

**DEPARTMENT OF THE NAVY**

NAVY ENVIRONMENTAL HEALTH CENTER  
2510 WALMER AVENUE  
NORFOLK, VIRGINIA 23513-2617

5090  
Ser 6117 0034  
06 JAN '94.

From: Commanding Officer, Navy Environmental Health Center  
To: Commander, Atlantic Division, Naval Facilities Engineering Command

Subj: MEDICAL REVIEW OF INSTALLATION RESTORATION PROGRAM  
DOCUMENTS FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

Ref: (a) LANTNAVFACENGCOM ltr 5090 Ser 1823 of 6 Dec 93

Encl: (1) Health and Safety Plan Review

1. As you requested in reference (a), we completed a medical review of the "Draft Site Specific Health and Safety Plan for Removal Action Site #6, OU No.2 at Marine Corps Base, Camp Lejeune, NC." Our comments are provided in enclosure (1).
2. The technical point of contact for comments is noted in the enclosure. We are available to discuss the enclosed information by telephone with you and, if necessary, with you and your contractor. If you require additional assistance, please call Ms. Sheila Berglund, P.E., Head, Installation Restoration Program Support Department at (804) 444-7575 or DSN 564-7575, extension 430.

  
W. P. THOMAS  
By direction

## HEALTH AND SAFETY PLAN REVIEW

Ref: (a) 29 CFR 1910.120  
(b) Navy/Marine Corps Installation Restoration Manual (February 1992)

### General Comments:

1. The "Draft Site Specific Health and Safety Plan for Removal Action Site #6, OU No. 2 at Marine Corps Base, Camp Lejeune, North Carolina, Project Number 15226" was prepared for LANTNAVFACENGCOM by OHM Remediation Services Corporation and forwarded to the Navy Environmental Health Center on 8 December 1993. The document was dated October 1993.
2. This review addresses both health and safety and emergency response sections of the plan.
3. The method used for the review is to compare the health and safety plan to federal requirements under OSHA regulations (29 CFR 1910.120) and to Department of the Navy requirements under the "Navy/Marine Corps Installation Restoration Manual" (see references (a) and (b) above). We noted deviations and/or differences in the plan from these two primary references.
4. The point of contact for review of the health and safety plan is Ms. Mary Ann Simmons, Industrial Hygienist, who may be contacted at (804) 444-7575, or DSN 564-7575, extension 477.

### Specific Comments:

1. Section 2.0, "Key Personnel and Management":
  - a. No one is designated as responsible for interacting with the sub-contractors.
  - b. Paragraph 2.1: Recommend designating the site safety officer as soon as possible since this individual has so many responsibilities. A log should be maintained for all persons entering and departing the exclusion zone, not just the visitors.
2. Section 3.0, "Job Hazard Analysis":
  - a. Recommend combining information contained in sub-sections 3.1 and 3.3 with that in sub-section 3.5. This would produce a more descriptive, concise job hazard analysis.

Enclosure (1)

b. Sub-section 3.3, "Explosion Hazard": If confined spaces are anticipated to be entered, a confined space entry program should be included within this plan.

c. Sub-section 3.3, "High Pressure Washing": It would be helpful to reference the specific procedure in Appendix B. In this case it would be "OHM Procedure #30."

d. Sub-section 3.3, "Tank/Drum Opening": Additional information on this subject is said to have been provided in the appendix. This information was not included. Recommend noting the specific appendix and the specific procedure in the finalized plan.

e. Sub-section 3.3, "Excavations and Trenching": OSHA requirements mandate engineering controls for excavations or trenches 4 feet or greater in depth, not 5 feet in depth. A standard operating procedure for this type of operation should be included in this plan.

f. Sub-section 3.4, "Environmental Hazards": Unless the duration for this job is quite lengthy, it seems unlikely that both heat stress and cold stress are potential problems. The site-specific health and safety plan should include only the type of hazards that can reasonably be expected to be encountered.

g. Sub-section 3.5, "Task Specific Risk Assessment": These assessments should include information on anticipated levels of chemical exposure, if known. Assigned PPE levels should be added for each task. Include as much site-specific information, such as topographical data, as possible.

h. Since unexploded ordnance may be encountered, a standard operating procedure dealing with this hazard should be included.

3. Sub-section 4.4, "Access Controls": Include a provision to determine the medical surveillance status for site visitors.

