



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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October 7, 2014

Mr. Matt Alberts  
Environmental Manager  
Radford Army Ammunition Plant  
4050 Pepper's Ferry Road  
Radford, Virginia 24141

**Re: Radford Army Ammunition Plant, Radford, VA  
EPA ID No. VA1210020730, First Round Notice of Deficiency Addressing the Part B  
Permit Application for the Renewal of the Hazardous Waste Subpart O Explosive  
Waste Incinerator Permit**

Dear Mr. Alberts:

The Part B permit application for the renewal of the Hazardous Waste Subpart O Explosive Waste Incinerator Permit at the Radford Army Ammunition Plant (RAAP), Radford, Virginia, facility dated April 3, 2012, was received on April 16, 2012. In accordance with the Virginia Hazardous Waste Management Regulations as codified in Title 9 of the Virginia Administrative Code, Agency 20, Chapter 60 (9 VAC 20-60), this letter constitutes the Virginia Department of Environmental Quality's, Office of Waste Permitting and Compliance's (DEQ's) first completeness/technical review of the Subpart O Explosive Waste Incinerator Part B Permit application.

Based on the review of the facility's permit application, additional information will need to be submitted in response to the DEQ's comments. The comments are divided into two sections. The first section deals with general deficiencies of the application itself, i.e., information which was not submitted by RAAP so it could not be reviewed for technical completeness. The second section of comments deals with specific parts of RAAP's Part B permit application which are not considered technically complete. Please review the comments and submit the requested response on a comment by comment basis within 30 days of your receipt of this letter (October 7, 2014). The comments may be discussed and resolved informally as well. If more time is needed, please

contact me at the email address or phone number listed below prior to the expiration of the 30 day deadline.

Please submit the responses to the DEQ in the form of one hard copy and a CD in PDF format (or electronically attached to an e-mail) and a CD in Microsoft WORD format (or electronically attached to an e-mail), and submit the responses to the EPA and the DEQ's Blue Ridge Regional Office in the CD PDF format. Please be advised that the DEQ requires all sections of the application to be in an electronic format, including drawings. The DEQ does not have the capability to copy large drawings, i.e., anything over 11 inches by 17 inches. An on-site meeting should be scheduled to discuss the comments after RAAP has reviewed them to further discuss and clarify the DEQ's expectations for the response from RAAP. If you should have any questions regarding these matters or would like to schedule a meeting or teleconference to discuss them further, please contact me at (804) 698-4467 or by e-mail at [Ashby.Scott@deq.virginia.gov](mailto:Ashby.Scott@deq.virginia.gov).

Sincerely,



Mr. Ashby Scott  
Title V Coordinator  
Office of Waste Permitting and Compliance

Attachments:

Notice of Deficiency – First Round Notice of Deficiency Addressing the Part B Permit Application for the Renewal of the Subpart O Explosive Waste Incinerator Permit

Draft Guidance Document: Virginia Department of Environmental Quality - Hazardous Waste, Part B, Combustion Facility, RCRA, Permit Renewals - Requirements for Revised Risk Assessments

cc: Andrea Barbieri, EPA, Region III (3LC50)  
Aziz Farahmand, DEQ, Blue Ridge Regional Office  
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Leslie Romanchik, DEQ, CO  
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Julia King-Collins, DEQ  
Central Hazardous Waste Files

**Section One of the First Round Notice of Deficiency Addressing the Part B Permit Application for the Renewal of the Subpart O Explosive Waste Incinerator Permit, General Application Deficiencies:**

1. Please submit a revised Risk Assessment per the attached document entitled “Virginia Department of Environmental Quality - Hazardous Waste, Part B, Combustion Facility, RCRA, Permit Renewals - Requirements for Revised Risk Assessments Section 1. Risk Assessment Revision – Risk Inputs Requirements”.
2. Please submit a revision to Attachment II.B, which includes a description of the the traffic pattern on-site, including estimated volume, traffic control, signs, signals and procedures, adequacy of access roadway surfaces, and load-bearing capacity for expected traffic on-site. No such language was included in RAAP’s Part B renewal application.
3. Please submit a revision to Attachment III.1.C which includes a written assessment, which is reviewed and certified by an independent Virginia registered professional engineer, on the structural integrity and suitability of the slurry tank system, including the catch tank, for handling hazardous waste. At a minimum, the assessment must consider the following:
  - (1) Design standard(s), if available according to which the tank and ancillary equipment were constructed;
  - (2) Hazardous characteristics of the wastes that have been and will be handled;
  - (3) Existing corrosion protection measures
  - (4) Documented age of the tank system, if available (otherwise, an estimate of the age), along with the manufacturers expected service life of the tanks; and
  - (5) Results of a leak test, internal inspection, or other tank integrity examination.
  - (6) A recommended frequency of inspections based on the professional engineer’s assessment of the slurry and catch tank systems.
4. Please submit a revision to Attachment II.F which outlines the procedure by which RAAP will submit a petition for an extension for closure time as no such language was included in RAAP’s submitted Part B renewal application.
5. Please submit a revision to Attachment II.F which addresses secondary containment crack sampling.

