

**RESPONSE TO COMMENTS  
ACTION MEMORANDUM,  
CERCLA TIME-CRITICAL REMOVAL ACTION,  
INSTALLATION RESTORATION SITE 2  
ALAMEDA POINT  
ALAMEDA, CALIFORNIA  
DCN: FWSD-RACII-02-0272**

June 14, ~~2001~~ 2002

Comments by:  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 200  
Berkeley, California 94710

Received 4/29/02

Responses by:  
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**General Comments on Action Memorandum**

**Comment 1.** The Navy has not recognized DTSC's authority to regulate both the investigation and treatment of ordnance waste. (The Navy has indicated that waste disposal took place prior to the effect date of Sub part F [see page 5-10]). While this may be true, DTSC has taken the closure process as an act of abandonment. Consequently, we view the items in place as solid waste and therefore, because of the characteristics, a hazardous waste. Consequently, both the investigation and clean up (including treatment) are regulated activities.

I should add that the issue of authority is a national issue which the Navy will likely challenge. However, I think the Navy's position becomes irrelevant when they excavate materials. Clearly, any hazardous waste excavated that requires treatment or transport must comply with Section 66264.600 of Title 22 and the Department of Transportation requirements.

As a further note, the Navy states that the munitions in IR Site 2 are ordnance and explosives wastes. They also cite the Military Munitions rule, which clearly delineates that disposed munitions are solid wastes, and therefore, if reactive, are **characteristic hazardous wastes**.

**Response 1.** Comment noted. The DON, as the lead agency under the Department of Defense (DoD) Installation Restoration (IR) Program, has the authority to conduct time-critical removal actions (TCRA), as necessary, to protect public health and the environment from potential risks. While the DON recognizes the DTSC as a responsible agency, there is not always sufficient time for their review and comment on proposed actions prior to implementation. However, the DTSC and other agencies are ultimately involved in determining the remedial actions necessary for a "no further action" determination for a site.

The DON does not agree with the applicability of Title 22, Section 66264.600 miscellaneous unit requirements to the TCRA activities proposed in the Action Memorandum and Removal Action Work Plan. These requirements apply only to owners of facilities that transfer, treat, store, or dispose of hazardous waste in miscellaneous units. None of those elements comprise any part of the TCRA and, therefore, are not applicable.

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To reiterate, treatment of a hazardous waste which will be recovered as a part of the time critical removal action will be regulated under Title 22 and must comply with Section 66264.600 of the California Code of Regulation....an ARAR they did not cite. (*Note:* the Navy did cite Section 66265.382 of CCR, which addresses separation distances for open detonation for interim facilities. However, this is not the only applicable or relevant and appropriate requirement. A full assessment of potential impacts from open detonation, as well as alternatives, i.e., detonation chambers vs. open detonation, must be preformed in order to comply with requirement of CCR 66264.600).

The military munitions waste recovered, generated, or disposed during the completion of the TCRA were not determined to be reactive, corrosive, ignitable, toxic or otherwise hazardous, and no treatment of any hazardous waste was conducted on the site.

Procedures were in place to properly deal with hazardous or reactive waste, if any had been encountered. Impacts and alternatives to open detonation were addressed in the Explosives Safety Remediation Plan (ESRP), but open detonation was not considered as an option for routine disposal of ordnance and explosives waste (OEW) on IR Site 2. However, if OEW that was unsafe to move was encountered, the ESRP required that a military Explosive Ordnance Disposal (EOD) unit be notified to respond and perform an emergency removal action. The action would involve removing the threat to human life or the environment by detonating the OEW in place.

Section 66264.600 of the CCR was not cited as an ARAR because the activities planned and ultimately conducted as part of the TCRA did not involve transfer, storage, treatment, or disposal of hazardous waste in a miscellaneous unit. A full assessment of potential impacts from open detonation and detonation alternatives was completed in the unlikely event of the need for an emergency removal action by a military EOD unit. This information was included in the Focused Remedial Action Work Plan and Standard Operating Procedures provided as attachments to the Work Plan.

