



Department of Toxic Substances Control

M60050.000356
MCAS EL TORO
SSIC # 5090.3



Gray Davis
Governor

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

June 18, 1999

Winston H. Hickox
Secretary for
Environmental
Protection

Mr. Joseph Joyce
BRAC Environmental Coordinator
U.S. Marine Corps Air Station - El Toro
AC/S, Environmental (1AU)
P. O. Box 95001
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Dear Mr. Joyce:

COMMENTS ON DRAFT HISTORICAL RADIOLOGICAL ASSESSMENT FOR MARINE CORPS AIR STATION (MCAS) EI TORO

The Department of Toxic Substances Control (DTSC) has received the Draft Historical Radiological Assessment (HRA) dated May 1999. The purpose of the HRA is to identify potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information. The HRA also identifies site(s) that need further action and the site(s) that do not pose a threat to human health. DTSC comments are as follows:

1. Section 2.2, Conclusions:

This section lists the sites recommended for further investigation and selective surveys and/or sampling. However, the Site 1 Explosive Ordnance Disposal (EOD) Range was not proposed for surveys even though the historical review indicates that low-level radioactive waste may have been disposed of in this site. Also, the HRA did not evaluate or disclose information regarding area(s) used for ammunition assembly and storage bunkers for ammunition containing radioisotopes.

2. Table 2, Results of Personnel Interviews Conducted in 1998/1999:

Please explain why the question of whether or not radioactive materials were disposed of at the EOD Range was asked to only one of the employees who were interviewed. Should other employees be interviewed or asked the same question?

3. Section 6.1.4 Permits and Licenses

Please verify whether or not the base had any dental or medical offices that used X-ray machines.



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4. Section 7.2.1.2, Potential Impacted Areas

See comment # 1 regarding EOD Range and ammunition assembly/bunkers storage areas.

5. Section 8.2, Explosive Ordnance Disposal Range

The HRA states that there have been reports of possible low-level radioactive waste being disposed of in the EOD Range Site 1. The HRA concludes that, based on the results of groundwater sampling for gross alpha and gross beta, it is unlikely that G-RAM was disposed of at the EOD Range. The Department of Health Services (DHS) commented on the methods for analysis in a letter dated August 20, 1998. A radiological survey will be necessary to confirm whether or not the soil is contaminated.

6. Section 8.3 Defense Reutilization and Marketing Office Yards (Site #8)

The HRA proposes further investigation/radiological survey for Site 8. However, the Marines have submitted a Draft Final Record of Decision (ROD) for Landfill Sites 2 & 17. The ROD proposed the excavation of Site 8 and placement of contaminated soil as a foundation layer over the landfills. Please evaluate the potential human health, environment, and ecological impacts if radioactive contamination is found at Site 8.

For additional comments, please see the enclosed June 15, 1999, comments prepared by DHS. If you have any questions, please contact me at (714) 484-5418.

Sincerely,



Tayseer Mahmoud
Remedial Project Manager
Southern California Operations
Office of Military Facilities

Enclosure

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Memorandum

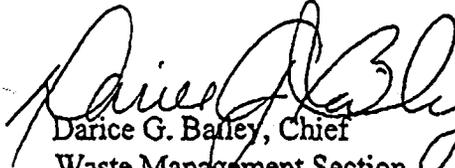
Date: June 15, 1999

To: Mr. Tayseer Mahmoud
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From: Environmental Management Branch
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(916) 445-0498

Subject: Review of draft *Historical Radiological Assessment (HRA) Marine Corps Air Station (MCAS), El Toro, California, May 1999*

Attached are The Department of Health Services' (DHS) comments on the subject report. This review was performed by Ms. Deirdre Dement, Associate Health Physicist, in support of the Interagency Agreement between DTSC and DHS. If you have any questions concerning this review, or if you need additional information, please contact Ms. Dement at (916) 324-1378.


Darice G. Bailey, Chief
Waste Management Section

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Department of Health Services

Review of Draft *Historical Radiological Assessment (HRA) Marine Corps Air Station, El Toro, California, May 1999* and Pages 7-3 and 7-4 of the *Draft Record of Decision – OU-2C Landfill Sites 3 and 5, MCAS El Toro*

June 15, 1999

DTSC Resource Planning Form # 432

The following comments and questions are in response to the request from Mr. Tayseer Mahmoud of the Department of Toxic Substances Control to review the draft *Historical Radiological Assessment (HRA) Marine Corps Air Station (MCAS), El Toro, California, May 1999* and Pages 7-3 and 7-4 of the *Draft Record of Decision – OU-2C Landfill Sites 3 and 5, MCAS El Toro*.