6. Please submit a revision to Attachment II.F which incorporates the boilerplate closure risk assessment language which is as follows:

***“Closure Risk Assessment:***

*In the event the facility is not able to demonstrate closure of any part of the facility in accordance with the closure standards listed in this plan, the facility will engage the Virginia DEQ to determine the appropriateness of, and procedures for, demonstrating closure in accordance with a risk assessment approach (including the submission and approval of any necessary permit closure plan modifications).*

***Risk Assessment Protocol:***

*In accordance with the VHWMR and the RCRA, 40 CFR Part 264, Subpart G, the Permittee will close the hazardous waste management units (HWMU) in compliance with 40 CFR Part 264, Subpart G, § 264.111 Closure Performance Standards. Compliance with the closure performance standards will be demonstrated in accordance with the decontamination standards for the HWMUs as above or in accordance with the risk based standards specified below.*

*The concentrations of the closure constituents in the compliance samples shall be at levels that meet the acceptable risk-based performance standards using the appropriate risk-based assessment criteria and standards specified below:*

***Risk Assessment Standards and Criteria:***

*Clean Closure may be demonstrated by a risk-based assessment as an alternative to the non-detection decontamination standard or the statistical comparison of compliance samples to background levels. The facility may demonstrate that the concentrations of hazardous constituents detected and remaining in the hazardous waste management unit, equipment, structures, soils and sub-soils do not pose an unacceptable level of risk to human health and the environment.*

*If a risk assessment is performed to determine compliance with the closure standards, the risk assessment criteria shall comply with one or more of the following DEQ guidance documents and other DEQ risk-based guidance, as applicable:*

- 1. Guidance for Development of Health Based Cleanup Goals Using Decision Tree/Risk Exposure and Analysis Modeling System (REAMS) Program, 1994, and Risk Based Methodology, as amended by the DEQ. Modeling shall also include fate transport modeling with SESOIL as a preferred model.*
- 2. DEQ Guidelines for Developing Health-based Cleanup Goals Using Risk-based Assessment at a Hazardous Waste Site Facility for Restricted Industrial Use, June 1995.*

3. *DEQ's Draft Guidance Manual for Closure Plans and Post Closure Plans for Hazardous Waste Management Facilities, dated September 28, 2001.*

*In accordance with the DEQ closure guidance, if the site cannot be closed for residential use, then the option to pursue restricted closure (commercial/industrial) may also be exercised.”*

7. Please note that Module I - Standard Conditions, of the Part B permit is boilerplate language applicable to all RCRA applicable Part B permitted facilities and no revisions to the language will be considered for RAAP's Part B permit renewal.
8. The submitted permit application has removed the phrase “stored and treated” and replaced it with “managed” in various parts of the application. The language should not be changed to reflect the proper regulatory term for the permitted activity.
9. There are various references to ATK in the permit. While ATK was the contractor who submitted the application at the time the references need to be changed to the current operating contractor, BAE, in the revised version of the permit application.
10. The phrase “Standard Operating Procedure (SOP)” and any supplemental documents which reference the SOP in the submitted permit application have been removed. The references to the SOP and associated attachments or appendices shall be included in the revised permit application.
11. There are no examples of daily logs or inspection forms contained in Attachment C for the Inspection Schedules. The revised permit application shall include these items.

**Section Two of the First Round Notice of Deficiency Addressing the Part B Permit Application for the Renewal of the Subpart O Explosive Waste Incinerator Permit, Specific Application Deficiencies:**

1. **Module II, Section I.2, Page II-4, Operating Record**, The citation for section iv should be updated from 40 CFR 264.56(j) to 40 CFR 264.56(i) to reflect the current citation in the CFR.
2. **Module II, Section I.2, Page II-5, Operating Record**, The following language from relabeled section II.2.b, which was struck out of the submitted permit application, is standard language and shall be included in the revised permit application:  
  
*“i. Facility operation and maintenance records and reports prepared pursuant to this Permit; and”*
3. **Module II, Section I.2, Page II-7, Operating Record**, The following language from relabeled section II.2.d, which was struck out of the submitted permit application, is standard language and shall be included in the revised permit application:

*“vii. For all new and converted "new" tank systems, pursuant to 40 CFR264.192:*

*A. An assessment, by an independent, registered professional engineer or independent qualified tank installation inspector not affiliated with the tank vendor, certified by an independent, registered professional engineer, that the tank system was installed properly and that all discrepancies have been repaired;*

*B. Results of tightness testing and integrity assessments; and*

*C. For all tanks which require corrosion protection, a written statement from a corrosion expert that attests to the proper design and installation of any corrosion protection measures.”*

4. **Attachment II.A, Section A.2, Page II.A-2, Facility**, The following language in the first paragraph of the section describing the facility location was struck out of the submitted permit language and should be included in the revised submission:

*“The RFAAP is located approximately 5 miles northeast of the city of Radford, 10 miles west of Blacksburg, and 47 miles southwest of Roanoke.”*

5. **Attachment II.A, Section A.2, Page II.A-2, Permitted Treatment and Storage Area**, Control Houses, units 431 and 447 have been removed from the list of specifically included buildings in the permitted treatment and storage areas and listed instead on the excluded list of buildings. Has the building been demolished or somehow removed from the process of incinerating waste? Otherwise conditions applicable to the Control Houses, units 431 and 447, will remain in the permit language as is.

