

DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
1745 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VIRGINIA 22202



IN REPLY REFER TO

1 3 APR 1994

DNSC-O (Kevin Reilly/607-3227/jnp)

SUBJECT: Defense Logistics Agency (DLA) Response to the Nuclear Regulatory

Commission (NRC) Second Round Comments for Curtis Bay Depot

Remediation Plan

RE: Mr. Dominick A. Orlando (NRC) letter to Mr. F. Kevin Reilly (DLA)

dated 9 March 1994

Mr. Dominick A. Orlando
Project Manager
Division of Low Level Waste Management and Decommissioning
Mail Stop 5E4
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Orlando:

This letter is submitted in response to Reference (a) concerning the NRC's additional comments on the Remediation Plan (D&D Plan) for the Anne Arundel County property adjacent to the Defense National Stockpile Center (DNSC) Curtis Bay Depot, Curtis Bay, Maryland. As required, I am providing the DLA's response to the NRC Staff comments on the D&D Plan for the Anne Arundel County Property in Curtis Bay, MD.

The additional information and clarification you have requested has been provided detail, and four references not previously submitted included to aid in your review of the responses and the D&D Plan. Finally, the most current revision of the D&D Plan is included.

210001

9404250065 940413 PDR ADDCK 04000341 B PDR NT10.

JDNSC-O PAGE 2

If you have any questions concerning this letter or the enclosed response, do not hesitate to contact me.

Sincerely,

F KEVIN REILLY

Environmental Protection

Protection

 Page 3-2, it is unclear if the radiologically controlled area (RCA) will encompass the 9 contaminated buildings or merely be set up at the entrance to the county property at the Defense Logistics Agency (DLA) fence. Please indicate how the RCA will be established and maintained.

NRC staff's comment on DLA's initial response:

It is not clear from your response if the RCA will be enclosed within a fence or whether it will merely be a gate at the DLA/AAco property boundary. Statements made in the D&D plan indicate that an important component of the contamination control program is the control of access to the RCA. As such it is important for NRC staff to understand the extent of the fencing planned for the remediation project.

DLA's response:

Initially, a radiologically controlled area (RCA) will be established at the perimeter fence to facilitate proper access and egress controls before activities commence on individual buildings of the Curtis Bay Depot Facility. The present fencing will be used as a controlled access area (CAA) and postings will be provided in accordance with NRS-RP-001, "Radiological Control Procedure for Field Projects". The perimeter fence will be maintained locked after normal working hours. As work progresses, and surveys allow, the RCA will be reduced to a smaller area around individual buildings. This area will be designated by boundary ropes and signs. After the RCA's have been reduced, the perimeter fence will continue to be used to ensure the area is secure after normal working hours and to limit access during working hours.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 3.2, page 3-2.

4. Page 3-3, statements indicate that the roofs and walls will be removed concurrent with the characterization survey. Prior to removal, roofs and walls should be surveyed to determine if they are affected or unaffected areas. Determination of affected and unaffected areas should be performed as described in NUREG/CR-5849.

NRC staff's comment on DLA's initial response:

It is unclear from your response if DLA intends to classify the exterior of the buildings as affected or unaffected areas prior to demolition. Please indicate how the exterior walls and roofs will be classified and how DLA intends to substantiate the classification of these areas.

DLA's response:

Enough information is available to designate areas of the buildings as "affected" and "unaffected areas" before beginning the characterization survey. From data collected in The ORISE 92/1-65 Radiological Survey of Portions of the Curtis Bay Depot, Baltimore, Maryland of September 1992, and the history of the buildings, the exterior walls and roof of the buildings as well as the interior walls above 6 feet are to be designated "unaffected". The areas designated unaffected are not expected to contain residual radioactivity. Scans of unaffected surfaces will cover a minimum of 10% of the roof and wall surface area. 30 randomly selected measurement locations will be performed for each survey unit. However, based on data obtained in the report and the fact that the buildings were used for storage of containers that were stacked no more than two high, the floors, interior walls below 6 feet, underlying soil, and pylons are designated "affected". This information, combined with the fact that Thorium Nitrate is crystalline in form and soluble in water, justifies the classification of the "affected" and "unaffected" areas. Scans of 100% of all affected areas will be accomplished. Identification of activity levels in excess of 25% of the guideline, will require reclassification of the area to the "affected" category. In the event that the unaffected interior walls of a building are determined to be contaminated above 6 feet, then the entire interior wall for that individual building will be designated "affected."

