

**RESPONSE TO U.S. EPA COMMENTS  
MOFFETT FEDERAL AIRFIELD, CALIFORNIA  
DRAFT STATIONWIDE NO-ACTION SITES  
RECORD OF DECISION  
May 22, 2002**

This document presents responses to the U.S. Environmental Protection Agency (EPA) comments on the Stationwide No Action Sites Record of Decision (ROD) for Moffett Federal Airfield (MFA), dated February 18, 2002, and prepared by Tetra Tech EM Inc. (TtEMI). U.S. EPA comments by Ms. Alana Lee were received from Mr. Arturo Tamayo by electronic mail on April 10, 2002. U.S. EPA comments are presented in **bold type**, followed by responses in normal type.

**GENERAL COMMENTS FROM MS. ALANA LEE**

None

**SPECIFIC COMMENTS FROM MS. ALANA LEE**

**Comment 1:** **The Summary of Risk sections should provide the primary basis for the no-action decision. The discussion should support the decision that no remedial action is necessary to ensure protection of human health and the environment. The Navy needs to explain the basis for its conclusion that unacceptable exposures to hazardous substances will not occur. This information should correlate with the information provided in the Current and Potential Future Site Resource Uses. The draft document merely indicates that the site is within EPA's acceptable risk management range. The Navy needs to present a clearer discussion of the actual results for each site and explain those sites with residential risks within EPA's risk range why no action is health protective (i.e., limited number of hits, small extent, at depth, whatever limits the exposure). Please provide additional rationale for why no action is health protective and why institutional controls are not warranted.**

**Response:** The summary of risk section for Site 23 – Golf Course Fill Area 3 indicates that the potential carcinogenic risk from exposure to chemicals in soil at Site 23 is well below EPA's risk management range under occupational and recreational exposure scenarios. The potential carcinogenic risk under a hypothetical future residential exposure scenario at Site 23 is within EPA's risk management range. However, residential development at Site 23 is unlikely because the site will remain a golf course under future land-use plans.

As Section 2.6.4 states, habitat in the area of Site 23 is classified as upland soil. Site 23 was included in the ecological risk assessment for upland soils, which found no unacceptable ecological risks (also see Section 2.8 for discussion of upland soils).

The summary of risk section for Human Health Risk Assessment (HHRA) Exposure Area 4090 indicates that residential development would be prohibited under all reasonable future land-use scenarios because the site is a drainage ditch used for flood control. Potential carcinogenic risk was estimated at this exposure area for an occupational exposure scenario; the estimated risk is below EPA's risk management range.

The last paragraph of Section 2.9.4 was replaced with the following: The ecological risk for the upland soil portion of HHRA Exposure Area 4090 was found to be acceptable (see Section 2.8). Ecological risks related to the wetland portion (that is, North Patrol Road Ditch) are being evaluated and will be mitigated, as necessary, in conjunction with activities conducted for the investigation of sediments in the Northern Channel.

The following paragraphs were added, as suggested, to the summary of risk sections for the Northern Weapons Storage Bunkers and HHRA Exposure Area 4158.

The following text replaces the last sentence under Section 2.7.4, Paragraph 2:

The potential carcinogenic risk for residents exposed to chemicals in soil at the Northern Weapons Storage Bunkers is within EPA's risk management range of  $10^{-4}$  to  $10^{-6}$ . Residential development at the Northern Weapons Storage Bunkers is unlikely because the site will remain industrial under future land-use scenarios being considered under NASA's draft Programmatic Environmental Impact Statement for the proposed NASA Ames Development Plan. Potential risks were not estimated for an occupational exposure scenario; however, potential risk under an occupational exposure scenario is expected to be lower than risk under a residential exposure scenario because occupational exposure assumptions for soil contact rates, exposure frequency, and exposure duration are lower than corresponding residential exposure assumptions.

The last paragraph of Section 2.7.4 was replaced with the following: Habitat in the area of the weapons storage bunkers is classified as upland soil. The area was included in the ecological risk assessment for upland soils, which found no unacceptable ecological risks (also see Section 2.8 for discussion of upland soils). The Northern Weapons Storage Bunkers were specifically studied for ecological risk to resident burrowing owls and no adverse ecological effects were identified.