6. **Attachment II.A, Section A.2, Page II.A-2, Permitted Treatment and Storage Area**, The proposed language by the permittee should be changed to add “and the applicable RCRA requirements.” as follows:

*“Incinerators 440 and 441 (identified as Accounts 440 and 441), where the slurried wastes are treated in accordance with this Permit and the requirements of the Hazardous Waste Combustor National Emission Standards for Hazardous Air Pollutants and the applicable RCRA requirements.”*

7. **Attachment II.A, Section A.2, Pages II.A-1, II.A.2, Permitted Treatment and Storage Area**, The language in the permit does not describe the processes involved in the generation of hazardous waste and only describe the grinder building and incinerator operations. The declaration of waste composition and amount/rate to be treated, hazardous waste listing/characteristics, and potential impact on the hazardous waste multi-pathway risk assessment are required for the proposed New River Unit (NRU) and tenant organizations which are served by the incinerator.

8. **Attachment II.A, Section A.3, Page II.A-3, Auer Land Use Analysis** – The submitted language has removed references to the Auer Land Use Analysis. As the Auer Land Use Analysis enables determination of use for rural and urban land use dispersion coefficients for use in the multi-pathway risk analysis, the permittee shall submit revised language which incorporates the Auer Land Use Analysis as well as any associated tables which were removed from Attachment II.A.
9. **Attachment II.A, Figure II.A-2, Topographic Map**, The submitted topographic map of the facility does not include a wind rose and is at a scale of 1 inch = 2000 ft which is not in accordance with the standard for 1 inch to not exceed 200 ft on the submitted maps.
10. **Attachment II.A, Figures II.A-3 and II.A-4, Area Map and Land Use Map**, The area map, Figure II.A-3 is mislabeled on the page preceding the maps section in Module II.A as a topographic map and should be relabeled. Neither of the figures contains a wind rose and Figure II.A-4 is at a scale of 1 inch = 2000 ft which is not in accordance with the standard for 1 inch to not exceed 200 ft for submitted maps.
11. **Attachment II.A, Figures II.A-5, FEMA 100 Year Flood Zones**, The submitted map will need more sharply clarified boundaries of floodplain-100 yr and larger scale to show all permitted units on the included figure.
12. **Attachment II.B, Section II.B.1, Page II.B-1, Waste Characteristics**, RAAP has included language in the first paragraph of the waste characteristics section which mentions waste generated by tenant organizations at the facility and at the NRU which is described as being nearby. As stated previously in Comment 3, a declaration of waste composition and amount/rate to be treated, hazardous waste listing/characteristics, and potential impact on the hazardous waste multi-pathway risk assessment are required for the proposed NRU and tenant organizations which are served by the incinerator.
13. **Attachment II.B, Section II.B.1, Page II.B-1, Waste Characteristics**, The submitted permit language in the second paragraph of the section should be revised to include the struck out language submitted by the permittee. The paragraph should read as follows:

*“The managed wastes which are hazardous due to their ignitability (D001), or reactivity (D003), and/or toxicity for certain metals and organics. Only hazardous wastes, which are consistent with the requirements of the facility’s RCRA Permit and this Waste Analysis Plan will be stored, treated, or incinerated. No wastes generated outside of RFAAP will be received, stored, or treated at the permitted treatment and storage areas. Only wastes generated at RFAAP by the Permittees may be stored or treated at the permitted treatment and storage areas.”*

14. **Attachment II.B, Sections II.B.1, II.B.2, Pages II.B-1 through II.B-6, Waste Characteristics and Waste Composition and Characterization**, The submitted renewal permit application describes the waste streams to be handled by the incinerators; however the renewal application does not include any laboratory reports or Material Safety Data Sheets. The submitted language for Sections II.B.2 and II.B.2e should be revised to include the struck out language as well as the proposed language from RAAP.

