step 13. Step 13 states "ship as an on-specification used oil under recycling." Clarify why the waste is being shipped as used oil if the product is not an oil. Revise the WAP to ensure that all steps in the checklist are correct, compliant, and appropriate.
38. What are the procedures for waste rejection from both onsite and offsite generated waste? For offsite generated waste, how is rejected waste managed, where does it go, who is responsible for corrective action, etc? What are the procedures for returning rejected waste back to offsite generators?

Additional Requirements for Ignitable, Reactive, or Incompatible Wastes (40 CFR §§ 264.13(b)(6) and 264.17)

39. The WAP should be expanded to discuss specific procedures to be used in complying with regulations for incompatible, ignitable, or reactive hazardous wastes (e.g., protection from sources of ignition, no smoking signs). Although the WAP need not delve into detail, it should reference the information and where it can be found in the larger Permit Renewal Application. Revise the WAP to include this discussion.

Waste Analysis Requirements Pertaining to Land Disposal Restrictions (40 CFR § 268.7)

40. Section 4.5 (page Att. 2-18) discusses land disposal restriction (LDR) treatment standards, as does Appendix A Checklist 10. However, the WAP should clarify that all wastes generated and/or received at the TSDF will be evaluated for LDR treatment standards. Expand Section 4.5 of the WAP accordingly.
41. Page 2-6 states that the TSDF will prepare LDR notifications and certifications using data supplied by the generators. Page 2-18 states that offsite generators will prepare LDR documentation. Can you clarify? Does LDR notification and documentation mean the same thing? If offsite generators are responsible for preparing their LDR notifications, update the statement on page 2-6.
42. Expand the WAP to clarify whether the following wastes are generated or accepted at JBER:
- Radioactive mixed waste;
 - Single or multi-source F039 leachates;
 - Laboratory packs; and
 - Contaminated debris.

If any of these wastes are accepted or generated, expand the WAP to clarify how these wastes are managed.

Retention of Generator Notices and Certifications (40 CFR § 268.7(a)(8))

43. Expand Section 6.0 of the WAP (page 2-31) to provide the location at the facility where required notices and records will be maintained for at least three years from the date of the last related waste shipment. Furthermore, clarify whether items such as LDR certifications and sampling validation results will be retained. It is recommended that all information received and/or generated to document LDR compliance be kept on file until closure of the facility to ensure that JBER can demonstrate regulatory compliance at any given time.
44. Add a statement as to whether wastes are shipped from the JBER TSDF to Subtitle C and/or D facilities for further processing, storage, or disposal. If wastes are shipped to either or both types of facilities, discuss what notifications and certifications are included with the waste and what is retained on-site.

Requirements Pertaining to the Storage of Restricted Wastes (40 CFR § 268.50)

45. Revise the WAP to include a discussion of the length of time hazardous waste containers are stored at the facility. Discuss how the storage containers are managed and tracked to ensure that wastes exceeding LDR treatment standards are removed from the facility within one year after receipt (unless proper demonstrations can be made that the wastes must remain on site for a longer period – which should be noted in the WAP and larger Permit Renewal Application).

Requirements Pertaining to the Storage of Liquids Containing PCBs (40 CFR § 268.50(f))

46. Clarify how hazardous wastes with PCB concentrations greater than or equal to 50 parts per million are managed at JBER.

V. PERSONNEL TRAINING (40 CFR § 264.16)

47. All the positions that require training should be discussed. Training requirements for specific employees that work at the TSDF, CAA, or SAAs should be described. The various levels of training for staff/employees should also be described. Who will provide the training, who is responsible that all training requirements are satisfied, and where all the records be stored?

VI. HAZARDOUS WASTE CONTINGENCY PLAN (40 CFR §270.14(b)(7); 264 Subpart D)

48. In Section 6 of the SPCC/Oil Discharge Prevention and Contingency Plan, emergency coordinator(s) needs to be identified by name and included in the plan. Revise the hazardous waste contingency plan to include name and contact information of emergency coordinators.

