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Ser 612.4/L8110  
7 Apr 1998

Ms. Mary Rose Cassa  
Project Manager  
Office of Military Facilities  
Department of Toxic Substances Control  
Region 2  
700 Heinz Ave. Suite 200  
Berkeley, CA 94710-2737

Subj: RESPONSE TO DEPARTMENT OF TOXIC SUBSTANCES CONTROL AND  
DEPARTMENT OF HEALTH SERVICES COMMENTS ON THE WORK PLANS  
FOR LANDFILL 1 & 2 RADIOLOGICAL SURVEYS, SAMPLING &  
REMEDICATION AND WORK PLAN FOR BUILDINGS 5 AND 400  
CONTAMINATED DRAIN PIPING REMOVAL FOR ALAMEDA POINT,  
ALAMEDA, CA.

Dear Ms Cassa:

Enclosed are responses to DTSC and DHS comments submitted January 13, 1998, on the Draft Work Plans for the Radiological Removal Action at four Alameda Point Installation Restoration (IR) Sites.

If you have any questions, please contact me at (650) 244-2549, Fax (650) 244-2774.

Sincerely,

**ORIGINAL SIGNED BY**

GEORGE KIKUGAWA  
Remedial Project Manager  
By direction

Encl: (1) Responses to DTSC and DHS comments on the Draft Work Plans for Landfill 1 & 2  
Radiological Surveys, Sampling and Remediation and Buildings 5 & 400 Contaminated  
Drain Piping Removal.

Copies to:

CSO Alameda (Attn: Mr. Steve Edde)  
U.S. Environmental Protection Agency, Region IX (Attn: Ms. Anna-Marie Cook)  
U.S. Environmental Protection Agency, Region IX (Attn: Ms. Lynn Suer)  
CAL-Department of Health Services (Attn: Ms. Penny Leinwander)  
Radiological Affairs Support Office, (RASO) (Attn: LCDR Lino-Fragoso)  
TTEMI, San Francisco Office, (Attn: Mr. Ed. Ho/Peter Solberg/Conrad Sherman)  
TTEMI, Sacramento Office, (Attn: Mr. Neal Hutchison)  
SSPORTS (Attn: Mr. Ron Leneker)

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ALAMEDA, CA.

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Writer: George Kikugawa, 612.4GK, X2549

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**Alameda Point**  
**(Ex-Alameda Naval Air Station)**  
**MARCH 24, 1998**

**Response to the California Department of Health Services**  
**Letter of January 13, 1998**

**Regarding the Work Plans for Landfill Sites #1 and #2 and Buildings #5 and #400**

**Work Plan No. NASA -1, dated October 1, 1997 (Buildings #5 and #400):**

**GENERAL COMMENT:**

**Comment** - DHS found the Work Plan to be lacking in information on sampling and analysis, data validation and laboratory quality assurance/quality control. DHS would not consider data generated under this work plan to be of sufficient quality for the final status survey unless more information is provided pertaining to sample collection and analysis.

**Response** - The Work Plan will be revised to include specific information on sampling and analysis, data validation and laboratory quality assurance/quality control. The SSPTS Environmental Detachment will accomplish the majority of the verification of radioactive pipe removal by survey, rather than sampling. It should be noted that the final status surveys will be performed by Tetra-Tech to the extent necessary after all remediation, including underground pipe removal, is complete.

The Work Plan will be revised based on this comment.

**Work Plan No. NASA-2, dated November 25, 1997 (Sites #1 and #2):**

**GENERAL COMMENTS:**

**1. Comment** - The purpose of this document does not appear to be consistent with the proposed action in the Draft Technical Work Document/Preliminary Draft Removal Action Plan, dated November 1997 (TWD). Proposed action for IR Sites 1 and 2 states: "Anomaly Removal: remove radiation anomalies at IR Sites 1 and 2 that pose an external radiation hazard." DHS understands from discussions with the Navy that this anomaly removal is to be accomplished in the interim until the final remedy is decided for the sites. DHS also understands that IR Sites 1 and 2 will remain under Navy control where access by the general public is limited.

**Response** - The "purpose" in NASA-2 will be changed to be in accordance with the proposed action in the TWD dated November 1997.

