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DEPARTMENT OF THE NAVY

NAVY ENVIRONMENTAL HEALTH CENTER

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From: Commanding Officer, Navy Environmental Health Center
To: Commander, Atlantic Division, Naval Facilities Engineering Command,
Code 1822, Norfolk, VA 23511-6287

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

Ref: (a) LANTNAVFACENGCOM ltr 5090 1823:BCB of 28 Sep 92

Encl: (1) Health and Safety Plan Review

1. Medical review of the "Preliminary Draft Health and Safety Plan for Operable Units #1 and #5, Camp Lejeune, Marine Corps Base, Jacksonville, North Carolina," has been completed. Our comments on the Health and Safety Plan (HASP) are provided in enclosure (1).
2. The HASP has numerous references to information to be obtained during site mobilization. We are available to perform an on-site review of the completed HASP when this site-specific information is gathered. Another service available within the Environmental Programs Directorate is assistance in reviewing HASP implementation during field activities.
3. The technical point of contact for comments on the review 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 information regarding the comments and recommendations and/or on-site assistance, please coordinate with Ms. Sheila Muschett, P.E., Head, Installation Restoration Program Support Department at 444-7575, 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 "Preliminary Draft Health and Safety Plan for Operable Units #1 and #5, Camp Lejeune, Marine Corps Base, Jacksonville, North Carolina" was prepared for Atlantic Division Naval Facilities Engineering Command (LANTNAVFACENGCOM) by Baker Environmental, Inc. and forwarded to the Navy Environmental Health Center under a cover letter dated 21 August 1992. The document was received on 24 August 1992.
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 the Occupational Safety and Health Administration (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. Deviations and/or differences in the plan from these two primary references are noted. In addition, selected emergency points of contact provided in the document by the contractor are contacted for verification.
4. The overall quality of the health and safety plan (HASP) reflects a significant improvement over the previous version and an obvious attempt to respond to previous comments. The following comments reflect our continuing effort to develop a quality product with minimal loose ends or ambiguities. Should any questions arise in response to our comments/recommendations, please call us for clarifications.
5. The point of contact for review of the HASP is Ms. Mary Ann Simmons, Site Support Department, who may be contacted at (804) 444-7575, or DSN 564-7575, extension 477.

SPECIFIC COMMENTS:

1. Page 2, Paragraph 1.3, "Pre-Entry Requirements":

COMMENT: This section describes activities which will take place during site mobilization. While these site-specific activities are appropriate to be accomplished during the initiation of site activities, the section does not require that the information be included in the HASP.

Enclosure (1)

RECOMMENDATION: Include a requirement that the site-specific information gathered during site mobilization will be included in the HASP.

2. Section 2.0, "Project Personnel and Responsibilities":

COMMENT: Several project personnel are yet to be determined. The section does not include a provision for the names to be included in the HASP when these positions are assigned.

RECOMMENDATION: Include a requirement that the site-specific information be included in the HASP.

3. Page 9, Section 3.2, "Site Work Plans":

COMMENT: The work plan which details the tasks to be performed is said to be immediately attached to the HASP. The work plan is not attached.

RECOMMENDATION: Either include the work plan or edit the sentence.

4. Page 9, Section 3.3, "Site Description":

COMMENT: Various items in this section state that they are "yet to be determined," but a statement is not included that these items will be included in the final HASP.

RECOMMENDATION: Include a statement that the items that cannot at this time be determined will be included in the final HASP.

5. Page 18, Table 1, "Chemical/Physical Properties of Chemicals Detected During Preliminary Sampling at Operable Units #1 and #5":

COMMENT: Methylene chloride is listed in this table, but is not in Table 2, "Chemical Exposure Information."

RECOMMENDATION: Revise one table or the other so they are consistent.

6. Page 24, Section 3.4.2.4, "Noise":

COMMENT: The statement is made that excessive noise levels may be produced during equipment operations. Excessive noise levels are not defined. Additionally, if excessive noise levels are found (defined by the Department of the Navy as levels in excess of 84 dBA), hearing protection must be provided and worn.

RECOMMENDATION: Define "excessive noise levels."

7. Page 25, Section 3.4.3, "Radiation Hazards":

COMMENT: This section provides generic information about types of radioactivity since radiological wastes or radioactivity are not anticipated at the site. The section does establish a 1 mR/hour level as the basis for site workers to stop work. From a health physics perspective, a more protective measure for site workers is to determine the background radiation exposure level and establish the stop work criteria as two times the background radiation exposure level.