15. **Attachment II.B, Section II.B.5, Page II.B-7, Waste and Residue Sampling**, The submitted permit language of the section should be revised to include the struck out language submitted by the permittee. The paragraph should read as follows:

*“BAE Systems, the permitted operator of the treatment and storage facilities, has prepared a waste sampling plan to help ensure collection of representative samples for analysis. The intent of the sampling plan is to provide representative data to maintain compliance with the state and federal solid and hazardous waste regulations. All sampling will be conducted in accordance with the facility's sampling and analysis plan and maintained as part of the Facility Operating Record. Two types of sampling are conducted to comply with this Permit: waste sampling and residue sampling. This section provides a description of the techniques employed for both.”*

16. **Attachment II.B, Section II.B.5, Page II.B-8, Waste Analysis Requirements**, The renewal permit application does contain the analytical methods for waste component determination however there are no heat or viscosity values of the liquids provided in the application language. The revised application language shall include these values.

17. **Attachment II.B, Sections II.B.5, Page II.B-8 Waste Analysis Requirements**, The following are a list of the test methods for the hazardous waste to be incinerated along with the resulting residue and corresponding sections in which they can be found:

II.B.5, Waste Analysis Requirements, Last Paragraph – Compatibility testing for waste streams, a reference to actual test procedure being performed should be included if there is a standard established for it.

II.B.5a, Analysis of Waste Groups, Waste Profiling Analysis - Laboratory analysis of waste streams using appropriate tests from EPA document SW-846 Test Methods for Evaluating Solid Waste, 3<sup>rd</sup> Edition, 1986, as updated, or facility standard operating methods which achieve the performance specifications specified in the equivalent SW-846 method.

II.B.5b, Analysis of Waste Groups, Waste Profiling Analysis – Incinerator ash to be tested using Toxicity Characteristic Leaching Procedure, SW-846 Method 1311.

II.B.5c, Analysis of Waste Groups, Quality Assurance and Quality Control - All sampling and analyses performed in accordance with this Waste Analysis Plan will, at a minimum, achieve all performance specifications specified in the equivalent SW-846 methods.

Appendix BB-3 – On-site Laboratory Analysis for Presence of Propellant, Composite Sample Analysis Using SW 846 Method 8330, Reactivity Test Procedures for Incinerator Ash: Gap Test for Solid Materials, Deflagrations/Detonation Transition Test.

18. **Attachment II.B, Waste and Residue Sampling**, The following are the specific language in different sections which define sampling frequency for waste analysis. With the exception of the frequency of sampling for incinerator ash in II.B.4b all are technically adequate. Please revise the language of II.B.4b accordingly:

II.B.4a, Waste Sampling – *“Samples for characterizing the managed wastes are collected on a daily basis, Monday through Friday during the daylight shift,”*

II.B.4b, Residue Sampling – *“Composite samples of the incinerator residues are collected periodically as required to characterize the wastes for offsite disposal.”* The sampling frequency is not technically adequate to ensure compliance with the permit limitations. A regular testing frequency based on time or amount of incinerator ash residue collected should be established.

II.B.5, Waste Analysis Requirements – *“In addition to the hazardous determination for each waste group, all wastes stored or treated at the facility are tested for compatibility with nitroglycerin (NG) and nitratibility when they are first generated.”*

II.B.5a, Analysis of Waste Groups – *“Every waste profile will be reviewed at least annually in order to confirm that it still accurately represents the waste stream. A waste stream will be re-profiled whenever the Permittees have reason to believe that the process or operation generating the hazardous waste has significantly changed.”*

19. **Attachment II.B, Waste Accumulation and Handling, Page II.B-6**, RAAP will need to clarify whether the proposed NRU qualifies as an off-site generator and therefore will need to generate their own waste analysis plan and comply with that to demonstrate compliance with the waste sampling and analysis requirements for the Part B renewal permit.
20. **Attachment II.B, Waste Analysis Requirements, Page II.B-8**, The test methods and procedures for waste incompatibility need to be clarified further than the current description which follows:

*“The compatibility testing is performed utilizing a multi-test apparatus methodology, which, when completed, provides the data necessary to determine the compatibility of waste groups.”*

The specific testing methodology needs to be cited, or if a comparable facility method is to be used, and the actual specific volume of gas generated during the described testing method for each waste group needs to be identified.

