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MARE ISLAND
SSIC NO. 5090.3.A

Department of Toxic Substances Control

Alan C. Lloyd, Ph.D.
Agency Secretary
Cal/EPA

8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

September 6, 2005

Mr. Jerry Dunaway
Base Closure Manager
BRAC Program Management Office West
1230 Columbia Street, Suite 1100
San Diego, California 92101-8571

Dear Mr. Dunaway:

DRAFT FINAL REMEDIAL INVESTIGATION INSTALLATION RESTORATION (IR) SITE 17 AND BUILDING 503 AREA, INVESTIGATION AREA A1, FORMER MARE ISLAND SHIPYARD, SOLANO COUNTY

Thank you for providing the Department of Toxic Substances Control (DTSC) the opportunity to review the *"Draft Final Investigation Area A1, Remedial Investigation (RI) Installation Restoration Site 17 and Building 503 Area"* dated December 12, 2002 and the *"Draft Final Feasibility Study (FS) Installation Restoration Site 17 and Building 503 Area"* dated June 2004. The RI/FS was prepared by Tetra Tech, Inc. on behalf of the South West Division, Naval Facilities Engineering Command. Our combined comments to the RI and the FS are below:

General Comments:

1. Recommendations and actions proposed for the Path forward letter:
   Mr. Alan K. Lee's November 24, 2004 letter to Mr. Chip Gribble, proposed several recommendations on moving forward with the site cleanup at the Installation Restoration Site 17 (IR 17). Recommendations included a process for finalizing the Remedial Investigation/Feasibility Study (RI/FS), preparation of the proposed plan and addressing the risk issues during the remedial action phase of the Comprehensive Environmental Response, Compensation, and Liability Action (CERCLA) process. In response to the Navy letter, on June 30, 2005, DTSC issued a letter to Mr. Jerry Dunaway accepting the proposed strategy, and made a few more recommendations to stream line the process. In our letter, we stated that the RI/FS should be revised to include changes to the Executive Summary and the Human Health Risk Assessment

(HHRA) that makes a statement regarding the deficiencies of the HHRA. Please notice that DTSC is in the process of reviewing your August 24, 2005 letter addressing the future indoor air exposure for IR 17 and will prepare a response in the near future. Once an agreement is reached, the details should be outlined in the RI and the FS, including all pertinent sections within the two reports. These sections include the Executive Summary, Introduction, HHRA, and the summary and conclusion sections.

2. Post Remedial Action Residual Risks: Although DTSC agrees that the proposal to remove soils and ground water that is visually contaminated with free product, we remain concerned that post remediation risk assessment will identify a significant unremediated risk, or that the risk assessment will not be adequate to characterize risk in the indoor air pathway. The low permeability of soils in which potentially contaminated groundwater resides may make ground water unsusceptible to complete remediation under the proposal, and greatly limits available remediation strategies. Additionally, the difficulties of modeling the indoor air pathway at this site make it unclear how residual risk will be calculated, and also make it unclear how the effectiveness of potentially required engineered controls will be evaluated. In any case, in the absence of an adequate residual risk calculation that clearly demonstrates that no further action is necessary, additional remedy selection and implementation will be required.

Specific Comments:

1. RI, Executive Summary. Please revise the Executive Summary to reflect the proposed strategy for the cleanup of the site. The risk assessment discussion within the executive summary should be revised to discuss the deficiencies of the HHRA and the proposed approach for conducting an HHRA during the Remedial Action Phase of the site cleanup.

2. RI, Appendix A, Human Health Risk Assessment. As discussed in the above comments, a similar statement should be provided at the beginning of the Appendix.

3. RI, Section 4.0 Summary, Conclusions, and Recommendations. Please revise this section to reflect the proposed strategy for the cleanup of the site.

4. FS, Executive Summary. Please revise this section to reflect the proposed strategy for the cleanup of the site.

If you have any questions regarding these comments/recommendations, please feel free to call me at (916) 255-3610 or via email at RGhazi@dtsc.ca.gov.