RECOMMENDATION: Evaluate revising the stop work criteria for radiation exposure levels.

8. Page 26, Section 3.4.4, "Environmental Hazards":

COMMENT: The section does not mention the need for barrier creams or insect repellents. Nothing is mentioned about the need for specialized first aid equipment nor the need for vaccinations. Diseases, such as Rocky Mountain Spotted fever, should also be considered. All potential environmental hazards should be considered. Site employees should have sufficient training to recognize hazardous fauna and flora and know what to do to minimize their risk.

RECOMMENDATION: Revise plan to include provisions for any type of specialized first aid equipment and for barrier creams and insect repellents. Add requirements for vaccinations as necessary.

9. Page 38, Section 5.2, "Personal Monitoring":

COMMENTS:

(a) A PID/FID and colorimetric tubes will be used to evaluate levels of protection. Neither of these monitoring devices will evaluate skin absorption nor many of the chemicals listed in Tables 1 and 2. Therefore, they are not useful in determining if the PPE is being protective. In addition, the various standards referenced in Table 1 in the Exposure Limit column, are based on breathing zone type measurements representing an eight-hour time-weighted average.

(b) A discussion for measurement procedures for chemicals that have no ionization potential is not included.

(c) The section discusses possible monitoring for external radiation exposure. The usual health physics convention is to use personal dosimeters such as a film badge for monitoring under this category. The type of surveys discussed in this section is usually termed as area monitoring.

RECOMMENDATIONS:

(a) Revise to include a more detailed, appropriate method to determine the adequacy of the levels of protection. Include a discussion about how area grab samples will be used to evaluate worker exposure and be compared with exposure limits based on an eight-hour average.

(b) Include a discussion of how these chemicals will be evaluated.

(c) Include a discussion of possible personal monitoring for external radiation exposure. (Note: Dosimetry for external radiation exposure is most likely not indicated by the potential for radiation exposure.) Move procedures for area monitoring to a more appropriate section of the HASP.

10. Page 39, Section 5.3, "Perimeter Monitoring":

COMMENTS:

(a) The first bullet in this section states that the PID/FID will be used periodically to scan the perimeter when volatile concentrations exceed 70 ppm at the breathing zone. This seems to be a high concentration to be reached before the perimeter of the work is monitored.

(b) The radiation survey meter is indicated as being used for establishing the safe distance from a source if radiation exposure levels of 1 mR/hour are measured. The criteria for a safe distance is not discussed. Also, this section is not consistent with other sections which indicate that the SHSO is to be contacted for site-specific procedures when such radiation levels are measured.

RECOMMENDATIONS:

(a) Review this section for the appropriateness of perimeter monitoring requirements.

(b) Revise the section to include an explanation of safe distance and coordination with the SHSO.

11. Page 39, Section 5.4, "Site-Specific Air Monitoring Equipment and Frequency":

COMMENTS:

(a) The term "HNU/OVA" is used in the first sentence, but elsewhere "PID/FID" is used.

(b) The radiation survey instrument listed in Table 3 cannot be used for air monitoring.

RECOMMENDATIONS:

(a) Use consistent terminology throughout the HASP.

(b) Either delete the radiation safety meter from the tables or provide for appropriate health physics air monitoring procedures.

12. Page 47, Section 6.2, "Site-Specific Levels of Protection":

COMMENT: There are two different levels of protection called for in each of two different tasks: Monitoring Well Installation and Soil Boring - Sampling. Both Levels C and D+ are specified without an explanation of when one should be used over the other.

RECOMMENDATION: Specify which level of protection will be used. If an alternate level seems to be adequate, specify under what circumstances one level would be appropriate over another level of protection.

13. Page 48, Paragraph "Level C":

COMMENT: Cartridge changeover will occur when "exposure to PID/FID concentrations are equal or greater than 100 ppm." The rationale for this number is not provided and the level may not be protective when considering that the protection factor for a full-face piece respirator is 50 and several of the contaminants have a PEL of 1 ppm (benzene, ethylene dichloride) or 1 mg/M3 (DDD, DDE, DDT). This concentration decision point may not be protective.

RECOMMENDATION: Provide a reason for using 100 ppm as a cartridge changeout level.

14. Pages 49 - 50, Section 7.0, "Decontamination Procedures":

COMMENT: Within this section several references are made to the Sampling and Analysis Plan (SAP). This plan is not attached to the HASP, nor are the referenced sections pertaining to decontamination copied and attached to the HASP.