VII. TSDF CLOSURE PLAN

Closure Performance Standard (40 CFR §§ 264.111 and 270.14(b)(13))

49. Based on activities described in the Closure Plan, it appears that JBER intends to clean close the TSDF. The Closure Plan must present criteria to be used in assessing environmental impacts and/or documenting clean closure. Closure performance standard(s) must be demonstrated, not just stated. JBER must demonstrate how it will meet 264.111. This section should include:

- Describe what standards the TSDF will meet. For example, 268.45 describes the treatment standard for hazardous debris and how to achieve a “clean debris surface.”
- Describe constituents of concern (COC). Specific COCs can be identified in a sampling and analysis plan submitted upon actual closure. Records and historical operational knowledge are adequate to provide general waste streams and types. Please include COC in a table with waste codes and waste categories (characteristic, listed, product, etc.).
- Provide clean closure levels (numerical values) for all appropriate environmental media. Describe how clean up levels were calculated, and assumptions used (if applicable).
- Describe when clean closure will be achieved for the TSDF. For example, if the TSDF can demonstrate that no/minimal spills occurred, then a high-pressure steam/water spray may be an adequate treatment standard as described in Table 1 (A.1.e) of 268.45.

According to the paragraph spanning pages Att. 5-1-3 and Att.5-1-4, proposed action or cleanup levels will not be evaluated until the Sampling and Analysis Plan (SAP) is submitted just before closure. The last line on page Att. 5-1-4 then refers to “EPA health-based cleanup criteria in effect at the time of closure.” Revise the plan to identify the standards against which site data will be compared to document that clean closure has been accomplished (e.g., EPA Regional Screening Levels, updated as appropriate from the May 2019 values to reflect those standards in effect at the time of closure). The Closure Plan should also specify in detail how compounds without RSLs or similar screening criteria will be evaluated at closure.

The first paragraph on page Att. 5-1-4 and the first line on page Att. 5-1-5 also refer to establishment of background levels for the sealed concrete surface and soil. The Closure Plan must specify which constituent classes will be evaluated for elevated background levels in the sealed concrete, as opposed to soil which typically only involves evaluation of background levels of metals. The Closure Plan must also describe how large the background data set will be and how the data will be processed to determine a statistically appropriate value for comparison against data from the TSDF concrete and soil samples. Revise the Closure Plan accordingly.

50. Section 1.3 of the Closure Plan states that a detailed SAP will be submitted to the EPA for approval prior to performance of final closure activities. According to the discussion on pages Att. 5-1-2 and 5-1-3, the SAP will include protocols for sampling of empty storage areas and underlying concrete and soils (e.g., number of samples, sampling grid, sample and analytical parameters, methods for sampling and analysis, and location/rationale for background samples). The Closure Plan submitted as part of the permit renewal should provide enough detail that a third party could accurately bid on and implement TSDF closure, including sampling and analysis. Such details will: (1) ensure that the installation has considered the full scope of closure requirements for the TSDF, and (2) allow EPA to assess whether the planned closure activities are likely to be successful in identifying any lingering contamination at the TSDF area. It is expected that the Closure Plan should require only minor modifications and updates at the time of TSDF closure. Revise the Closure Plan accordingly.

Maximum Waste Inventory (40 CFR §§ 264.112(b)(3) and 270.14(b)(3))

51. Section 1.2 of the Closure Plan (pages Att. 5-1-1 and 5-1-2) states that hazardous wastes anticipated to be stored at the TSDF include any of those listed in the Part A Permit Renewal Application. It is important that the Closure Plan be written as a stand-alone document, especially given that there is currently no foreseeable closure date for either the installation or the TSDF. Revise the Closure Plan to include a complete list of hazardous wastes that may be accepted at the TSDF and the hazardous constituents for which those wastes were listed.

Schedule for Closure (40 CFR § 264.112(b)(6))

52. Table 5-1-1 (page Att. 5-1-7) presents a list of planned closure activities and the estimated days to complete each step. The table, or associated discussion throughout the Closure Plan, should be revised to address the following issues:
- a. Describe the activities to be conducted on Days 0-10 – after receipt of the final volume of hazardous waste and initiation of closure activities. Containers of hazardous wastes within the TSDF are expected to be prepared for shipment on Days 10-25, and shipment will occur on Days 25-55.
 - b. Clarify which specific samples will be collected on Days 55-60 and whether concrete core samples will be collected at the time of soil sampling (Days 90-180).
 - c. It is unclear why JBER will only account for waste shipment manifests on Day 170. Pursuant to 40 CFR § 264.71(a)(2)(iv), manifests should be returned from the receiving facility within 30 days of delivery to avoid an orphaned waste situation. Clarify the rationale for this approach and/or revise the Closure Plan as necessary.