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 7.0, page 7-1.

9. Page 3-6, the descriptions of the remediation personnel does not include a description of the qualifications necessary for the positions outlined in the remediation plan. In addition, there is no indication of the type or number of health physics, radiation safety or industrial hygiene technicians that will be involved at the site. Please provide this information.

NRC staff's comment on DLA's initial response

It is not clear from your response if the minimum qualifications for each position within the framework of the remediation staff have been established. NRC staff typically evaluates these minimum qualifications to determine if they are suitable for the position on the remediation staff, as well as whether the individuals occupying these positions meet these qualifications. Please provide the minimum qualifications for the remediation staff positions.

DLA's response:

The minimum qualifications for positions within the framework of the RUST remediation staff is contained in NRS-TN-002, Training Procedure, Appendix F, Training Requirement Matrix. For this project, since subcontractors are being used for asbestos abatement, Appendix I, Subcontractor Training Needs Assessment will also be used to evaluate the training qualifications required to work on the site. At a minimum, the training will consist of basic radiation worker training, supervised OSHA field experience, and site-specific training for all individuals, to ensure that they understand the radiological hazards which they might encounter. In addition, documentation that all personnel have received 40 Hour OSHA and Hazards Communications training will be verified by the RCS.

10. Page 3-7, it appears that several of the individuals responsible for ensuring site radiological and industrial hygiene safety will only be at the site during the startup and shutdown phases. As the greatest risk to workers and members of the public would reasonably be expected to occur during remediation operations, the rationale for this limited oversight should be explained. In addition, the Radiological Control Supervisor/Site Safety and Health Supervisor appears to report to 3 individuals: the Project Manager, the Division Industrial Hygienist and the Corporate Health Physicist. In that the Division Industrial Hygienist and Corporate Health Physicist will not be onsite during remediation activities, there is a potential for miscommunication or misunderstanding of any problems encountered during remediation activities. Please provide assurance that a sufficient number of qualified management personnel will be present during remediation to ensure that site safety and health issues are addressed in an expeditious and efficient manner.

NRC staff's comment on DLA's initial response

The rationale for the limited on-site presence during remediation activities of the Division Industrial Hygienist and Corporate Health Physicist is not clear. Please provide this rationale.

DLA's response:

The DHP and DIH are on-site during the initial setup, training and initial characterization surveys to ensure proper implementation and recognition of both the radiological and industrial hazards associated with the project. Audits are then performed by the DHP/DIH periodically during the course of the project. The day-to-day radiological and industrial hygiene safety is provided by the SSHS, with the support of the Project Manager. Should either the Project Manager or the SSHS, who are both on-site, need guidance or clarification on an issue, they have the support of the DHP and the DIH.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 3.5.1 through 3.5.4, pages 3-5 through 3-7.

12. Page 3-9, statements indicate that buildings will be razed after decontamination, surveyed and released for unrestricted use. This is inconsistent with statements made on page 3-3 which indicate that the walls and roofs will be removed as part of the characterization survey. Please clarify how the characterization and razing of the buildings will be accomplished.

NRC staff's comment on DLA's initial response

It is not apparent how DLA's response addresses the NRC staff's comment. Please clarify how the characterization and razing of the buildings will be accomplished.