RECOMMENDATION: For the HASP to be a self-contained document, the referenced parts of the SAP should be included within the document.

15. Page 51, Section 8.1, "Pre-Emergency Planning":

COMMENT: This section describes notification of various Department of the Navy/local emergency points of contact that will be contacted during site mobilization. Information that may be discussed during these notifications is listed.

RECOMMENDATION: Ensure coordination with the various Department of the Navy/local emergency points of contact prior to mobilization. Revise the paragraph to specifically require information discussed with the emergency points of contact responders to include appropriate items under reference (a) paragraph (1)(2)(i) and reference (b), paragraphs 12.9.2, 12.9.3 and 12.9.5. Provide a statement from the medical treatment facility (MTF) indicating that the receiving MTF, whether civilian or military, is capable and willing to provide care for chemically contaminated patients per reference (b), paragraph 12.9.5 (b).

16. Page 53, Emergency Phone Number List:

COMMENTS:

(a) The phone number for the off-base security is actually that of a hospital dermatology department.

(b) The Poison Control Center should be an American Association of Poison Control Centers (AAPCC) certified Regional Poison Control Center.

RECOMMENDATIONS:

(a) Review and revise emergency response telephone numbers.

(b) Use an AAPCC certified Regional Poison Control Center as a emergency response point of contact.

17. Page 54, Section 8.4, "Assembly Area":

COMMENT: "In the event of an emergency personnel will be instructed to meet at the Baker Site Trailer." This statement is unclear as to whether or not it is intended to address the issue of safe distances and places of refuge as required in reference (a) paragraph (1)(2)(iv) and reference (b) 12.9.2.d.

RECOMMENDATION: Address whether or not this section covers places of safe haven, safe distances and evacuation routes as required under references (a) and (b).

18. Page 54, Section 8.5, "Emergency Hospital Route":

COMMENT: Though the emergency hospital route provides generic information as to the location of the civilian and military medical treatment facilities, there is no discussion of the specific location, if any, of a patient decontamination area to which the patient should be taken as a first step of treatment.

RECOMMENDATION: Provide more specific information regarding the specific location at the emergency department to which the patient should be transported for treatment of chemical exposures.

19. Page 57 and 58, Section 8.6, "Emergency Medical Treatment":

COMMENTS:

(a) The telephone number noted for the Onslow County Memorial Hospital on page 57 for off-base access does not match the one noted on page 53 for off-base access. It is particularly critical for these numbers to be accurate in the event of an emergency.

(b) This section also makes the broad statement that personnel may be transported to the Naval Hospital for initial treatment in case of emergencies.

(c) The section on snakebite states that the victim will be transported to the nearest medical facility without being specific as to which medical facility is considered to be the nearest.

RECOMMENDATIONS:

(a) Review and revise emergency response telephone numbers.

(b) Clarify under what circumstance(s) a military MTF will be used.

(c) Specify the MTF a snakebite victim will utilize.

20. Page 60, Section 8.8, "Personal Protection and First-Aid Equipment":

COMMENT: Emergency and first aid equipment are to be available at the Baker Site Trailer and Baker Field Vehicle.

RECOMMENDATION: Since the site work involves several sites not necessarily close to one another, this equipment should be available for each work crew at the location in which they are working.

21. Page 65, Section 9.0, "Training Requirements":

COMMENT: Copies of the training records need to be maintained, preferably within a copy of the HASP, in a specific location on-site per reference (a) paragraph (e)(6) and reference (b) paragraph 11.13.

RECOMMENDATION: Include copies of the training records in a specific on-site location.

22. Page 68, Section 10.0, "Medical Surveillance Requirements":

COMMENT: The medical surveillance requirements must be site-specific. The extent of the examination should be determined by the physician after review of the site-specific information per reference (a) paragraph (f)(5) and reference (b) paragraph 12.6.3. This requirement is not included in the section. In addition, a respirator qualification examination should also be included since respirators will likely be worn. Reference (b) paragraph 12.6.4 also requires that the medical examination be performed by, or under the supervision of, a certified occupational medicine physician.

RECOMMENDATION: Revise medical surveillance section to reflect site-specific information and indicate that the examinations are based on the site-specific conditions. Indicate that the examinations are provided by, or under the supervision of, a certified occupational medicine physician.

SUMMARY COMMENTS:

The plan has numerous references to information that will be gathered later or determined as required by site conditions. While this is a realistic and practical approach, completion of this effort is critical to protection of the site workers and compliance with federal regulations. The contractor should ensure that the information is actually obtained and placed in the final or revised HASP.