Closure Procedures (40 CFR §§ 264.112 and 264.114)

53. Section 1.3 (pages Att. 5-1-2 through 5-1-5) outlines a general plan for development of a sampling program to confirm clean closure. Several concerns have been identified with this discussion:
- a. The first full paragraph on page Att. 5-1-3 states that JBER will conduct a review of all historic records on spills and releases at the TSDF to locate areas where those spills occurred and finalize the sampling grid and layout. This approach is appropriate, but the text should specifically indicate where and how long such records have been and will be stored to ensure that they remain available at the time of eventual TSDF closure.
 - b. The text should clarify that sampling to be conducted at the time of closure will include both random grid-based sampling and targeted sampling of areas exhibiting staining, sealant thinning, cracks, and similar deterioration.
 - c. Random sampling should be conducted in accordance with EPA's guidance entitled *Methods for Evaluating the Attainment of Cleanup Standards: Volume 1 (Soils and Solid Media, 1989) and Volume 3 (Statistical Methods, 1994)*, as well as more current guidance including the

- d. Figure 16 from Attachment 6 shows that the north bay is considerably smaller than the south bay, but three concrete samples are proposed for each area. Revise the Closure Plan to provide justification for the proposed sampling quantities and locations (or the lack thereof). Also revise the Closure Plan to clarify whether these samples will be collected by surface scraping or coring into the concrete.
 - e. Expand the last paragraph on page Att. 5-1-4 to require that subsurface soil samples also be collected in locations where the overlying concrete samples were found to be contaminated (in addition to beneath any spill areas, cracks, or areas of deterioration).
 - f. The Closure Plan includes no details on the scope of confirmation sampling and analysis to be performed after any necessary soil excavation, as described in the second full paragraph on page Att. 5-1-5. Revise the Closure Plan to discuss sampling of excavation base and sidewalls, sample spacing, constituents to be analyzed for, quality assurance, delay of backfilling until results are reviewed and approved by the EPA, and other relevant topics.
54. A plan view figure of the TSDF should be provided to supplement details in the third full paragraph on page Att. 5-1-3. Such a figure can combine relevant features from two figures in Attachment 6 to the permit renewal application: Figure 16 and Plan A-1 (pages 897 and 902, respectively, in the electronic file). This combined figure should show the location of all features that could facilitate or mitigate migration of contamination within and around the TSDF. For example, the plan should show the loading dock sumps, trenches, openings to the exterior of the building, proposed sampling locations on the TSDF loading dock, exterior topography, and interior and exterior berms. Sampling locations noted in the third paragraph on page Att. 5-1-3 should be specifically identified.
55. Clarify how and when JBER will characterize and/or manage any liquids accumulated in the unit's trenches or sumps at the time of closure. It is especially important to know whether any such liquids will be removed prior to beginning decontamination of the unit's interior surfaces.
56. The third full paragraph on page Att. 5-1-3 states that "operating records will be used to determine appropriate analytical methods" for concrete samples to be collected within the TSDF structure. The next paragraph states that "confirmation samples collected from each storage area will be analyzed for the constituents of the wastes stored in that area, as well as all other waste types stored in the TSDF." It is unclear whether additional concrete samples will be collected from the TSDF floor if no exceedances are identified during the first round of sampling. Revise the Closure Plan to clarify which samples are considered "confirmation samples." Given the length of time this unit will have been in operation at closure, and the possibility that operations within the unit may have changed during that time, it is recommended that all samples used to document clean closure be analyzed for the complete list of hazardous constituents in all wastes ever stored at the unit.
57. Expand Section 1.3 of the Closure Plan to refer to the Quality Assurance Objectives (QAOs) in Appendix A to Attachment 5a. Revise the Closure Plan and the appendix so that they do not contradict each other. Specifically:

- a. Table A-1-1 from Appendix A (page App. A-1-2) refers to floor wipe samples, but the main body of the Closure Plan does not call for this type of sample. Clarify whether such samples will be collected during closure.
- b. Table A-1-1 calls for analyzing subsurface soil samples and comparing the data to clean closure limits. If the clean closure limit is exceeded, the soil will be analyzed using the toxicity characteristic leaching procedure (TCLP). If TCLP limits are exceeded, the soil will be excavated and containerized for disposal as hazardous waste. No discussion is provided as to the actions JBER will implement if the clean closure limits are exceeded, but the soil passes TCLP. That soil would still need to be excavated but could be disposed as nonhazardous waste. Provide details on how the soil would be addressed under these conditions. Also ensure that the decision tree for testing of each waste stream is clear; inclusion of flow charts may be beneficial.
- c. Table A-1-1 seems to assume that contaminated concrete will fail TCLP testing and will require disposal as hazardous waste. Although this is a proactive step, it may not be mandated by RCRA regulation. Clarify whether any concrete samples will be tested using the TCLP and whether any demolished concrete may be disposed as nonhazardous waste.
- d. Section 3.1 of Appendix A (page App. A-3-1) indicates that soil and water samples will be analyzed during TSDF closure, but the Closure Plan also refers to analysis of concrete samples. Ensure that all appendices and the Closure Plan clearly specify the type of samples that will be collected.
- e. Section 3.2 of Appendix A (pages App. A-3-1 and App. A-3-2) refers to specific analytical parameters from Table 2-4-1 of the Waste Analysis Plan. Clarify whether these parameters will be used for all samples from the TSDF closure, or if that decision has yet to be made (as suggested by the main body of the Closure Plan).

58. The chain of custody form, referenced as Figure A-2-1 in Appendix A to Attachment 5a, is missing. Incorporate the appropriate form into the Closure Plan's appendix.

Disposal or Decontamination of Equipment, Structures, and Soil (40 CFR §§ 264.114, 264.112(b)(4), and 270.14(b)(13))

59. Expand Section 1.4 of the Closure Plan (page Att. 5-1-5) to discuss decontamination of well-sealed floors, walls, and berms within the TSDF's storage areas and loading/unloading bays. Also expand the section to indicate how decontamination of these structural components will be verified (e.g., via collection and analysis of wipe samples, collection of rinsate samples).

Closure of Disposal Units/Contingent Closures (40 CFR § 270.14(b)(13))

60. Clean closure is not always possible, even with the most careful waste management plans. As such, the Closure Plan should provide detail on contingency actions to be implemented if the TSDF cannot be clean closed (i.e., if it becomes infeasible to remove all contaminated soil beneath/around the unit, if groundwater is found to have been impacted by TSDF activity). The Closure Plan should acknowledge this possibility and commit to resultant RCRA actions including

amendment of the Closure Plan, development of a Post-Closure Plan, permit modifications, and compliance with closure and post-closure care requirements that apply to interim status landfills per 40 CFR §§ 262.17(a)(8)(iii)(4) and 265.310.

VIII. OB/OD CLOSURE PLAN

Closure Performance Standard (40 CFR §§ 264.111 and 270.14(b)(13))

61. According to the Closure Plan, JBER intends to clean close the OB/OD pad, and Section 4.2 states that clean closure will be demonstrated following “sampling and analysis activities or following contaminant removal or site remediation.” The Closure Plan includes information on the closure sampling process and potential action levels for environmental media. However, details regarding how the data will be processed and what decisions will be made based on those data should be included in the Closure Plan. Furthermore, clean closure is not always possible, even despite the most careful unit and waste management. As such, the Closure Plan should provide specific detail on contingency actions to be implemented if the OB/OD pad cannot be clean closed. The Closure Plan should generally clarify whether the pad will be closed in place and subject to a comprehensive Post-Closure Plan or addressed via RCRA corrective action. Specific details should be provided as to how JBER and OB/OD pad personnel will proceed if contamination is detected above action levels. In revising the Closure Plan, JBER should provide enough detail and specificity that a third party could accurately bid on and implement pad closure; this will ensure that the installation has considered the full scope of closure requirements for the OB/OD pad.
62. Section 2.4.2 concludes that no contamination above action levels was found in soil, sediment, or groundwater samples during historical investigations of the OB/OD pad area. However, in some cases, action levels in effect at the time of those investigations are higher than the EPA Regional Screening Levels (RSLs) from May 2019. For example, the current RSL for 2,4-dinitrotoluene (DNT) in residential soil is 1.7 milligrams per kilogram (mg/kg), but the historical action level used for comparison was 100 mg/kg. According to Table 3 of the Closure Plan (page 19), the maximum concentrations of 2,4-DNT detected in OB/OD pad soil and sediment samples were 65 and 84 mg/kg, respectively – both of which exceed the current RSL. Update the Closure Plan to include a discussion of historical sampling results as compared to current RSLs. This information is necessary to evaluate adequacy of the proposed clean closure sampling plan.
63. Section 3.5 of the Closure Plan (page 36) indicates that human exposure to hazardous constituents at the OB/OD pad is only likely to occur through dermal contact, ingestion, or inhalation of contaminated soil. However, the Closure Plan does not indicate whether groundwater is used as a source of drinking water in the area, or if other human health risks exist from the groundwater pathway. Revise Section 3.5 to include a discussion of local and/or regional groundwater use and any associated potential for exposure.
64. Section 4.2.1 (page 39) lists chemical compounds potentially present in the OB/OD area. Clarify whether Aqueous Fire Fighting Foam was ever used to suppress fires on or surrounding the OB/OD pad. If so, evaluate whether perfluorinated compounds should be added to the list of chemical compounds potentially present in environmental media.