21. **Attachment II.C, Section II.C.1, General Inspection Requirements**, The submitted application has removed the inspection form descriptions from the permit language. The inspection forms and descriptions are required to ensure compliance with the permit requirements. A revised section with this language included shall be submitted.
22. **Attachment II.C, Section II.C.2, Inspection Schedule**, The submitted language does not require daily inspections of equipment subject to Subparts BB and CC as per 40 CFR 264.347(b). The permittee will revise the language to reflect daily inspections of applicable equipment.
23. **Attachment II.C, Section II.C.3, Inspection Recordkeeping**, The submitted language has struck out the requirement that the records will contain the inspector's full name, date and signature, notation of observation made and the date and nature of the repairs or remedial action. The revised draft permit condition shall require all of these items to be addressed.
24. **Attachment II.C, Section II.C.5 and Table II.C.2, Pages II.C-3, II.C-4 and II.C-6**, The submitted permit language as revised by the permittee does not meet the minimum standards for emergency equipment as described in 40 CFR 264.32 which requires a device capable of summoning emergency assistance from local emergency services. The permit language states the telephones located in the control rooms, incinerators and storage rooms are only able to reach each other and other areas of the plant and not to outside emergency services. Additionally the submitted language has removed the numerical maximum capacity of the type ABC fire extinguisher and a list of PPE from Table II.C.2. The language shall be revised to incorporate these elements.
25. **Attachment II.D-1, Table II.D-1, Page II.D-6**, The table listing the jobs titles, job descriptions and training required does not identify the personnel filling these roles as required by 40 CFR 264.16(d)(1).
26. **Attachment II.D-1, Section II.D.4, Page II.D-1, Training Coordinator**, The submitted language should be changed to revise the reference to the "Training Coordinator" to "Training Director" as specified in 40 CFR 264.16(a)(2).
27. **Attachment II.D-1, Appendix II.D-1, Page II.D-2, Section 6**, The submitted language for training on emergency procedures does not meet the standard required by 40 CFR 264.16(a)(3). The language should be revised to address the following elements in the training for emergency procedures:
  1. *"Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;*
  2. *Key parameters for automatic waste feed cut-off systems;*
  3. *Communications or alarm systems;*

4. *Response to fires or explosions;*
  5. *Response to ground-water contamination incidents; and*
  6. *Shutdown of operations.”*
28. **Attachment II.D-1, Appendix II.D-1, Section 7, Implementation of Training Plan, Page II.D-2,** The revised language as submitted is not sufficient to meet the standards required by 40 CFR 264(b) and 40 CFR 264(d). The revised language shall be removed and the original permit language shall be included. The original permit language is as follows:
- “There exists at Radford an extensive system to ensure that required on-the-job training has been conducted with each employee. When an employee performs a job, he submits a job card which has a code number that indicates the department he works in, his employee number and the operation number for the job he performed. When the cards are processed for payroll accounting through the computer, the computer also searches the employee’s training history to determine if the employee was trained in the jobs he performed. If the computer search finds that the employee was not properly trained, it prints out a notice of the training deficiency. This notice is then routed to the foreman so the deficiency may be corrected.*
- Training records and computer based training (CBT) is maintained by the Training Department. The system notifies supervision when training is required. Non CBT is recorded when supervisors submit the information to the Training Department for update. Training of area procedures is recorded in the CBT system.*
- Current training records of employees involved with hazardous waste management will be kept until closure of the hazardous waste facilities. Training records on former employees will be kept for at least three years from the date the employee last worked at the facility.”*
29. **Attachment II.E, Section II.E.1a, Purpose, Page II.E-3,** The submitted language is significantly less descriptive and detailed than the previous version. The revised language shall either simply use the struck out text or revise the entire section to incorporate the level of detail found in the original language. Additionally language regarding the Spill Control and Counter Measure plans shall be included.
30. **Attachment II.E, Section II.E.2b.ii.2, Purpose, Page II.E-6,** References to the grind house slurry tanks shall include “hazardous waste” in their descriptors.
31. **Attachment II.E, Section II.E.2c.i, Composition of Waste, Page II.E-8,** The submitted language has struck out the last sentence of the first paragraph of the section, which describes the 19 waste streams. As noted in previous comments, the 19 waste streams are to be included in the revised permit application. The revised language shall be as follows:

*“These wastes may be hazardous due to the ignitability, reactivity, or toxicity characteristics. These categories are segregated into 19 distinct waste groups, as listed in Table 2; all wastes that are stored, treated, and incinerated at the facility fall into one of these groups.”*

32. **Attachment II.E, Section II.E.2c.ii, Identification and Quantity of Waste, Page II.E-8,** The submitted permit revisions show a change in the capacity of the slurry tanks from 1,700 gallons to 1,900 gallons for both tanks. Were the tanks replaced during the permit term or were the submitted sizes in the original permit application incorrect?
33. **Attachment II.E, Section II.E.3, Emergency Coordinators, Table II.E-1,** The table provided does not provide the name, telephone number and address of all emergency coordinator contacts as required by 40 CFR 264.52(d).
34. **Attachment II.E, Section II.E.4, Implementation, Pages II.E-10,** The implementation requirements for the contingency plan regarding leaks are unenforceable. Language which states that a release of 1 pound or more constitutes a reportable leak, as an un-reportable spill is defined in Section II.E-9, and will require the contingency plan to be implemented to clean and contain the spill will need to be added to the section. Additionally the sentence *“The EC will determine whether the Contingency Plan should be implemented”* has been struck from the end of the section. The language shall be included in the revised submission.
35. **Attachment II.E, Section II.E.5c, Prevention of Recurrence or Spread of Fires, Explosions or Releases, Page II.E-12,** The submitted permit language has been revised to exclude conditions which will trigger an emergency shutdown of the incinerators. The revisions as submitted are not technically adequate to ensure the incinerators will be shutdown during process upsets. The language shall be revised to the following to be considered technically adequate:

*“The incinerators have built-in safeguards against equipment failure during emergency conditions. These safeguards help prevent fires, explosions, or the release of propellant waste slurry. The following conditions will trigger an emergency shutdown of the incinerator safeguards consist of an alarm horn that will sound under the following conditions:*

- *The control system fails;*
- *The incinerator burner stops burning;*
- *An electrical power failure occurs;*
- *The induced draft fan fails;*
- *The kiln stops rotating;*
- *When safety interlock feed pump fails or malfunctions;*
- *The cooling and re-circulating pump fail-safe systems activate;*
- *The air compressor fail-safe system is activated;*

- *A high temperature (safety) limit is reached in the kiln, afterburner, or evaporative cooler.”*
36. **Attachment II.E, Section II.E.6b.ii, Notification of Federal, State and Local Agencies, Page II.E-13**, The submitted language for this section has struck out the language regarding notification of releases above the reportable quantities listed under 40 CFR 302.4. The language shall be included in the revised submission.
37. **Attachment II.E, Section II.E.6d, Containment, Countermeasures, Clean-up and Disposal, Page II.E-17**, The submitted language has struck out reference to the Open Burning Ground (OBG) in the section. The reference shall be included in the revised permit submission as the incinerator and OBG handle identical waste streams and any contingency or countermeasure plans included in either RCRA permit for each unit should mirror each other.
38. **Attachment II.E, Section II.E.6d.9, Incompatible Wastes, Page II.E-19**, The submitted permit language states no incompatible wastes will be managed on-site but does not provide any language stating which recordkeeping procedures will be in place to ensure compliance with the requirement. The facility will need to submit language to this effect regarding recordkeeping to ensure incompatible wastes are not managed together.
39. **Attachment II.E, Section II.E.6.3(i) and (ii), Tanks Spills and Leakage, Incinerator Spills and Leakage, Pages II.E-19 and II.E.20**, The submitted permit application does not include any language regarding emptying of a leaking tank within 24 hours of discovery or as soon as practicable as required by 40 CFR 264.196. The language should be revised to reflect this limitation in the regulations.
- RAAP will also need to submit PFD, P&ID, and cross sections depicting gaps, joints, water stops, sewers, valves, concrete thicknesses, types - design data manufacturers data/specs and seams.
- The reference to 40 CFR 264.197(c) at the end of the second paragraph shall be included in the revised permit application.
- The reference to (GOP 4-15-53) made in the third paragraph of the section will also be included in the revised submission.
40. **Attachment II.E, Section II.E.7, Coordination Agreements, Page II.E-21**, A copy of the actual agreements between RAAP and local emergency responders is required to be included in the revised permit submission. Copies of the agreements can be submitted as a part of Appendix II.E-1, Mutual Assistance Agreements.

41. **Attachment II.E, Section II.E.9, Required Reports, Pages II.E-23 through II.E.24,** The submitted language has struck out required report and notification sections. These reports are necessary to keep DEQ and the public apprised of any potential issues regarding the handling of hazardous waste. The language shall be included in the revised permit application.
42. **Attachment II.E, Table 2, Waste Groups Burned at the Incinerators Radford Army Ammunition Plant,** The submitted permit application has struck out the table defining the waste groups burned in the RAAP facility's incinerators. Since these waste groups are used as a basis for the risk assessment they shall be included in the revised permit application.
43. **Attachment II.E, Table II.E-3, Evaluation Criteria for Implementation of the Contingency Plan,** The permit language as submitted has struck out language referring to the a spill occurring off-site or on-site and when a spill constitutes a release of a reportable quantity. The following language shall be included in the revised permit application:
  - “• *A spill could result in off-site or on-site soil contamination and/or ground or surface water contamination*
  - *A spill constitutes a release of a “reportable quantity” of a hazardous substance under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)”*
44. **Attachment II.E, Table II.E-4, Spill Response Measures,** The submitted permit language for the spill response measures has struck out the language referring to the test method to determine whether contaminated materials are reactive. The following language shall be included in the revised permit application:

*“Explosion fragments and materials and possible propellant-contaminated materials and soils will be analyzed using SW846 Method 8332 for explosives and 8330 for nitroglycerine. If the analyses indicate the materials are reactive, they will be handled as hazardous waste. Hazardous soils and residual reactive wastes will be treated at the OB Ground or sent off-site for disposal. If the analyses indicate that the materials are non-reactive, they will be disposed of as solid waste.*
45. **Attachment II.E, Appendix A, RFAAP Disaster Control Plan and RFAAP Plant Protection Plan,** The submitted permit application has struck out Appendix A which contains the RFAAP Disaster Control Plan and the RFAAP Plant Protection Plan. Both of these plans are required to ensure protection of human health and the environment by mitigating any potential releases cause by a catastrophic malfunction in the plant's operations. The revised permit application will include Appendix A.
46. **Attachment II.F, Sections II.F.2a.2.1 and II.F.2b.2.2., General RFAAP Setting and Incinerator Conditions,** The submitted permit language has struck out two sections which detail the geologic conditions of the facility. This language is standard in all closure plans in RCRA permits and shall be included in the revised permit application/