DLA's response:

National Service Cleaning Corporation is no longer subcontracted to perform the razing of the buildings. This will now be done by an Anne Arundel County contractor. Due to the physical condition of the existing buildings, personnel cannot enter them to perform surveys, therefore the characterization survey cannot be accomplished on the interior of the walls and roof of each building prior to their removal. In order to facilitate the character __tion survey, the County contractor will remove the roof and walls and place them on roofing membrane (heavy mil plastic sheeting) within the RCA where they will be monitored based on their designation as either "affected" or "unaffected". After the classification is confirmed, the appropriate remediation or termination survey will be conducted. Once the roof and walls have been removed, the characterization survey of the floors and pylons can be accomplished.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 3.2, page 3-3

17. Page 4-3, statements indicate that standard operating procedures will be developed for minimizing worker contact vith hazardous substances. However, no mention is made of procedures that will be developed for minimizing worker contact with radioactive material. Please provide this information.

NRC staff's comment on DLA's initial response

It does not appear that DLA's response addresses the NRC staff's comment. Please indicate whether standard operating procedures will be followed to minimize employee contact with radioactive material.

DLA's response:

The radiation protection program for the site is comprised of RUST radiological standard operating procedures and site-specific plans which contain specific radiological requirements for the Curtis Bay Depot facility decommissioning. The standard operating procedures are referenced in the site specific work plan, the radiation protection plan and the site safety and health plan. It is RUST's responsibility for ensuring that all project personnel are trained on and understand the procedures. It is the individual's responsibility to follow the procedures during site operations in order to minimize contact with radioactive material. RUST has not yet been contracted to provide the work plan, radiation protection plan and the site safety and health plan. When funded, all applicable plans will contain reference to standard operating procedures and plans to be followed to minimize employee contact with radioactive material.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.3, page 4-5

19. Page 4-5, statements indicate that only one member of the ALARA Committee will review and approve ALARA procedures. This is inconsistent with the rationale for establishing and maintaining an ALARA Committee. In addition, the membership of the ALARA Committee is unclear as it is referenced to a RUST internal document that was not provided with the remediation plan. Please provide the rationale for allowing only one member of the ALARA Committee to review and approve ALARA procedures as well as describe the membership of the ALARA Committee.

NRC staff's comment on DLA's initi response

DLA's response indicates that the purpose of the review procedure is to ensure that at least one member of the ALARA committee reviews each procedure. However, NRS-AD-006 indicates that the committee reviews procedures. Please clarify that the ALARA committee will review and approve procedures as indicated in NRS-AD-006.

DLA's response:

The original intent of NRS-AD-006 "RUST Remedial Services - Nuclear Remedial Services ALARA procedure" was not to convene the ALARA Review Committee (ARC) to review every procedure, but to ensure that all procedures implement the ALARA policy, and are reviewed by at <u>least one member</u>. NRS-AD-006 has now been revised to clarify that "a member" of the ARC will review all procedures, and a copy of this revised procedure has been included. The ALARA committee members are listed in Appendix A of NRS-AD-006.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.3, page 4-5

20. Page 4-6, statements indicate that the radiation protection program is comprised of all RUST radiological standard operating procedures. As these procedures were not provided or described in the remediation plan, NRS staff cannot determine if they are adequate to ensure protection of the public health and safety or the safety of the workers involved in remediation activities. Please include a description of these procedures in the remediation plan or provide a copy of the relevant RUST documents to NRS for review.

NRC staff's comment on DLA's initial response

It does not appear the DLA's response address the NRC staff's comment. Please indicate whether standard operating procedures will be followed to minimize employee contact with radioactive material.

DLA's response:

Please see DLA's response #6 above.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.3, page 4-5

22. Page 4-7, statements indicate that radiation work permits (RWPs) are "initiated" (developed?) by any individual responsible for a given operation and the RWPs are reviewed and approved by the Radiation Control Supervisor/Site Safety and Health Supervisor (RCS/SSHS). It is not clear if RWPs will be reviewed by the Project Manager or DLA personnel, who are ultimately responsible for ensuring that remediation activities are carried out in accordance with the procedures described in the remediation plan. Please clarify that RWPs will be reviewed by all appropriate RUST and DLA personnel prior to being used at the site.

