



California Department of Public Health  
**MEMORANDUM**

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DATE: July 18, 2007

TO: Quang Than  
Remedial Project Manager  
Southern California Base Closure and Reuse unit  
Office of Military Facilities  
Department of Toxic Substances Control (DTSC)  
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FROM: Penny Leinwander, Senior Health Physicist  
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A handwritten signature in black ink, appearing to be "Penny Leinwander", is written over the "FROM:" section of the memorandum.

SUBJECT: REVIEW OF THE REVISED DRAFT RECORD OF DECISION OPERABLE UNIT  
2C, LANDFILL SITES 3 AND 5, FORMER MARINE CORPS AIR STATION, EL  
TORO, CALIFORNIA

The California Department of Public Health (CDPH) has reviewed the subject document dated April 2007. This ROD documents Navy's remedial action for Installation Restoration Program (IRP) Sites 3 and 5. This remedy proposes capping of Site 5 waste area and Site 3 consolidated waste area with a single barrier cap utilizing a flexible membrane liner along with institutional controls and monitoring.

Please find CDPH review comments attached. The review was performed by Vandana Kohli (Associate Health Physicist) in support of the Interagency Agreement between DTSC and CDPH. If you have any questions concerning this review, or if you need additional information, please contact Vandana Kohli at (916) 449-5687.

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CDPH values the Department of Navy's endeavor and dedication to various remedial projects at EL Toro. CDPH is also appreciative of Department of Navy's effort in producing the Draft ROD however it does have some comments that need to be addressed.

### General Comments:

1. The role of California Department of Public Health should be explicitly described in the assessment of IRP Sites 3 and 5 radiological issues.
2. Institutional controls and land use restrictions should be modified to specify that no land-disturbing activity including but not limited to: 1) excavation of soil; 2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; 3) demolition or removal of "hardscape" (e.g. concrete roadways, parking lots, foundations, and sidewalks) existing at the time of the ROD issuance; and/or 4) any activity that involves movement of the soil to the surface from below the surface **will be allowed without prior approval from California Department of Public Health, Radiologic Health Branch. CDPH also would require a soil management plan and a radiation safety plan in operation in case of any excavation.**
3. Final Feasibility Study Addendum Operable Unit 2C IRP Sites 3 and 5 proposes complete excavation of the waste from Unit 4 and the Waste areas B through F followed by consolidation of this waste in the Waste area A. Subsequently, the Waste area A will be capped using EPA's presumptive remedy for municipal and industrial landfills and released for restricted use with Institutional Controls. The remaining of the Site 3 land, Unit 4 and Waste areas B through F, will be recommended for unrestricted use. The Revised Draft ROD for Sites 3 and 5 does not totally identify the above-cited remedial strategy for IRP Site 3 landfill. Furthermore, all through the Draft ROD the Institutional Controls boundaries for IRP Site 3 are not specified. CDPH recommends that remedial action strategies for IRP Sites 3 and 5 are clearly defined in the Final Draft ROD. It also recommends that the boundaries of the Institutional Controls for Sites 3 and 5 be distinctly stated.
4. CDPH recommends that the Institutional controls and the land use restrictions be operational until the radiation concentration in the soil diminishes to levels that would permit unrestricted land use.
5. CDPH recommends a Final status survey per MARSSIM guidelines for Waste areas B through F and Unit 4 following excavation and waste removals from these areas. The dose modeling will be implemented to calculate the annual

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dose to the public. The land will be released for unrestricted use if the residual radioactivity does not produce unacceptable public dose rate as per ALARA.