47. **Attachment II.F, Section II.F.2a-c, Pages II.F-8 through II.F-10, Hazardous Waste Characteristic Analysis**, The permit language as submitted does not characterize the waste properly and the previous permit language should be included in Sections II.F.a-c. The Incinerator Maximum Hazardous Waste Inventory Section has been revised to remove the placard stating the maximum amount of hazardous waste permitted in the grinder building, which should remain as an administrative control and the language detailing methods of how waste will be treated before closure. The language will remain in the permit as is unless the permittee can provide a justification to the DEQ as to why it should be removed. Additionally language which details the potential maximum quantity of hazardous waste, 6,710 pounds, will be included in the revised section submitted.
48. **Attachment II.F, Section II.F.4b, Closure Alternatives for Structures**, The submitted application language has struck out the following, which shall be included in the revised permit application:
- “Due to the types of wastes treated it is likely that much of the waste handling equipment would require handling as a hazardous waste.”*
49. **Attachment II.F, Section II.F.5a, Pages II.F-15 through II.F-17**, The revised language is not sufficient to demonstrate compliance with the requirements of 40 CFR 264.112(b)(3). The language removed from this section in the red-line/strikeout version of the permit application will be kept in the permit condition language.
50. **Attachment II.F, Sections II.F.5b, II.F.5c and II.F.5d, Pages II.F-17 through II.F-25**, The revised permit language is not sufficient to demonstrate compliance with the standards in 40 CFR 264.112(b)(4). The language referencing the Waste Analysis Plan, analysis for toxicity and reactivity and disposed of off-site at a RCRA permitted facility, analysis using SW 846 methods and the changing of the number of wash water samples from five to three shall remain in the permit.
51. **Attachment II.F, Sections II.F.5b, Pages II.F-18 through II.F-20**, The revised permit language is not sufficient to demonstrate compliance with the standards in 40 CFR 264.112(b)(4). The language referencing the Waste Analysis Plan, analysis for toxicity and reactivity and disposed of off-site at a RCRA permitted facility, analysis using SW 846 methods and the changing of the number of wash water samples from five to three will remain in the permit.
52. **Attachment II.F, Section II.F.5e, Site Restoration, Page II.F-25**, The submitted language has struck out the following language, which shall be included in the revised application:
- “Additional constituents may be added to the analyses at the time of closure, pending VDEQ approval.”*

53. **Attachment II.F, Section II.F.5e, Post-Closure Care And Groundwater Monitoring, Page II.F-26**, The submitted language has struck out the following language, which shall be included in the revised application:

*“Section 9.0 of this Closure Plan addresses the permit modification process in general that would be necessary to amend the Closure Plan in accordance with 40 CFR 264.112(c).”*

54. **Attachment II.F, Section II.F.5b, Decontamination Verification**, The language in this section referring to sampling locations shall include the following: Oversize Propellant Hopper, Metal Containing Propellant Hopper, Bucket Conveyor and all Associated Piping.
55. **Attachment II.G, Section II.G.4, Page II.G.3**, The revised permit language is not sufficient to demonstrate controlled entry to the facility consistent with the requirements of 40 CFR 264.14(b)(2)(ii). The language which was struck out of the revised section of the permit application shall be included to ensure compliance with the standard.
56. **Attachment II.H, Section II.H.1, Page II.H-1**, The revised permit language does not document whether the affected units are located within a 100 year flood plain as required by 40 CFR 264.18(b). The language should be revised to include the following language from the previous permit:

*“The foundations of Building 442 (tanks) and Buildings 440 and 441 (incinerators) are located within the 100-year floodplain. However, the operating floors of the buildings are above the 100-year flood plain elevation.”*

57. **Attachment II.H, Section II.H.2, Page II.H-1**, The submitted language needs to document the actual heights of units treating or storing hazardous waste at the facility. The following language which was struck out of the previous permit for the submitted application should be included:

*“The 100-year flood elevation is 1700 ft. MSL at the incinerators. The lowest entry point is at Building 442 at 1703.83 ft. MSL. The incinerator kilns are above 1700 ft. MSL.”*

58. **Attachment II.H, Sections II.H.3, II.H.4 and II.H.5, Pages II.H-1 through II.H-4**, The permit language as written in Section II.H.3 for the flood proofing is not adequate to ensure washout of the hazardous waste containment areas will be prevented. The permittee should revise the language to address at what water level the proposed barricades at the culverts will be raised, the facility alarm procedure for personnel to recognize the barricades will be implemented, the approximate time it will take facility personnel to raise the barricades and whether any additional flood proofing at the hazardous waste treatment and storage units will be employed if the barricades do not function as designed.