NRC staff's comment on DLA's initial response

It is unclear from your response if DLA will review and approve RWP's used during the remedial activities. During a meeting between NRC, DLA, RUST, ANNE Arundel County and the Maryland Department of the Environment (MdDE) DLA indicated that they felt it was appropriate for RUST to conduct remedial activities under the DLA's NRC radioactive materials license. If RUST performs the remedial activities under DLA's license it will be <u>DLA's responsibility</u> to ensure that all remedial activities are conducted in accordance with an approved RWP.

DLA's response:

Decommissioning activities will be performed under the RUST NRC license # 39-25250-01, therefore RUST will have responsibility to ensure that all remedial activities are conducted in accordance with an approved RWP. All work in a posted radiation/contamination area will be planned in advance by the RSO/RCS (or designee) and project staff, and authorized by the RSO/RCS's signature on the RWP with the concurrence of the Project Manager. RWP's will be reviewed in accordance with NRS-RP-012, prior to use, to ensure that all applicable personnel are informed and understand the conditions of the RWP.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 1.0, page 1-1 and para 4.3.1, page 4-7.

25. Page 4-8, please clarify where the RWPs will be located during the remediation activities.

NRC staff's comment on DLA's initial response

The document cited in the response, NRS-RP-007 was not provided to NRC.

DLA's response:

The location of the active RWPs will be at the entrance to the access control point, as stated in Section 7.4.8 of NRS-RP-001 "Radiological Control Procedures for Field Projects" (provided). Reference NRS-RP-007 "Access Control Point Procedure" (provided) also covers the "Radiological Controlled Area Access Register Form" but does not specifically state where the RWP shall be posted. NRS-RP-001 states this requirement clearly.

Infor nation is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.3.1, page 4-7.

11. 12/7/93 Comment:

27. Page 4-9, it is unclear what type of HEPA ventilation system will be used to prevent radioactive material from being exhausted to the site and site environs. In addition, there is no discussion of the system calibration, filter replacement or filtered effluent monitoring procedures for the HEPA ventilation system. Please provide this information.

NRC staff's comment on DLA's initial response

Please indicate which remedial operations are expected to require the use of HEPA filtered ventilation equipment.

DLA's response:

There are no remedial operations that are expected to require the use of HEPA filtered ventilation equipment.

36. Page 4-12, the rationale for performing air monitoring surveys only every four hours and only when airborne radioactivity is expected to be maximized should be discussed.

NRC staff's comment on DLA's initial response

Please indicate how the remediation plan will be revised to reflect this response.

DLA's response:

The air monitoring surveys will be consistent with NRS-RP-001, "Radiological Control Procedure for Field Projects", and the NRS-RP-011, "Airborne Radioactive Particulate Monitoring" procedures. The periodicity will be determined by the RCS in conjunction with the DHP and Radiological Engineer's assessment of the air sampling data. The periodicity of the air monitoring program is designed to protect the workers based on the most restrictive Derived Air Concentration (DAC), and is typically evaluated when airborne radioactivity exceeds 0.1 DAC.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.4.2, page 4-12.

13. 12/7/93 Comment:

39. Page 4-13, would the requirement outlined in #6 be in effect when the walls and roofs are removed?

NRC staff's comment on DLA's initial response

Please indicate how this response is affected considering DLA's response to #12 above.

DLA's response:

Airborne particulate surveys shall be performed with portable air samplers in occupied areas where removable contamination exceeds 10,000 dpm/100 cm² beta or 500 dpm/100 cm² alpha. This requirement remains in effect whether the walls and roof are in place or removed.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.4.2, page 4-12.

