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DEPARTMENT OF THE NAVY

NAVY ENVIRONMENTAL HEALTH CENTER
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24 MAY '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, NORTH CAROLINA

Ref: (a) Baker Environmental Project #Navy CLEAN-CTO-0233
S.O. No. 62470-233

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. 8 (Site 16), Operable Unit No. 11 (Sites 7 and 80), Operable Unit No. 12 (Site 3), 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
W. P. THOMAS
By direction

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 3
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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 Remedial Investigation/Feasibility Study, Health and Safety Plan for Operable Unit No. 8 (Site 16), Operable Unit No. 11 (Sites 7 and 80), Operable Unit No. 12 (Site 3), Camp Lejeune, North Carolina, Contract Task Order 0233" was prepared for LANTNAVFACENCOM by Baker Environmental, Inc., and forwarded to the Navy Environmental Health Center on 7 April 1994. The document was dated 4 April 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 (HASP) to federal requirements under the Occupational Safety and Health Administration (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 3.0, "Site Characterization":

a. Section 3.3, "Hazard Evaluation": Include information describing potential chemical exposures, concentrations and personal protective equipment. It is not clear if every chemical listed in Table 3-1, "Toxicological Properties of Chemicals" is expected at each individual site. Consolidation of the pieces of information scattered throughout the plan for each individual site would provide a clearer understanding of site/task specific conditions.

b. Table 3-1, "Toxicological Properties of Chemicals": The time weighted average (more appropriately called threshold limit value or permissible exposure limit) for toluene is listed as 100 ppm; however, the current threshold limit value is 50 ppm. Also, aldrin and dieldrin, listed as carcinogens by NIOSH, are not identified as such.

c. Section 3.3.3.6, "Noise": Noise is anticipated as a hazard produced during drilling and other heavy equipment operations, yet, a hearing conservation program is not included nor is a method with which to evaluate noise levels.

Enclosure (1)

d. Section 3.3.3.7, "Confined Space Entry": It is stated that no confined space entry is anticipated. Based on this statement, it is unclear why the Baker Safety SOP dealing with confined space entry is included in Appendix A.

2. Section 4.0, "Site Control":

a. Section 4.3, "Work Zones": In the first paragraph, the first bullet, "UXO" is mentioned for the first and only time. We assume UXO refers to unexploded ordnance; it is not defined. If unexploded ordnance is an anticipated hazard during this site work, include additional information pertaining to this hazard in this HASP.

b. Section 4.5.1, "Heavy Equipment": Include a requirement that heavy equipment operators are adequately trained to operate the machinery.

c. Section 4.6, "Sanitation/Site Precautions": Appendix A is cited as the location of information pertaining to sanitation/site precautions but it is not included within this plan.

3. Section 5.0, "Environmental Monitoring":

a. National Institute for Occupational Safety and Health/Occupational Safety and Health Administration (NIOSH/OSHA) exposure standards are based on 8-hour time weighted averages (TWAs). The HASP states that real time, direct reading instruments will be used to evaluate employee exposure levels. Since direct reading instruments are intended only to present sampling site data as it exists at that point of time, we recommend including methods by which personal monitoring will be conducted to evaluate employee exposures to specific substances expected to be encountered.

b. Many of the chemicals listed in Table 3-1, "Toxicological Properties of Chemicals," cannot be detected by the monitoring equipment specified. Review and revise.

c. All monitoring equipment should be calibrated before and after each period of use in accordance with standard industrial hygiene practice.

4. Section 6.0, "Personal Protective Equipment" (PPE):

a. A previous section, 4.4, "Buddy System" indicates that a person to be located in the Support Zone would function as a safety observer or rescue person. The type of PPE this person needs is not specified.

b. Section 6.1, "Personal Protective Equipment Selection": Footnote (1) states that hearing protective equipment will be available at the discretion of the Site Health and Safety Officer (SHSO). We recommend you revise the statement to indicate that hearing protection will be available upon employee request or when the SHSO has determined, based on noise measurements, that the PPE is required.

c. Section 6.2, "Site-Specific Levels of Protection": We recommend revising the table providing information on levels of PPE required for different operations. Since it is anticipated that Level B PPE will be employed during test trenching operations it seems that a minimum of Level C PPE should be used during any intrusive work on Site 7, unless monitoring results indicate a lower level is protective.

d. Section 6.3, "Respiratory Protection, Level B": Provide information regarding the source of air for the air-line respirator. Further, in the last sentence referring to the line-of-site rescue worker, we recommend changing "may be responsible" to "shall be responsible" for monitoring the supplied air system.

e. Section 6.4, "Care and Cleaning of Personnel Protective Equipment," cites guidance to be found in Appendix A. This material is inadequate and not site-specific. Review and revise.