### Specific Comments:

1. Page 2, **-Description of the Remedy**, The Institutional Control (IC) boundary is not evident. It is recommended that this be resolved in the Final Draft ROD.
2. Page 3, **-Description of the Remedy**, One of the restrictions for Land-use should be that no excavation/digging will be allowed without prior approval from CDPH, Radiologic Health Branch. CDPH will require a soil management plan and a radiation safety plan in operation in case of any excavation/digging.
3. Page 4, **-Statutory Determinations**, "Because this remedy will result in landfill wastes remaining on-site reviews will be conducted every 5 years" It is recommended that the reviews be performed every 5 years until the radiation concentration in the soil diminishes to levels that would permit unrestricted use of the land.
4. Section 1.6, **-Current and Future Land Use**, page 1-5, It is suggested that a sentence be added describing the radiological burn history of the original landfill incinerator.
5. Section 1.6, **-Current and Future Land Use**, page 1-5, CDPH suggests that some information be provided regarding the perimeter road landfill burn area and its radiological burn history.
6. Section **-Current and Future Land Use**, page 1-6, "Site 5 is located in an area that is designated as an open space/existing golf course". Is the area designated as an open space or an addition to an existing golf course? CDPH suggests that this sentence be edited for clarity.
7. Section 2.1.1, **-May 2000 Historical Radiological Assessment**, page 2-5, It is unknown and unstated, how and where the radioactive waste from this paint facility was disposed and how and when the original radium paint room was decommissioned. The radioactive waste and/or parts of the radium paint room perhaps may have been disposed of in the landfills, which were active during that time. CDPH suggests that this section be revised accordingly to address the potential for the presence of decommissioned radiological waste in the landfills.
8. Section 2.1.3.1, **-Site 3**, page 2-7, "Therefore, implementation of the ICs as part of the remedy proposed for the site would not pose a health or safety hazard to those performing the work". Please clarify the kind of work.

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9. Section 5.2.1, **-Landfill Extent**, page 5-3, "However, Unit 4 contains landfill wastes that will be removed and consolidated within Unit 1 during the final remedy of the Site". It is suggested that a sentence be added that cites the consolidation of the waste from the Waste areas B through F with the waste in the Waste area A.
10. Section 7.2.2, **-Alternative 2- Institutional Controls and Monitoring**, page 7-4, It is recommended that the ICs boundaries be defined for Site3.
11. Section 7.2.2.1, **Institutional Controls**, page 7-6, The following land-use restriction should be added: No excavation/digging will be allowed without prior approval from CDPH, Radiologic Health Branch. Also, CDPH will require a soil management plan and a radiation safety plan in operation in case of any excavation/digging.
12. Section 7.2.3.1, **-Landfill cap**, page 7-9, "On-Site waste consolidation would occur prior to capping at Site 3". It is recommended that a sentence be added that mentions the complete excavation of waste areas B through F and eventual repositioning of this waste in the Waste area A.
13. Section 7.2.4, **-Alternative 4- Single-Barrier Cap with Institutional Controls and Monitoring**, page 7-11, "At Site 3, excavated landfill wastes from Unit 4 and waste from waste areas B through F would be consolidated within the reduced Unit 1 footprint and under the cap area". Please clarify the unrestricted and restricted release areas for Site 3.
14. Section 7.2.5, **-Alternative 5- Pavement Cap with Institutional Controls and Monitoring**, page 7-14, "At Site 3, excavated landfill wastes from Unit 4 and waste from Waste Areas B through F would be consolidated within the reduced Unit1 foot print and under the cap area". It is recommended that the ICs boundaries be defined.
15. Section 7.2.6, **-Alternative 6- Pavement Cap with a Flexible Membrane Liner Barrier with Institutional Controls and Monitoring**, page 7-16, "At Site 3, excavated landfill wastes from Unit 4 and waste from Waste Areas B through F would be consolidated within the reduced Unit 1 footprint and under the cap area". It is recommended that boundaries of the Institutional Controls and the areas recommended for unrestricted release and/or restricted release be presented.
16. Section 8.1, **-Overall Protection of Human Health and Environment**, page 8-2, "Alternative 2 would reduce the potential for inadvertent human exposure to landfill materials and groundwater, restricting excavation and drilling or use of groundwater". It is recommended that the ICs boundaries be identified.

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17. Section 8.3, **-Long term Effectiveness and Permanence**, page 8-5, It is stated that that Alternative 4c will not be able to control gas emissions. CDPH recommends clarification of 4c ARARS.
18. Section 9, **-Selected Remedy**, page 9-1, "As part of the remedy, on-site consolidation of waste from Unit 1 will occur prior to capping at Site 3". It is recommended to provide a map showing Site 3 unrestricted and restricted release areas.
19. Section 9, **-Selected Remedy**, page 9-2, "Periodic reviews (at least every 5 years) will be conducted to evaluate the monitoring results and verify that the action remains protective of human health and the environment". It is recommended that the reviews be performed every 5 years until the radiation concentration in the soil diminishes to levels that would permit unrestricted land use.
20. Section 11, **-Documentation of Significant Changes**, page 11-1, It is recommended that the boundaries be defined for the ICs.