General Comments:

1. The historical data presented in this document is new to the Department of Health Services (DHS) and provides information needed to evaluate previous and future surveys at MCAS El Toro. There appears to be a need for further evaluation and/or surveys of areas with potential radiological concerns.
2. It is noted that there are several landfills potentially contaminated with radium-226 or other radioisotopes. As it is very difficult to detect subsurface radium-226 (usually estimated as only being detectable at a depth of 18 inches), any surveys of landfills would be limited to the top (less than 18 inches) of soil. It would be prudent to assume that there is radiological contamination in all of the landfills unless process or protocols demonstrate radioactive waste did or did not go to a specific landfill. Locating and subsequent efforts to remove radioactive contamination (such as Ra-226) from existing landfills may create other risks to the workers and the public than leaving the waste in place with controls. Radioactive material left in place requires radiological controls. Specific licensure is DHS' method of control although 10 CFR 20 now allows for restricted release. These regulations are used to release property.
3. The DHS, as the radiological authority for the State of California, would need to be included in any Record of Decisions (RODs) and any subsequent notices (i.e., changes of ownership or proposed changes of land use, etc.) DHS would need to determine that these changes maintained the knowledge and control of the radiological material. Any monitoring planned for the site would have to include radiological analysis as well as other chemicals of concern.

(General Comments continued on next page.)

General Comments: (Continued.)

4. Any changes expected in the in the flow or usage of groundwater adjoining or that could potentially be affected by a landfill should be discussed in detail. It has been suggested to DHS that some of the groundwater at this site may be diverted in the next few years. Any plans for groundwater monitoring should take this information into account.

Specific Comments:

1. Page 1, ABBREVIATIONS: The left half of this page was obscured when copied.
2. Page 5, Section 3.2 Background, Paragraph 2. Of the G-RAM examples listed, what radioisotopes are associated with the each of the different examples?
3. Page 15, Section 5.42, 7th bullet on page. Was there any depleted uranium associated with the "Explosive Ordnance Disposal (EOD) Range?" Also, were there any areas, usually bunkers, where ordnance were stored? If so, these should be surveyed for depleted uranium and any other radioisotopes that may have been stored in these bunkers.
4. Pages 15 and 16, Section 5.4.2, Last paragraph. Please provide all the readings from the "informal radiation readings taken with the Ludlum Scaler-Ratemeter and 2X2 sodium iodide detector."
5. Page 24, Top block of Table 5-2, "Results of the Interview." Please provide the "various isotopes" associated with the magnetron electronic tubes reported as crushed and deposited into a dumpster in the 1960's. Also, is it known where this crushing and subsequent disposal occurred?
6. Page 25, Section 6.1.2. Please describe the location(s) and procedure used for washing planes, the path of this water evacuation, a description of the type aircraft and missions these planes would have flown over the years.
7. Page 26, Section 6.1.2, 2nd bullet on page. Where was the incinerator located while in operation, and will this location be investigated for radiological contamination?
8. Page 29, Section 6.1.2.1. The previous decommissioning efforts, prior to the Radium Paint Room becoming a computer room, most likely disposed of any hoods, pipes, ductwork, decommissioning debris in existing landfills.

Specific Comments: (Continued.)

9. Pages 31, 33, 35,36, 38 and 39, Sections 6.1.3.1, 6.1.41, 6.2.1.1 and 6.2.1.2.2, and Table 6-1. Please define the term "dispositioned" (also shown as dispositioning and disposition) as it is used in these sections and clarify what is entailed by this term.
10. Page 32, Section 6.1.3.4. The acronym "NARM" is usually referred to as "Natural and Accelerator produced Radioactive Materials."¹
11. ~~Page 34, Section 6.2.1, 3rd paragraph. Please be aware of problems with bundling² exempt quantities prior to disposal.~~
12. Page 50, Section 7.3.1. All results, including background, should be presented in measured units or readings rather than "times background." If the readings are given in counts per minute (cpm) then the efficiencies, which may vary for different types of radiation and from one instrument to another, should be included so that an approximate activity in disintegrations per second or minute (dps or dpm) may be related to the readings.
13. Pages 50 through 53, Section 7.3. It is not clear if the incinerator (See Specific Comment number 7.) has been investigated as a pathway for deposition of radionuclides or if the original location of the incinerator is known.
14. Page 56 and 57, Sections 8.5.1. and 8.5.2. See General Comment 2 regarding deed restrictions on areas assumed not to meet the criteria for unrestricted release.
15. Page 58, Section 10. A. A MARSSIM classification of 3 may not be appropriate for landfills or other subsurface contaminated areas. MARSSIM is generally not applicable to subsurface contamination.
16. Draft ROD—OU-2C Landfill Sites 3 and 5, MCAS El Toro, Pages 7-3 and 7-4, Sections 7.2, 7.2.1, 7.2.1.1 and 7.2.1.2. These sections should also include controls and monitoring to ensure that any radionuclides of concern are not released into the environment. Any changes expected in the flow or usage of groundwater adjoining or that could potentially be affected by a landfill should be discussed in detail. (See General Comment number 4.) If restricted release is the chosen alternative, then the procedures listed in 10 CFR 20 would have to be followed and DHS would be the agency reviewing the process and release from a radiological perspective.

1 Ronald L. Katbcm, *Radioactivity in the Environment*, (Amsterdam: Harwood Academic Publishers, 1984).

2 NRC Generic Letter 99-01: "Recent Nuclear Material Safety and Safeguards Decision on Bundling Exempt Quantities," May 3, 1999, (<http://www.nrc.gov/NRC/GENACT/GC/GL/1999/gl99001.txt>)