65. Section 4.2.2 (page 41) references Table 7 for cleanup standards. However, Table 7 is a list of chemical compounds in munitions disposed of at the OB/OD. Revise the Closure Plan as necessary to address this discrepancy.
66. Section 4.2.2 (pages 40-43) discusses potential sources of action levels for clean closure of the OB/OD pad. Section 4.2.3 (page 43) states that USEPA Regional Screening Levels for residential soil will be the cleanup action level for soil and Maximum Contaminant Levels (MCLs) or Tap Water Levels will be selected for groundwater and surface water. This section also states that, when a remedial investigation is conducted and the contamination exceeds the risk-based cleanup levels, clean closure will be achieved if contaminants are within the range of background. Several concerns have been identified with the stated approach to identifying action levels for clean closure:
- a. Table 7 – *Chemical Compounds in Munitions Disposed at the OB/OD Pad* and Table 8 – *Clean Closure Standards for the OB/OD Pad* should list an identical suite of compounds. However, there are several differences between the two tables. For example, Table 7 identifies ammonium picrate, ammonium nitrate, and barium nitrate as potentially having been disposed at the OB/OD pad, but these constituents are not included on Table 8. Conversely, arsenic is included on Table 8 but not Table 7. As such, the basis for selecting compounds to demonstrate clean closure is unclear. Revise the Closure Plan to clarify how and why the compounds in Table 8 were selected for evaluation of clean closure. As part of this discussion, identify in which detonated materials the selected chemical compounds are typically found, so that the rationale for their selection as target compounds is clear. Finally, given that the referenced tables were prepared as part of the original closure plan, it is possible that they no longer reflect the full suite of constituents present at the OB/OD pad (or current screening levels, as noted above). Update the tables as needed for completeness and compliance with current EPA guidelines.
 - b. Section 4.2.1 of the Closure Plan (page 39) indicates that some compounds listed in Table 8 do not have cleanup levels or may not be considered a contaminant. As this table is out of date, it should be updated using current screening levels. Table 8 should specifically identify which compounds do not have an established cleanup standard, and the Closure Plan should be revised to specify in detail how compounds without RSLs or similar screening criteria will be addressed. Finally, Table 8 should identify any compounds that JBER does not consider a contaminant and provide the basis for that determination.
 - c. Update Table 8 to include the May 2019 EPA RSLs.
 - d. Section 4.2.3 of the Closure Plan (page 43) references the use of background levels as cleanup standards. Specifically, the text states that “if a maximum value is significantly greater than the analogous RSL, the maximum value will be compared to the analogous natural background value or range of values. If the maximum value is not significantly greater than its natural background value or range, then the clean closure standard for the chemical will have been met.” Clarify what is meant by “significantly.” Furthermore, clarify what is meant by a “range of values.” Because the Closure Plan should be implementable by third party, all closure cleanup criteria must be specified, along with details regarding the statistical methods to be used for calculating and utilizing the cleanup criteria. Finally, Table 8 indicates that the white

phosphorous criteria is “to be determined.” The cleanup standard should be specified, or a method for selecting or calculating the criteria should be provided.

67. The Closure Plan should provide details on what activities will be conducted if the sampling investigation described in Section 5.2 indicates that contamination is present. Specifically clarify what additional sampling will be conducted to delineate soil contamination to relevant screening levels. Also discuss what activities will be conducted if groundwater contamination is identified around the OB/OD pad.