Page 4-15, the description of the radioactive waste management procedures are inadequate as it refers to internal RUST documents that were not provided with the remediation plan. In addition, an estimate of the volume of waste expected to be generated by remediation activities, as well as an indication of the disposal facility that the waste will be sent for disposal should be included in the plan. In that heavy metals are expected to be present in the soil (from sewer sludge application adjacent to the buildings), the plan should include a description of the activities that will be used to ensure that if mixed waste is generated by remediation activities it is managed in accordance with all applicable State and Federal regulations. Finally, the meaning of the term "A-Unstable" waste is not clear.

NRC staff's comment on DLA's initial response

The response fails to completely address all the issues raised in NRC staff's 12/7/93 comment. Please indicate how much radioactive waste is expected to be generated as a result of remediation activities, what the procedure for managing mixed waste will be, and the meaning of the term "A-Unstable."

DLA's response:

CNSI procedure, "Operating Procedure for Brokering of Radioactive Materials" RA-OP-001, details the packaging, labeling, manifesting and transportation requirements for radioactive waste. CNSI is providing all brokering services for the Curtis Bay Project. It is assumed that approximately seven (7) B-25 boxes will be used for disposal of the radioactive waste (wood, rubble, etc.) accumulated at Curtis Bay. These waste are considered "Class A waste" in accordance with Waste Classification (10 CFR 61.55). The term "A-unstable" waste was used to denote that no treatment or processing would be required for near surface disposal. No mixed waste is expected to result from the remediation activities, however, a waste profile analysis will be performed on soil to analyze for RCRA/TSCA hazardous contaminants.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 4.5, page 4-15.

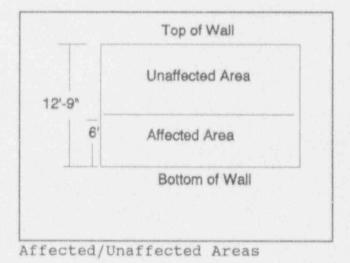
43. Page 7-1, the interior and exterior walls and roofs have been designated as unaffected areas. The interior walls should be considered affected areas unless the characterization survey of the walls proves otherwise. In addition, it is not clear if the characterization survey described in this section is consistent with statements made in section 3 as this section indicates that the walls and roofs will be removed and placed on the ground before characterization while section 7 seems to indicate that characterization will occur while the roofs and walls are in place. Please clarify these statements.

NRC staff's comment on DLA's initial response

During the meeting on January 19, 1994, between NRC, DLA, RUST, Anne Arundel County and the MdDE, DLA indicted that it felt it was appropriate to classify the lower walls (ie., below 6 feet) and floors as affected areas and classify the upper walls and ceiling as unaffected areas. NRC and MdDE staff indicated that this would be acceptable. Please clarify if DLA still intends to classify the lower walls and floors as affected areas and classify the upper walls and ceiling as unaffected areas or does DLA intend to classify the entire building interior as an affected area.

DLA's response:

Please refer to responses #2 and #5 above and simplified drawing.



Page 7-3, previous discussions with DLA staff and the conceptual remediation plan submitted to NRC in February 1993, indicated that the intent of the remediation activities was to remove all residual radioactive material above unrestricted release limits from the building surfaces and soil and to dispose of this material in a radioactive waste disposal facility. Statements on this and subsequent pages indicate that radioactive contamination will be averaged over the area of the survey blocks established as part of the characterization survey. In that the activity of the residual contamination on building surfaces is generally low and the areal extent of contamination is limited, this method could allow building or soil contamination in excess of the allowable limits to be released for unrestricted use. At this site, contamination exists in discrete patches, rather than being homogeneously distributed. Therefore, it appears that biased sampling would be preferable to sampling on a coarse grid as described in NUREG/CR-3849. Please clarify that the intent of the remediation activities is to remove radioactive material contamination above the unrestricted use limits and that building surfaces and soil in excess of the limits for unrestricted release will be disposed of as radioactive waste.