Using Ultra-sonic Ranging and Data Systems (USRADS) equipment for the survey of Sites 1 and 2, SSPTS Environmental Detachment personnel will identify anomalies that pose an external radiation hazard. It is expected that the anomalies will normally be discrete materials which can be readily identified and removed. After anomalies are removed, the excavated areas

will be restored with clean fill to the elevation of the surrounding terrain and the remediated areas will be resurveyed using USRADS.

For the immediate future, Sites 1 and 2 will remain under Navy control where access by the general public is limited.

The Work Plan will be revised based on this comment.

**2. Comment** - DHS has requested that the Navy provide a demonstration of how the numerical goals were determined in the TWD. Without this demonstration, it is not clear as to how the anomaly removal would be accomplished. For Example, does the anomaly removal involve both the removals of discrete sources as well as elevated contaminated soil?

**Response** - The numerical goals specified in the TWD have been revised for Sites 1 and 2 based on DHS input.

Regarding the question pertaining to anomaly removal, the answer is "yes", it does involve the removal of discrete sources as well as elevated contaminated soil which can be readily detected by soil surveys.

The Work Plan will not be revised based on this comment.

#### **SPECIFIC COMMENTS:**

**1. Comment** - Page 5, Section 1.1: The purpose should be rewritten to more closely represent what was proposed in the TWD and to discuss the overall goal of this survey effort in numerical terms.

**Response** - The purpose will be rewritten to clearly indicate that surveys (not samples) will be the method by which anomalies will be detected at Sites 1 and 2. The overall goal at these two land fills will be the removal of discrete sources and contaminated soil.

The Work Plan will be revised based on this comment.

**2. Comment** - Page 5, Section 1.1: Define the term "100% scan survey".

**Response** - The USRADS equipment is capable of providing survey data to a soil depth of approximately 18 inches along a path approximately one meter wide when using four 3x3 NaI detectors mounted on the cart in a side-by-side array on level terrain. This will result in 100% scan survey results when the survey paths are adjacent to one another, except for locations where trees, shrubs, asphalt, concrete, buildings and other structures are located. At Sites 1 and 2, it is estimated that approximately 75% of the terrain is level enough to achieve 100% scan survey using USRADS.

For terrain which is not level, but is accessible to personnel, the USRADS can be utilized using the "backpack" method and one NaI 3x3 detector. This method will yield approximately 20% to 30% coverage depending on the irregularities in the terrain. Some areas along the western waterfront of Site 1 are strewn with large irregular concrete pieces resulting from demolition of structures. These areas, which may constitute 5% to 10% of the site, are not considered to be feasible for meaningful surveys and will not be surveyed.

The Work Plan will be revised based on this comment.

**3. Comment** - Page 5, Section 1.1: Solid sampling for Ra-226 during the process would not be necessary to accomplish the goal of reducing the external radiation hazard as outlined in the TWD. If laboratory data is deemed necessary, then information on data validation, QA/QC and sampling and analysis needs to be provided.

**Response** - No solid sampling is currently planned. At Sites 1 and 2, surveys in lieu of sampling, will be used for the release of the area (See response to Specific Comment #1 above).

The Work Plan will be revised based on this comment.

**4. Comment** - Page 5, Section 1.1: Since References 2.7, 2.8, etc. can contain contradictory recommendations, it should be specifically spelled out which document requirements are complied with.

**Response** - Remediation will be accomplished in accordance with paragraphs 5.4 through 5.14, with the exception of paragraph 5.10 which will be revised/removed. Paragraph 1.1 will be rewritten to delete references 2.7, 2.8, 2.9, 2.10, 2.11 and 2.12.

The Work Plan will be revised based on this comment.

**5. Comment** - Page 9, Section 5.1: In previous Alameda studies, six locations were extensively sampled and surveyed to be representative of background at Alameda. It is recommended that the background sampling be exactly as conducted at the suspect site. Please specify what background locations will be used. Why are 10 background readings recorded? Why is a preliminary walkthru scan performed to identify hotspots at a background location?

**Response** - Based on the method used for determining background levels with USRADS equipment, there is no need to conduct background surveys for other locations at Alameda. Paragraph 5.1 will be rewritten to eliminate the requirement for 10 background readings and the requirement for a preliminary walkthru scan to identify hotspots at the background locations.