The permit language as submitted for Sections II.H.4 and II.H.5 is not adequate to ensure protection of the hazardous waste treatment and storage units in the event of a 100 year flood. The water level, described as 1695 ft at the New River Bridge, at which information will be collected and logged, in Section II.H.4, and at which the flood plan will be implemented, in Section II.H.5, is too close to the 100 year flood plain level of 1700 ft to ensure the flood plan procedures will have adequate time to be implemented. The permit language should be revised to lower the water level threshold to a level which allows the facility adequate time to implement the flood plan procedures, recommended at 1690 ft.

The permit language for Section II.H.4 regarding the information which will be required to be collected and logged by the facility from “local officials” is not adequate to demonstrate compliance with the conditions in this Module. The revised permit language shall be struck and the information collected and logged by the facility included in the original permit will be added.

59. **Module III, Section III.C.2, Emission Control Technology, Page III-6,** The proposed language has struck out a reference to the “Procedure T – Criteria for and Verification of a Permanent or Temporary Total Enclosure” attached as Attachment III.B. The revised application shall include the language as well as the latest verification report as Attachment III.B.
60. **Module III, Section III.C.3, Reporting Requirements., Page III-7,** The submitted language has changed the reporting period from once every three years to once every permit term, which is not acceptable to determine compliance with the permit terms. The revised permit language shall be as follows:  
  
*“Pursuant to 40 CFR 270.32 (b)(2), the Permittees shall submit to the Department for review a report that meets the requirements of Attachment III.C once per permit term every 3 years from the effective date of this permit. The report shall be prepared according to the scope of work provided in Attachment III.C and any other criteria required by the Director”*
61. **Module III, Sections III.D and D.1, Additional Information and Revisions and Updates, Pages III-7 and III-8,** The submitted language has struck out the last paragraph of the Additional Information and Revisions section, which references the Operating Procedures listed on Table III-1, and has entirely struck out the Revisions and Updates sections. The revised permit application will incorporate the language specified in this comment including Table III 1.
62. **Module III.2, Section III.2.B, Permitted and Prohibited Waste Feed, Page III.2-1,** The submitted language has struck out the last two conditions in section III.2.B which requires only slurried waste and waste generated at the facility to be incinerated at the facility. These conditions will be kept in the revised permit application with the additional language that waste from the NRU may be incinerated. Addition of the NRU language is contingent on the DEQ approving waste from the NRU being accepted at the RAAP facility.

63. **Attachment III.A, Section III.A.7, Test Methods and Procedures, Page III.A-5**, The permit application language has been revised to state the determination of the organic concentrations of the waste stream in each piece of equipment has been made using process knowledge in Section III.A.1. There is no demonstration of process knowledge described in Section III.A.1 and as such the permit application language in Section III.A.1 should be revised to include language regarding process knowledge determination and the original language in Section III.A.7 will be retained in the permit document should process knowledge be deemed insufficient for demonstrating compliance in the future.
64. **Attachment III.2.A, Table III.A-1, Pages III.2.A-8 through III.2.A-18**, Table III.A-1 as submitted needs to be revised to include the frequency of monitoring for equipment which does not have a monitoring frequency included in the table.
65. **Attachment III.1.B, Section III.1.B3.a, Tank Management Practices, Page III.1.B-3**, The submitted language at the end of the first paragraph has removed the reference to the VHWMP requirements. The revised permit application shall include the reference to the VHWMP.
66. **Attachment III.1.C, Section III.1.C.3, Preventive Procedures Structures, and Equipment, Page III.1.C-3**, The submitted language cites Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code", which have been superseded by Table 22.4.1.1.(a) in the 2012 version of the NFPA guidance. The revised permit application will incorporate Table 22.4.1.1(a) of the most current version of the NFPA guidance available.
67. **Attachment III.1.C, Section III.1.C.3.a, Management of Reactive Wastes in Tanks, Page III.1.C-3**, The submitted language has struck out the numerical reference to the percent volume of the waste slurry which will be tapped off and fed to the incinerator. The following permit language shall be submitted in the revised application as follows:

*"When the incinerators are operation, a portion of this flow is directed through the pickup line and metering pump to the incinerator, with approximately 2-3% being tapped off and fed to the incinerator."*
68. **Attachment III.2.A, Section III.2.A.1, Pages III.2.A-1 through III.2.A-9**, The revised permit application language has removed the description of the incinerator equipment and operations. While the permit states that compliance with 40 CFR Part 63 Subpart EEE The Hazardous Waste Combustor MACT, demonstrates compliance with the RCRA requirements for incinerators a change in the design of the incinerator may cause the emissions from the stack to exceed levels established by the risk assessment and therefore a permit modification shall be required if a physical change in the design of the incinerators is implemented. The language shall remain in the permit.