5. Section 7.0, "Decontamination Procedures":

a. Section 7.1, "Personnel Decontamination": In the fourth column of the table, "Level B," item 11, the word "respiratory" most likely should be "respirator."

b. In Section 7.1, "Decontamination Procedures," reference is made to information dealing with contaminants and decontamination solutions being found in the SAP. While it is neither desired nor required to duplicate information, all pertinent information should be incorporated into the HASP, particularly since the SAP is not available for review.

c. Section 7.2, "Equipment Decontamination": Reference is made to a sub-contractor performing this function. We recommend that all sub-contractors be required, at a minimum, to provide task specific hazard analysis, including PPE requirements.

6. Section 8.0, "Emergency Procedures":

a. Recommend referencing the "Bloodborne Pathogen Program," found in Appendix A, in the pertinent section within the body of the HASP.

b. Incorrect or inappropriate telephone numbers are provided in the Table on page 8-3. We recommend you contact appropriate personnel and agencies and verify all emergency telephone numbers prior to the start of onsite operations.

c. In Section 8.6, "Emergency Medical Treatment," mention is made of taking injured contractor employees to the Naval Hospital. Include information regarding prior arrangements and under what provisions, i.e., civilian humanitarian or other, injured employees would be treated.

d. Section 8.6, "Emergency Medical Treatment, Physical Injury": Since emergency

d. Section 8.6, "Emergency Medical Treatment, Physical Injury": Since emergency medical personnel may be allowed into the exclusion zone or the contamination reduction zone to rescue or treat a casualty, prior coordination with the emergency medical facility is important so that the responders' training and medical surveillance requirements can be met.

e. Section 8.6, "Emergency Medical Treatment, Chemical Injury": In the first paragraph, the first bullet refers to an emergency eye wash station, while in Section 8.8, "Personal Protection and First Aid Equipment," an emergency eye wash bottle and an emergency eye wash station are mentioned. The emergency eye wash bottle is only to be used as an adjunct in support of the 15 minute emergency eye wash station in accordance with ANSI Z358.1-1990.

f. In Section 8.13, "Training," we recommend providing for post-incident or post-exercise critique of the event.

g. In Section 8.14, "Spill Containment Procedures," it is unclear what 40 CFR Part 177, "Issuance of Food Additive Regulations," and 40 CFR Part 304, "Arbitration Procedures for Small Superfund Cost Recovery Claims," have to do with spill containment procedures in this HASP.

7. In Section 10.0, "Medical Surveillance Requirements," it is unclear how the licensed physician cited in the second paragraph coordinates with or is supervised by, the Baker Occupational Health Physician cited in paragraph one, in conducting the required occupational health physical examinations.

8. Appendix A, "Baker Environmental, Inc. Safety Standard Operating Procedures":

a. Throughout these standard operating procedures, the phrase "Baker SRN personnel" is used. The meaning of this phrase is completely unclear.

b. Section 1.0, "Confined Space Entry Program": Since confined space entry is not anticipated on this job, we recommend this section be deleted.

c. Section 3.0, "Care and Cleaning of Personal Protective Equipment": Paragraph 3.3.3 does not include provisions for collection and disposal of decontamination solutions.

d. Section 5.0, "Heat Stress":

i. Paragraph 5.3, "Prevention": First paragraph, sixth bullet, it is unclear how a heat stressful environment could result in a cold stress related injury.

ii. Paragraph 5.4.1, "Monitoring For Permeable Clothing": The second bullet refers to fluid intake discipline. One of the prime functions of a viable heat stress control program is to ensure that the employees remain well hydrated. We recommend including

additional details describing how employees will be encouraged to drink sufficient fluids. For example, in the first paragraph, second bullet, it states that "diluted electrolyte solutions must be used in addition to water under certain conditions." Water is the preferred solution for rehydrating workers since excessive consumption of electrolyte solutions may actually exacerbate existing conditions.