Maximum Waste Inventory (40 CFR §§ 264.112(b)(3) and 270.14(b)(3))

68. Section 2.5 of the Closure Plan (page 28) states that no waste inventory is expected to be disposed of at closure. However, the intent of this regulation is to provide an estimate of the maximum inventory of waste ever present at the OB/OD pad during the unit’s active life. On page 29, the Closure Plan does state that “about 1,000 pounds of explosive were detonated with C-4 in the pits during each burn.” Clarify whether it is possible to make an estimate of the maximum inventory of waste using this information and the typical frequency of burn events. In addition, as part of the evaluation of waste inventory, provide further details on the retention basin that was used for white phosphorous sediments, as described in the second paragraph of Section 2.6. Specifically clarify the dimensions of the basin and the volume of contaminated sediment that was placed in the basin.

Schedule for Closure (40 CFR § 264.112(b)(6))

69. Section 4.3 of the Closure Plan (page 44) indicates that no date has been set for closure of the OB/OD pad. The plan goes on to state that a detailed schedule for closure will be submitted in the final Closure Plan and that “JBER will complete the closure activities within 180 days after the EPA’s approval of the final closure plan, in accordance with 40 CFR § 264.113(b).” This plan, submitted with the RCRA Part B Permit Renewal Application, should be considered the final Closure Plan. Thus, although the actual date that closure begins is contingent on certain activities and approvals, a schedule should still be included to outline how many days each activity (e.g., intent to close, sampling, waste removal) will require. This information is necessary to demonstrate that all activities will be completed within 180 days from the day clock starts. Moreover, 40 CFR § 264.113(b) requires that closure activities be completed within 180 days *after receiving the final volume of hazardous wastes*, not within 180 days after the EPA’s approval of the final Closure Plan. Revise Section 4.3 to note that receipt of the final waste volume will trigger the 180-day clock. Revise the Closure Plan to include a specific schedule of activities for closure of the OB/OD pad.

Closure Procedures (40 CFR §§ 264.112 and 264.114)

70. Section 5 of the Closure Plan (page 46) discusses procedures to be implemented to complete closure of the OB/OD pad. However, several important procedural components are missing, making it difficult to evaluate the Closure Plan. Specifically:
 - a. Section 5.1.1 (page 46) references the UXO Avoidance Plan in Appendix D, but that appendix is not included in the Closure Plan. The UXO Avoidance Plan presents critical health and safety procedures for operation and cleanup of the OB/OD pad. Accordingly, that plan should be provided for review.

- b. Section 5.2.1 (page 47) refers to Figure 10 for the locations of four additional proposed borings/monitoring wells, but that figure shows only the proposed incremental sampling grid. Revise the figure to also show the four proposed boring/well locations discussed in the second sentence of Section 5.2.1.
 - c. The sampling plan in Section 5.2 lacks sufficient detail. For example, four monitoring wells are proposed to be installed around the 10-acre pad. However, no information is provided in the Plan on proposed well depths, screened intervals, and other construction details, and only limited information is provided on the proposed well locations. The Closure Plan acknowledges that groundwater conditions are not well understood in the OB/OD area. Only one set of water level data from 1996 is available, and no information regarding seasonal and tidal influences are available. Furthermore, the seven piezometers on site are screened above the water table and may not provide any useful information regarding groundwater conditions. Revise the Closure Plan to specify the types of information needed to assess groundwater conditions and how the monitoring well program will be used to obtain that information (e.g., which wells will be used to assess shallow water conditions, which wells will be used to assess deep groundwater conditions, what seasonal and tidal data will be collected, whether cluster wells will be installed). This information is necessary to evaluate the adequacy of the groundwater sampling program and to ensure that leaching and/or migration of contaminants from the OB/OD pad has not and will not occur.
 - d. Appendix E, containing boring and construction logs from the 1996 site investigation at the OB/OD pad, is not included in the Closure Plan. Provide these details to allow for a more comprehensive evaluation of historic data results and closure sampling plans.
71. The proposed soil sampling plan currently includes MIS protocols using a grid approach where each grid measures 60 meters by 60 meters. The Closure Plan proposes to collect one MIS sample from the 0- to 2-inch interval and one MIS from the 8- to 10-inch interval within each grid unit. Each MIS sample will consist of 50 increments collected within a single grid unit and combined for analysis. The following concerns with this approach have been identified:
- a. Section 2.2 of the Closure Plan (page 8) indicates that craters up to 12 feet deep and 30 feet wide were formed during detonation of some explosives. That section of the plan also notes that groundwater is generally encountered at depths of eight feet below ground surface. In addition, given that the pad is primarily gravel, the ability for contaminants to migrate downward seems likely. Soil sampling to the water table is necessary to ensure that migration of contaminants to underlying groundwater has not occurred. U.S. Army Corps of Engineers' Interim Guidance 09-02, *Implementation of Incremental Sampling (IS) of Soil for the Military Munitions Response Program* (<https://dec.alaska.gov/media/12123/interim-guidance-document-9-02-v2.pdf>) specifically states that "at demolition ranges (OB/OD areas), pits or trenches may have been excavated to partially contain the detonations. At such areas, pits and craters may be filled periodically as part of site maintenance activities or by subsequent range use. Under certain site conditions, contaminants susceptible to migration by infiltration may have been carried into the subsurface. These situations will influence the appropriate sampling depths and require additional consideration in designing Sampling Units. These types of conditions should be explicitly incorporated into the [conceptual site model] and considered when defining the project objectives." Based on this guidance, the proposed sample depth of