NRC staff's comment on ULA's initial response

It does not appear that DLA's response addresses the NRC staff's comment. Please clarify that the intent of the remediation activities is to remove radioactive material contamination above the unrestricted use limits and that building surfaces and soil in excess of the limits for unrestricted release will be disposed of as radioactive waste.

DLA's response:

The intent of the remediation activities is to remove radioactive material contamination above the unrestricted use limits, and building surfaces and soil in excess of the limits for unrestricted release will be disposed of as radioactive waste.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 8.0, page 8-1.

56. Page 8-2, statements indicate that final status surveys will not be performed on structures that have been razed as part of the remediation process. It appears that DLA intends to use the information gathered during the characterization survey to support the assertion that structures meet the unrestricted use guidelines. Please clarify that the date obtained during the characterization survey of the buildings will be sufficient to comply with NRC's unrestricted release criteria and NUREG/CR-5849 and that this information will be submitted to NRC as part of the documentation of the termination survey.

NRC staff's comment on DLA's initial response

Please clarify that the data obtained during the characterization survey of the buildings will be sufficient to comply with NRC's unrestricted release criteria and NUREG/CR-5849 and that this information will be submitted to NRC as part of the documentation of the termination survey.

DLA's response:

The data obtained during the characterization survey of the buildings will be sufficient to comply with NRC's unrestricted release criteria and NUREG/CR-5849 and this information will be submitted to NRC as part of the documentation of the termination survey.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 8.0, page 8-1.

57. What measures will be taken to prevent trespassing at the site during off hours?

NRC staff's comment on DLA's initial response

It is not clear if this response is consistent with the response to item 1 above. Please clarify how DLA intends to prevent trespassing on the site during off hours.

DLA's response:

The perimeter fence which surrounds the active site (where the buildings are located) will be locked during non-working hours to prevent inadvertent intrusion and potential off-site contamination.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 3.2, page 3-2.

19. 12/7/93 Comment:

58. What are the estimated projected average and maximum worker and public doses, if any, from remediation activities? In addition, what is the total estimated worker radiation dose from the remediation activities?

NRC staff's comment on DLA's initial response

Your response summarizes an estimated public dose from residual radioactive material at the site and estimated worker dose from remedial activities. However, instead of discussing these estimates in terms of actual doses, it indicates that these doses will be less than the NRC's public dose limit of 100 mrem/yr. Please provide an estimate of the dose to a member of the public from remedial activities as well as an estimate of the dose to workers from remedial activities expressed as an actual discrete dose.

DLA's response:

The estimated dose to any individual/worker is expected to be < 1 mrem. The estimated dose to a member of the population is expected to be < 0.1 mrem. These estimates are based on radiation dose rates of past remedial operations similar to Curtis Bay Depot. The estimates are based on the time of potential exposure to the public being 10 times less than that of the potential exposed worker. These estimates are conservative estimates that are less than RUST administrative limits.

 Please describe what additional surveying activities will occur if contamination in excess of unrestricted use limits is detected during the termination survey.

NRC staff's comment on DLA's initial response

Your response indicates the additional remedial activities that will be performed at the site if contamination in excess of unrestricted use limits is detected during the termination survey. Please describe the additional <u>surveying</u> activities that will occur if contamination in excess of unrestricted use limits is detected during the termination survey.

DLA's response:

In the event that contamination is found that exceeds the unrestricted release limit during the termination survey, additional remediation will be performed. T area will be resurveyed in accordance with the gridding and survey methods as prescribed by NUREG-5849, "Manual for Conducting Radiological Surveys in Support of License Termination." Surveys will be biased to the area that is considered contaminated above the release criteria, or designated as an "affected" area. Surveys will be conducted in the manner consistent with survey procedures used for "affected" areas.

Information is contained in Decommissioning Plan for Curtis Bay Depot Facility, PL-NRS-0793-097 Rev. 1 para 3.2, page 3-4.