4. Section 5.0, "Protective Equipment":

a. Sub-section 5.2, "Task-Specific Levels of Protection": Recommend combining this information with that found in sub-section 3.5.

b. Sub-sections 5.3 and 5.4: These sections both refer to respiratory protection. Sub-section 5.3 states that all Level C respirators will be equipped with Mine Safety Appliances (MSA) GMC-H air purifying cartridges. Sub-section 5.4 indicates MSA's Ultratwin full facepiece respirator will be the respirator for this site. It is unlikely that all employees will be able to be successfully fitted to a single type of respirator. Recommend revising these sections to allow for individual fitting variation.

c. Sub-section 5.7, "Breathing-Air Quality": The concept of creating breathing air

on-site from a mixture of liquid oxygen and liquid nitrogen is unusual. If, after consideration of the more common methods of obtaining breathing air, the decision is made to utilize this method, a complete, thorough, standard operating procedure needs to be developed and included in this plan.

d. Sub-section 5.8, "Inspection and Cleaning": Expand this section to include detailed instruction on inspection and cleaning of all types of respiratory protection expected to be used on this site.

e. Include provisions for respirator training.

5. Sub-section 6.1, "Personnel Decontamination": Step 6 should provide for a "DOT acceptable 55-gallon drum." Personnel need to decontaminate whenever they leave the exclusion zone, not just at the end of the shift. This includes breaks and lunch periods.

6. Section 7.0, "Air Monitoring":

a. Sub-section 7.1, "Lower Explosive Limit/Oxygen Meter": Recommend revising this paragraph to indicate LEL/O<sub>2</sub> measurements will be obtained during all intrusive activities.

b. Sub-section 7.3, "Hydrogen Cyanide/Hydrogen Sulfide Meter": This is the first indication that these chemicals may be encountered on this site. Additional information such as anticipated levels, sources, and anticipated locations should be included in the plan. Include more detailed screening procedures when opening drums of unknown contents.

c. Sub-section 7.4, "Radiation Survey Meter": Indicate the type of radiation meter to be used.

d. Sub-section 7.5, "Air-Sampling and Analysis": Personal air samples should be taken to document employee exposure levels.

e. Sub-section 7.6, "Air Monitoring Log": The air monitoring log should contain information on weather conditions, time the sample was taken and be signed by the person taking the sample. Indicate where the log book will be maintained.

f. Sub-section 7.7, "Calibration Requirements": Instruments should be calibrated before and after each days' use.

g. Consideration should be given to using a real-time dust monitor since such a wide variety of contaminants is anticipated.

7. Section 8.0, "Emergency Response":

a. Sub-section 8.1, "Emergency Services": Include a clear site map in the finalized health and safety plan. Location of the nearest medical facility should be clearly indicated. Prior to the start of work coordinate with the medical facility to determine their ability to treat potentially contaminated patients and other emergency response agencies to determine their capabilities in dealing with hazardous material emergencies. Include the method that will be used to contact emergency assistance off-site.

b. Sub-section 8.3, "First Aid": We recommend a minimum of two employees trained and certified in first aid/CPR on-site at all times. A bloodborne pathogen program, in accordance with 29 CFR 1910.1030, needs to be developed and included for these employees.

c. Sub-section 8.6, "Spill Control": There is no indication that OHM employees have been trained in emergency response as required by reference (a).

d. There is no indication that this plan has been coordinated with local emergency response plans, that a method exists to notify local, state and federal agencies, or that the procedures exist to rehearse the plan as a part of the training program. The site topography, layout and prevailing weather conditions should be included. Phone numbers for the Agency for Toxic Substances and Disease Registry, a recognized authority for emergency response, and the Navy On-Scene Commander/Coordinator were not included. The listed number for the Poison Control Center is not accessible from this area. Verify all phone numbers prior to the start of work.

8. Section 9.0, "Training Requirements": Include a provision for the sub-contractors to provide copies of training certificates. Copies of training certificates should be maintained on-site.

9. Section 10.0, "Medical Surveillance Program": There is no indication that site-specific information has been given to the occupational medicine physician.

10. Appendix A, "Material Safety Data Sheets": For ease of locating specific sheets, we recommend alphabetizing them in the final document.

11. Appendix B, "Specific Health and Safety Procedures": The hand written page numbers are not sequential.