8 to 10 inches is inadequate. The Closure Plan should be revised to include sample depths adequate to address infiltration of contaminants at depth.

- b. Based on review of the 2012 Interstate Technology Regulatory Council (ITRC) *Guidance for Incremental Sampling* (<https://www.itrcweb.org/ism-1/>), it appears that the decision units may need to be smaller than 60 meters by 60 meters. Additional rationale is required to support the proposed decision unit dimensions and sampling strategy. Expand the Closure Plan to discuss the rationale for the proposed sampling program and provide justification for the selected grid unit sizes.
 - c. Appendix A, Section 5.2.3 (pages A-10 and A-11) discusses procedures for conducting MIS events. However, Figure 5-1 from the above-referenced ITRC guidance indicates that MIS procedures differ for VOC samples. Revise Section 5.2.3 of the Closure Plan (pages 47 and 49) to clarify what procedures will be followed during OB/OD closure for collection of MIS samples to undergo VOC analysis.
72. Section 5.6 of the Closure Plan (page 50) notes that verification, or confirmation, sampling will be conducted after any remedial action to assess effectiveness of the cleanup effort and confirm that clean closure has been achieved. However, the plan includes no details on the scope of verification sampling and analysis (e.g., sampling of excavation base and sidewalls, sample spacing, constituents to be analyzed for, quality assurance). Revise the Closure Plan to expand on the discussion of verification sampling.
73. Appendix A, Section 5.2.2 (pages A-8 through A-10) provides methods for discrete soil sampling. Clarify when and where discrete soil sampling is planned. Additionally, the discrete soil sampling method includes procedures for low-level VOC and medium-level VOC analysis. Clarify under what conditions each of these methods will be used.
74. Appendix A, Section 5.3 (pages A-12 and A-13) discusses groundwater sampling procedures that will be followed during closure. An inertial pump is proposed for collecting groundwater samples, but it is not clear that this pump is appropriate. This type of pump is generally depth-limited and not typically recommended for depths greater than 25 feet. Table 1 of the Closure Plan (page 16) indicates that the depth to water in monitoring wells MW-5D, MW-6D, and MW-7D are more than 30 feet below the top of casing (TOC), and depth to water in wells MW-2D and MW-3D are more than 27 feet below TOC. Revise the Closure Plan to include the rationale for using an inertial pump for collecting groundwater samples at depths greater than 25 feet.
75. Revise Table 9 (Section 5.2.4, page 46) to ensure that cyanide, phosphorus, nitrates, and perfluorinated compounds (if appropriate) are included in the analyte list. These analytes are often found in the vicinity of OB/OD units.
76. The Closure Plan does not appear to include details and procedures for collection of surface water or sediment samples. Section 3.4.3 of the Closure Plan (page 35) states that “data will be collected to determine whether migration of contaminants from the OB/OD pad to wetland could occur and to assess the current surface water conditions in the wetland adjacent to the south edge of the pad.” Appendix A does not identify surface water or sediment sampling procedures for these areas. The Closure Plan should be revised to clarify the type of “data” that will be used to determine whether potential impacts to the adjacent wetland area could occur. The Closure Plan should also be

revised to include the locations, methods, and procedures for sampling of surface water and sediment to confirm that no releases from the OB/OD pad have impacted these media.

