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DEPARTMENT OF THE NAVY
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From: Commanding Officer, Navy Environmental Health Center
To: Commander, Atlantic Division, Naval Facilities Engineering Command, 1510 Gilbert Street, Norfolk, VA 23511-2699

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

Ref: (a) Baker Environmental, Inc. transmittal ltr of 6 Jun 94 Contract Task Order 0246

Encl: (1) Health and Safety Plan Review

1. As you requested in reference (a), we completed a medical review of the "Draft Remedial Investigation/Feasibility Study, Health and Safety Plan for Operable Unit No. 6, (Sites 36, 43, 44, 54, and 86), Marine Corps Base, Camp Lejeune, North Carolina." Our comments are provided in enclosure (1).

2. 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. Mary Ann Simmons at (804) 444-7575 or DSN 564-7575, extension 477.

W. P. THOMAS
By direction

HEALTH AND SAFETY PLAN REVIEW

Ref: (a) 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response)
(b) Navy/Marine Corps Installation Restoration Manual (February 1992)

General Comments:

1. The "Draft Remedial Investigation/Feasibility Study, Health and Safety Plan for Operable Unit No. 6, (Sites 36, 43, 44, 54, and 86), Marine Corps Base Camp Lejeune, North Carolina, Contract Task Order 0246" was prepared for LANTNAVFACENGCOM by Baker Environmental, Inc. and forwarded to the Navy Environmental Health Center on 14 June 1994. The document was dated 6 June 1994.

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 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. A list of acronyms used in our comments is included as Attachment (1).

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, "Project Personnel and Responsibilities": Neither the Site Manager nor the Site Health and Safety Officer are named. In view of the responsibilities of these persons, we recommend designating them as soon as possible.

2. Section 3.0, "Site Characterization":

a. Consolidation of the pieces of information scattered throughout the plan for each individual site would provide a clearer understanding of the site/task specific conditions.

b. Table 3-1, "Chemical/Physical Properties of Constituents Detected During Previous Sampling" for all the sites:

(1) The PEL for methylene chloride is 500 ppm and the TLV is 50 ppm, not 25 ppm.

(2) The PEL for cadmium is 0.005 mg/M^3 (see 29 CFR 1910.1027), not 0.1 mg/M^3.

(3) Include the form of the chemical tested. For example, the potential hazard and PEL and TLV vary tremendously for chromium depending upon its valance.

c. Section 3.3.3, "Radiation Hazards": The statement is made that "The potential for exposure to radiological wastes or isotopes ... is considered low..." There either is or is not a radiological hazard at these sites. We recommend providing specific hazard information with an associated hazard analysis or deleting this section from this site-specific HASP.

d. Section 3.3.2.2, "Thermal Stress": This section refers to materials in Attachment A. This cold stress prevention SOP found here does not include information regarding work-rest cycles, fluid replacement protocols, types of beverages to avoid, or a description of delayed symptoms of hypothermia. We recommend revising the SOP to include this information. Since the time of year in which this project will occur was not provided, we cannot comment on the appropriateness of including cold stress information instead of that for heat stress.

e. Section 3.3.5.8, "Task 8-Test Pit/Trenching, Sites 36, 43, and 44)": The physical hazard of "explosion from contact with explosive/ignitable materials" is listed. This is the first indication that explosive hazards are anticipated. If this is truly foreseen, include additional information about this hazard in the HASP.

f. Include a site-specific hazard analysis for decontamination procedures.

3. Section 5.0, "Environmental Monitoring":

a. Section 5.1, "Personal Monitoring":

(1) Consider basing the action level for the Miniram results on cadmium since its PEL is lower (0.005 mg/M^3) than that of coal tar pitch volatiles (0.2 mg/M^3).

(2) Since coal tar pitch volatiles do not have an ionization potential, according to data in this plan and that found in the NIOSH *Pocket Guide to Chemical Hazards*, and thus cannot be measured by the PID, it would seem to be more appropriate to base the action level for PID readings on a volatile organic compound with an ionization potential, measurable by the PID.