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**Comment 2.** I am also concerned with the Navy's use of the Corps of Engineers' prioritization model to define risks from ordnance and explosives. Page 1-2 states "These [risks and impacts] are defined with appendix C, Evaluation of Removal Alternatives. (emphasis added)

The Navy is fully aware that the Department of Defense (DoD) has not promulgated any regulations governing how risks from ordnance will be assessed. Furthermore, there is no model to my knowledge that has been developed by DoD or others that quantitatively defines ordnance and explosive risk. The stated use of the prioritization model is inappropriate. A change of text is needed.

**Response 2.** Comment noted. Although the DoD has not promulgated an approved model for quantitative OE risk assessment, they require a risk assessment be completed as a part of every Explosive Safety Remediation Plan submitted to the Department of Defense Explosives Safety Board (DDESB) for review and approval. The assessment mandated in DoD 6055.9-Standard (STD) is required for "all new or modified industrial operations and facilities involving ammunition and explosives" and must include assessment factors of initiation sensitivity, quantity of materials, heat output, rate of burning, potential ignition and initiation sources, protection capabilities of personal protective equipment (PPE) and personnel exposure. Some DON (NAVSEA OP5, OPNAVINST 8020.14, EODB 60 Series et al.) and Army (AR 385-64, EP 1110-1-18 et al.) publications provide other risk assessment guidance and all of these were used to complete the risk assessment required by the DDESB.

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Based on the results of earlier surveys and an Emergency Removal Action (ERA), the 20-mm HEI round with a single-action point detonating fuze was identified as the Most Probable Munition (MPM). The risks associated with the MPM were considered when developing the project Health and Safety and Work Plans, and the Standard Operating Procedures for OE/OEW. They included:

- Q/D arcs and nearest inhabited building distances
- Maximum fragment throw range – 320 feet
- Maximum credible event – the detonation of 165 grains (.37 oz) of explosives and 20 grains of incendiary mixture in a single round (representative for 20-mm HEI rounds of the M563A3/A4 variety)
- Methods of initiation – actions that would function a fired, single-action point detonating fuze with arming and firing features similar to the M503A3 nose fuze (typical for 20-mm HEI rounds) – striking, dropping, rough handling and static electricity.
- Transportation and storage
- The probability of occurrence and possible quantities of the MPM that could be encountered (results of earlier ERA divided by the total acreage of the project)
- Barricades, PPE, exclusion zones

Every DoD, DON, and Army requirement for risk assessment was met in developing the Focused Remedial Investigation Work Plan, Time-Critical Removal Action Memorandum, Health and Safety Plans, and Standard Operating Procedures for the project. The Army Risk Assessment Procedure in EP 1110-1-18 was included in the Action Memorandum to document the completion of the risk assessment. The text will be supplemented with the aforementioned information.

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**Comment 3.** The Navy also failed to address how residuals (explosives and constituents) from items below the one foot excavation may or may not leach and migrate into ground or surface waters. I suppose this could be done as part of the RI/FS. However, I did not get the sense the Navy has recognized such potential and is planning on addressing this in other documentation.

**Response 3.** Comment noted. The scope of this TCRA was to locate and remove ordnance and explosives waste in the top 1 foot of soil. The purpose of this removal action was to provide clearance for future site investigation and grading activities to be performed safely.

**Specific Comments on Action Memorandum**

**Comment 1. A)** The Table of Contents (page iii) indicates three figures are included, although there were no such figures provided with the document I reviewed. Of particular importance is figure 2-3, the magnetic anomaly map generated as part of the 1999 effort. In addition to providing the maps, all raw and processed geophysical from the 1999 survey should be made available to DTSC.

**Response 1.** Comments noted. Figures have been included in Time-Critical Removal Action Memorandum. Figure 2-3 is a copy of the magnetic anomaly map generated by the Supervisor of Shipbuilding, Conversion and Repair, Portsmouth (SSPORTS) as part of an Unexploded Ordnance Site Investigation. The map, in its current form, is the only geophysical information that is available.