Inventory Removal (40 CFR §§ 264.112(b)(3) and 270.14(b)(13))

77. Revise the Closure Plan to clarify how JBER will manage disposal of any media from the OB/OD pad area that is found to contain contamination above clean closure standards.

Disposal or Decontamination of Equipment, Structures, and Soil (40 CFR §§ 264.114, 264.112(b)(4), and 270.14(b)(13))

78. Section 5.5 of the Closure Plan (page 50) should be revised to include lists identifying all equipment, structures, and material that will require decontamination or removal/disposal at the time of closure. For example, Section 2.6 of the Closure Plan (pages 29 and 30) indicates that the OB/OD pad has recently been primarily used for storage of nonhazardous equipment. Over time, that equipment may become contaminated through contact with waste constituents and/or debris in the area. Clarify whether any equipment or materials are still stored on the pad that will require removal, disposal, and/or decontamination. Also expand Section 5.5 of the Closure Plan (and appropriate sections of Appendix A) to indicate how decontamination of the equipment and structures will be verified (e.g., via collection and analysis of wipe samples, collection of rinsate samples).
79. Section 5.5 (page 50) states that all equipment used during sampling, remediation, and monitoring activities will be decontaminated before taking it off-site. Provide a detailed list of all anticipated field equipment, clarifying which are expected to require decontamination and which will be disposable. Again, expand Section 5.5 of the Closure Plan (and appropriate sections of Appendix A) to indicate how decontamination of the equipment will be verified.
80. The Closure Plan indicates that residue, fragments, and contaminated soils may be present that will require disposal. Section 2.6 (page 29) also indicates that dredge spoils were stored on the pad and that the bermed retention basin remains on the western side of the pad. Clarify whether the berm material will be removed and disposed at the time of closure and discuss how any disposal of contaminated equipment and soils will be conducted.

Closure of Disposal Units/Contingent Closures (40 CFR § 270.14(b)(13))

81. Section 6.1 (page 53) indicates that, if clean closure cannot be achieved, an impermeable soil cap may be placed over part or all of the pad. However, the Closure Plan does not specifically identify and describe the contingency closure/post-closure option (e.g., closure as a landfill), nor does it outline regulations that would apply to those decisions and activities. Revise the Closure Plan to include additional details on closure and post-closure activities to be implemented if the OB/OD pad cannot be clean closed. Including this contingency information in the current Closure Plan may minimize any necessary amendments to the Closure Plan (as described in Section 5.9).

Post-Closure Plans (40 CFR § 270.14(b)(13))

82. The Post-Closure Plan discussion in Section 6 of the Closure Plan (pages 53 through 55) requires more detail. We recognize that the information provided in Section 6 “is intended for use as general guidance if a post-closure plan is required in the future” – that is, if clean closure cannot be achieved. Should that be the case, we expect that post-closure permitting would be required, and Section 6.2 acknowledges that the Post-Closure Plan will be amended with greater detail. Thus, Section 6 may be acceptable for now. However, JBER should be aware that, if a Post-Closure Plan is required, it will need to address all 40 CFR Part 265 Subpart G requirements in detail. Items that will need to be addressed in the amended Post Closure Plan include, but are not necessarily limited to:
- Specific locations of all monitoring wells, including compliance wells;
 - Details of detection, assessment, and corrective action monitoring programs;
 - Statistical methods to evaluate groundwater data;
 - List of analytes to be sampled in groundwater, including frequency and methods;
 - Post-closure security details including the locations and type of waste present and the activities that will be conducted to ensure that the waste is not disturbed;
 - Construction and design details of any cap to be placed on the unit;
 - Details on how leachate and run-off may be managed;
 - Post-closure requirements for miscellaneous units;
 - Post-closure certifications and notices; and
 - Post-closure contacts.
83. Section 6.1 (page 53) states that institutional controls are currently in place at the OB/OD pad and would be expected to remain in place, along with additional institutional control procedures currently being developed by JBER. The text references Section 5.6 for additional information regarding the institutional controls, but that section does not discuss institutional controls. Revise the Closure Plan to discuss the institutional controls referenced in Section 6.1, making sure to include both current and planned controls.

IX. CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

84. Describe how new SWMUs are identified and how investigatory and cleanup action authorities are assigned.
85. Update list of current SWMUs on JBER. Describe current status and potential closeout dates. Update SWMUs that are being deferred to the Fort Richardson FFA, Elmendorf FFA, or ADEC.