The Work Plan will be revised based on this comment.

**6. Comment** - Page 9, Section 5.2: How will manual surveys be conducted? Describe how hand-held meter surveys and USRADS surveys will be correlated. How will area grids be established?

**Response** - Manual surveys will only be utilized to pin-point anomalies found using the USRADS and to indicate anomaly removal. Therefore, there should not be a need to correlate the manual readings with the USRADS.

The final surveys of the remediated areas will be performed using USRADS equipment, which will provide good correlation with the initial USRADS surveys. If the terrain does not permit the use of the USRADS cart, the "backpack" USRADS method will be employed for the final surveys.

Gridding for the USRADS surveys will be accomplished utilizing a pre-established (0,0) coordinate and laying out "x" and "y" axes from the (0,0) point. The optimum grid size for the surveys is approximately 100 feet by 200 feet (two to three grid areas per acre).

The Work Plan will be revised based on this comment.

**7. Comment** - Page 9, Section 5.3: If anomalous areas are defined by the histogram, then what is the background data for? What exactly is done to determine what areas need further investigation? Who will review the histograms, using what criteria?

**Response** - The background data specified in Section 5.1 will be deleted, as discussed in response to Specific Comment #5 above.

The need for further investigation during USRADS surveys will be based on anomalies which exceed 1.5 times the mean (background) value. This investigation level is based on experience gained from radiological surveys performed using the USRADS equipment at other military bases. Using the large quantity of data accumulated from the USRADS equipment, individual track maps will be converted to composite maps by SSPORTS personnel. Data will then be sorted and analyzed, and histograms for each of the survey areas will be generated in order to determine the parameters for evaluation of the data. All data review will be in conjunction with Naval Sea Systems Command Detachment, RASO, who will have oversight responsibility for the USRADS data evaluation.

The Work Plan will not be revised based on this comment.

**8. Comment** - Page 9, Section 5.4: It is not clear why NaI readings "greater than twice background" was selected to determine when soil removal should occur. How does twice background relate to the USRADS histograms and the goal of removing anomalous areas that "pose an external radiation hazard"?

**Response** - See response to Specific Comment #7 above. The investigation level will be established at 1.5 times the background levels determined by using the mean (background) value from a histogram developed by utilizing the USRADS equipment.

The Work Plan will be revised based on this comment.

**9. Comment** - Page 10, Section 5.13: It is not clear why there would be any additional soil removal, sampling or surveys required.

**Response** - The reviews of USRADS survey results to this point are mainly conducted in the field so that soil removal and manual surveys of the removed soil may proceed. The final reviews, conducted after the many USRADS survey areas are completed, is performed at the data reduction center, where composite data is displayed on overall maps of the area. This final analysis of the data may reveal some areas with incomplete coverage. In these instances, additional surveys and possible soil removal will be performed.

The Work Plan will not be revised based on this comment.

**10. Comment** - Page 10, Section 5.14: After clean fill is in place, the final external radiation hazard should be measured to ensure the goal has been achieved.

**Response** - The areas will have been manually surveyed prior to addition of the clean fill to determine that any anomalies have been removed. In addition, after the clean fill dirt has been added, a USRADS resurvey will be performed. This will provide a final record of the radiation levels in the area.

The Work Plan will be revised based on this comment.

**11. Comment** - Page 13, Figure 2: Does the boundary of the survey area extend east to Runway 13 and south to Runway 7, as requested by the DTSC letter dated April 21, 1997?

**Response** - Yes, the boundaries shown on Figure 2 coincide with the pavement at the west edge of Runway 13 and the north edge of Runway 7. In addition, although not currently shown, the south west corner of Site 1 on Figure 2 will be surveyed using the USRADS equipment.

The Work Plan will be revised to include the south west corner of Site 1 as being included in the survey.

**12. Comment** - Page 14, Figure 3: Does the boundary of the survey area extend beyond the berm at the north east corner of the landfill (Site 2), as requested by the DTSC letter dated April 21, 1997?

**Response** - Yes, however, the major portion of landfill 2 (south of the berm) will not be surveyed at this time based on previous grid survey results and the fact that the area will remain under federal control.

The Work Plan will not be changed based on this comment.