**Comment 2. B)** Page 2-4 discusses the previous investigation and documented in the Unexploded Ordnance Site Investigation Final Summary Report, SSPORT Environmental Detachment, October 1999. Text following the citation of that report reads – “A geophysical survey was conducted because of high background noise, however, it could not be determined whether they were ordnance.”

**Response 2.** The referenced text on page 2-4 summarizes the findings of the previous investigation by SSPORT. Based on these concerns, it was determined that the application of geophysics and intrusive investigation data could not be relied on to achieve an acceptable confidence level of OE absence/presence in landfill conditions. It was, therefore, decided to remove the top 1-foot of topsoil in the Possible OEW Burial Site to achieve a 100 percent confidence level of OE removal. This approach precluded the need for additional geophysical surveys and has addressed concerns regarding accuracy of discrimination of anomalies.

I am concerned that this paragraph implies that the application of geophysics without high background noise can be used to discriminate buried items. While DoD and others have done many tests in efforts to learn more about discrimination, results confirm that such ability does not come with great assurances, especially in mixed debris environments. Consequently, I doubt the Navy (or their contractor) would be able to differentiate anomalies in a landfill setting even if there was a low background signature. I suggest this text be rewritten to clarify that intrusive efforts were not performed to confirm source of anomaly. Furthermore, if such discrimination is attempted, test plots to conform geophysical signatures followed with quality control/quality assurance will be needed.

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**Comment 3. C)** Page 2-5, Section 2.2.2: The Department of the Navy (DON) notes that they are currently cutting existing vegetation "...conducting a surface sweep at IR Site 2 as part of the Draft Focused IR Work Plan (FWENC, 2002).

While such efforts may be needed, the clean up of ordnance and explosives remains a regulated activity. To that matter, and to the fact that the surface sweep is a planned action, a Removal Action Workplan (RAW) or Remedial Action Plan (RAP), or equivalent document that evaluates impacts and complies with CCR Section 66264.600 must be finalized prior to initiating the actions. And as stated above, impacts and alternatives to open detonations must be assessed and incorporated into the RAW/RAP (or equivalent document)

**Response 3.** Comments noted. These activities were conducted as part of the TCRA. The DON, as the lead agency under the DoD IR Program, has the authority to conduct such activities, as necessary to protect public health and the environment from potential risks. A Removal Action Work Plan was prepared for the project and it was submitted to the DTSC along with the TCRA Action Memorandum. However, as stated in the response to Comment 1, the DON does not agree with the applicability of Title 22, Section 66264.600 miscellaneous unit requirements to the TCRA. Those requirements apply only to owners of facilities that transfer, treat, store or dispose of hazardous waste in miscellaneous units. None of those elements comprised any part of the TCRA and, therefore, were not considered applicable.

Procedures were in place to properly deal with hazardous or reactive waste, if any had been encountered. Impacts and alternatives to open detonation were addressed in the ESRP, but open detonation was not considered as an option for routine disposal of OEW on IR Site 2. However, if OEW that was unsafe to move was encountered, the ESRP required that a military EOD unit be notified to respond and perform an emergency removal action. The action would involve removing the threat to human life or the environment by detonating the OEW in place.

**Comment 4. D)** Additional data regarding optimizing geophysical efforts must also be provided. The documents fail to address lane spacing or how the high background noise will be addressed. Given such high background noise, details as to how the geophysical data will be leveled must be provided.

**Response 4.** Comment noted. An earlier geophysical survey of the Possible OEW Burial Site revealed a very high density of subterranean anomalies, which created a high background noise on the ordnance locators used for the survey. Based on these factors, it was determined that the application of geophysics as a method of locating OEW could not be relied on to achieve an acceptable confidence level. Therefore, it was decided to remove all of the soil in the top 1-foot of the Possible OEW Burial Site. As such, information regarding lane spacing, background noise or geophysical data leveling is not considered relevant.

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**Comment 5. E)** The document should also indicate proposed risk management issues (institutional controls, deed restrictions, education, covenants, etc.) and when these measures will be addressed.

**Response 5.** Comment noted. These issues will be addressed in the Record of Decision, which has not been finalized at this time.