(3) Explain how real time, direct reading instruments will be used to evaluate employee exposure levels since the exposure standards are based on an 8-hour time weighted average. Include methods to evaluate employee exposures to specific substances expected to be encountered.

b. Section 5.5, "Equipment Maintenance and Calibration": Standard industrial hygiene practice is to calibrate equipment before and after each use, not just before using.

4. Section 6.0, "Personal Protective Equipment":

a. Section 6.2, "Site-Specific Levels of Protection": It is unclear why Level B protection is specified for the activity of "Test Pit/Trenching" at Sites 36, 43, and 44 since the plan clearly states, in Section 3.3.2.6, "Heavy Equipment," that pits or trenches will not be entered. The majority of the chemicals listed for these sites are metals and semi-volatiles and, unless dusty conditions exist, worker exposure levels probably would be low. Include PPE levels for support personnel assisting in decontamination.

b. Section 6.3.1, "Level B": When referring to the line-of-site rescue worker in the third sentence, we recommend changing "may be responsible" to "shall be responsible."

5. Section 8.0, "Emergency Procedures":

a. Section 8.3, "Emergency Coordinator": The phrasing of the last paragraph implies that Baker personnel may be involved in emergency response operations. Since Baker employees may be expected to respond to emergencies, include information on their level of training. Include provisions for periodic exercising of the emergency response plan and for follow-up critique.

b. Section 8.14, "Emergency Alerting": Indicate who provides authorization to re-enter the site after an emergency.

6. Section 9.0, "Training": Indicate that training certificates for all Baker personnel will be available, on-site.

7. Section 10.0, "Medical Surveillance Requirements":

a. Section 10.1, "General": Clarify the relationship between the occupational health physician and the examining physician.

b. Section 10.2, "Site Specific": Indicate that medical clearance certificates for all Baker personnel will be available, on-site.

8. Attachment A, Section 2.0, "Respiratory Protection": In Subsection 2.13, "Subcontractor Requirements," we recommend that subcontractors be <u>required</u>, instead of <u>asked</u>, to provide documentation.

9. Attachment A, Section 3.0, "Care and Cleaning of Personal Protective Equipment": In Subsection 3.4, "Equipment Storage," include a provision to containerize decontamination fluids.

10. Attachment A, Section 4.0, "Bloodborne Pathogens": The first sentence in the second paragraph of Subsection 4.5.5.1, "First Aid Incident Report," needs to be revised. Regardless of an employees' Hepatitis B vaccination status, there must be a medical review and evaluation after any potential exposure incident. Hepatitis B vaccine information should be addressed during the training and education portion of this section.

11. Attachment A, Section 6.0, "Cold Stress":

a. Subsection 6.3, "Prevention": Include information on types of beverages to provide and those to avoid and how to maintain body fluids. Discuss the potential hazard of heat stress injury due to extensive PPE, even in cold environments.

b. Subsection 6.4, "Caring for Cold Related Illnesses": Delete the second bullet since applying any form of heat, other than that of a blanket, should be done only by trained medical personnel.

ACRONYMS

ACGIH:	American Conference of Governmental Industrial Hygienists
AG:	Acid Gas
ATSDR:	Agency for Toxic Substances and Disease Registry
BBP:	Bloodborne Pathogen Program
CPR:	Cardiopulmonary Resuscitation
CRZ:	Contamination Reduction Zone
EIC:	Engineer-in-Charge
EPA:	Environmental Protection Agency
EZ:	Exclusion Zone
HASP:	Health and Safety Plan
HBV:	Hepatitis B Virus
HIV:	Human Immunodeficiency Virus
IPA:	Isopropyl Alcohol
LEPC:	Local Emergency Planning Committee
MSDS:	Material Safety Data Sheet
NIOSH:	National Institute for Occupational Safety and Health
NOSC:	Navy On-Scene Coordinator
NOSCDR:	Navy On-Scene Commander
OSHA:	Occupational Safety and Health Administration
OV:	Organic Vapor
PCB:	Polychlorinated Biphenyl
PEL:	Permissible Exposure Limit
PPE:	Personal Protective Equipment
PPM:	Parts per million
SOP:	Standard Operating Procedure
STEL:	Short Term Exposure Limit
TLV:	Threshold Limit Value