Sincerely,

Rizgar Ghazi

Rizgar A. Ghazi, P.E.
Project Manager
Office of Military Facilities

Attachment

cc: See next page.

cc: Ms. Debbie de León
Tetra Tech EM, Inc.
135 Main Street, Suite 1800
San Francisco, California 94105

Ms. Carolyn d'Almeida
U.S. Environmental Protection Agency
413 Poppyfield Drive
American Canyon, California 94503

Mr. Gary Riley
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Table 5-37
Risk Screening Worksheet for Soil — Site MWA-19, MCAF Tustin

Analyte Detected	Maximum Concentration (mg/kg)	MCAF Tustin Background Concentration	CANCER RISK: Carcinogenic Residential 1998 PRG (mg/kg)	CANCER RISK: Site MWA-19 Risk Quotient	CANCER RISK: MCAF Tustin Background Quotient[a]	CANCER RISK: Net Risk (less Background)[b]	NONCANCER RISK: Noncarcinogenic Residential 1998 PRG (mg/kg)	NONCANCER RISK: Site MWA-19 Hazard Index Quotient	NONCANCER RISK: MCAF Tustin Background Quotient[a]
TPH as Diesel	240	0	NE	NE	NE	NE	NE	NE	NE
Aluminum	8100	36300	NE	NE	NE	NE	7.49E+04	1.08E-01	4.85E-01
Arsenic	4.1	17.5	3.77E-01	1.09E-05	4.64E-05	0.00E+00	2.08E+01	1.97E-01	8.41E-01
Barium	130	305	NE	NE	NE	NE	5.15E+03	2.52E-02	5.92E-02
Calcium	17000	125000	NE	NE	NE	NE	NE	NE	NE
Chromium	11	39.2	2.11E+02	5.21E-08	1.86E-07	0.00E+00	NE	NE	NE
Cobalt	5.9	15.1	NE	NE	NE	NE	3.25E+03	1.82E-03	4.65E-03
Copper	25	41.5	NE	NE	NE	NE	2.78E+03	8.99E-03	1.49E-02
Iron	13000	44900	NE	NE	NE	NE	2.25E+04	5.78E-01	2.00E+00
Magnesium	5200	19800	NE	NE	NE	NE	NE	NE	NE
Manganese	280	1100	NE	NE	NE	NE	3.12E+03	8.97E-02	3.53E-01
Nickel	8.6	27.8	NE	NE	NE	NE	1.50E+02	5.73E-02	1.85E-01
Potassium	3000	6910	NE	NE	NE	NE	NE	NE	NE
Sodium	280	6320	NE	NE	NE	NE	NE	NE	NE
Vanadium	22	80.6	NE	NE	NE	NE	5.25E+02	4.19E-02	1.54E-01
Zinc	50	141	NE	NE	NE	NE	2.25E+04	2.22E-03	6.27E-03
4,4-DDE	0.0012	0	1.66E+00	7.23E-10	0.00E+00	7.23E-10	NE	NE	NE
Aldrin	0.0011	0	2.61E-02	4.21E-08	0.00E+00	4.21E-08	1.64E+00	6.71E-04	0.00E+00
Beta-BHC	0.0075	0	3.02E-01	2.48E-08	0.00E+00	2.48E-08	NE	NE	NE
Heptachlor	0.0025	0	9.87E-02	2.53E-08	0.00E+00	2.53E-08	2.73E+01	9.16E-05	0.00E+00
Methylene chloride	0.0017	0	8.49E+00	2.00E-10	0.00E+00	2.00E-10	1.63E+03	1.04E-06	0.00E+00
Bis (2-ethylhexyl)phthalate	0.11	0	3.17E+01	3.47E-09	0.00E+00	3.47E-09	1.09E+03	1.01E-04	0.00E+00
Phenanthrene	0.097	0	NE	NE	NE	NE	NE	NE	NE
Site MWA-19 Additive Risk:			Cancer Risk	1.10E-05			Noncancer Hazard Index	1.11E+00	
MCAF Tustin Background Risk:			Cancer Risk[c]		4.66E-05		Background Hazard Index[c]		4.10E+00
Site MWA-19 Risk Less Background Risk:			Net Cancer Risk			9.66E-08			

Both site risk quotient and background quotient have been multiplied by $1x10^{-6}$.
Shading indicates subject site final risk values.
[a] Background quotient calculated only for Tustin background population analytes detected at the subject site.
[b] Net risk is calculated by subtracting the background quotient from the site risk quotient.
[c] Sum calculated only for Tustin background population analytes detected at the subject site.
MCAF - Marine Corps Air Facility
mg/kg - milligrams per kilogram
NE - not established
PRG - preliminary remediation goal
TPH - total petroleum hydrocarbons