The following text has been added to Section 2.10.4, Paragraph 1:

Residential development at Exposure Area 4158 is unlikely because under future land-use plans, the site is proposed for light industrial use. The carcinogenic risk estimated for an occupational exposure scenario is likely to overestimate the actual risk that would be posed by the site in an occupational setting. The chemicals that contribute most significantly to the estimated carcinogenic risks (benzo(a)pyrene and indeno(1,2,3-cd)pyrene) are detected infrequently in soil across the site. In addition, light industrial development of the site is expected to involve the construction of buildings, pavement, and landscaped areas, thereby further reducing the potential for contact with site soils.

The last paragraph of Section 2.10.4 was replaced with the following:

Habitat in the area of the Exposure Area 4158 is classified as upland soil. The area was included in the ecological risk assessment for upland soils, which found no unacceptable ecological risks (also see Section 2.8 for discussion of upland soils).

The following text was added to the Summary of Risk section for each site:  
If NASA were to recommend this area for residential development at a future date, an environmental impact statement (similar to the EIS recently prepared for the redevelopment on the western side of MFA) would be prepared. The EIS process would require re-evaluation of the residential exposure risk. Because the EIS will conduct the future risk re-evaluation, no institutional controls are necessary. Human health and the environment will be suitably protected without the undue restrictions of institutional controls.

**Comment 2:** **Figure 2 needs to be revised or another figure added to (1) clearly show the Stationwide No Action Sites, (2) clearly explain the different shadings in the legend, and (3) add titles for NASA property boundary, Moffett Federal Airfield property boundary, Mid-Peninsula Regional Open Space District property, Cargill property, East Side Aquifers (OU5), West Side Aquifers, regional VOC plume, and the area south of U.S. Highway 101.**

**Response:** A new figure (Figure 3) was added that clearly shows the Stationwide No Action Sites. Figure 2 was modified to more clearly identify the other features requested and added additional features.

**Comment 3:** **Title Page. Please indicate the ROD is issued by the U.S. Environmental Protection Agency Region 9.**

**Response:** The title page indicates that the Record of Decision is issued by the U.S. Department of the Navy – Southwest Division Naval Facilities Engineering Command, the U.S. Environmental Protection Agency Region 9, and the California Regional Water Quality Control Board San Francisco Bay Region.

**Comment 4:** **Page 1, Site Name and Location. The text indicates the National Superfund Electronic Database Identification Number for MFA is 0902734. Please also include the CERCLIS number (EPA ID# CA2170090078).**

**Response:** The CERCLIS number was added as requested.

**Comment 5:** **Page 2. Declaration Statement. The text should be revised (see bold type) to indicate that the results of the HHRA and the ecological risk assessment for these sites show no unacceptable risks at the sites and therefore, the Navy has determined that no action is necessary to ensure protection of human health and the environment.**

**Response:** The text was revised as follows: The results of the HHRA and the ecological risk assessment (ERA) for these sites show no unacceptable risks to human health and the environment. Therefore, the Navy has determined that no action is necessary to ensure protection of human health and the environment.

**Comment 6:** **Page 2, Authorizing Signatures. The authorizing signature should be changed to Deborah Jordan, Federal Facility and Site Cleanup Branch Chief, U.S. Environmental Protection Agency, Region 9.**

**Response:** These changes were made as requested.

**Comment 7:** Page 3, Section 2.1, Installation Site Name, Location, and Description. Please include a figure depicting the MFA site boundaries, Cargill saltwater evaporation ponds, Stevens Creek, U.S. Highway 101, Lockheed Martin Aerospace Center, MEW Study Area, cities Mountain View and Sunnyvale, the runways, NASA Ames Research Center, and any other significant features as described in this section. Please clarify if Moffett Community Housing is part of MFA. Please also revise the text to indicate that the MEW Study Area contains three NPL sites within this 0.5 square mile local study area.

**Response:** Figure 2 was modified to more clearly identify the other features requested and added additional features.

The Moffett Community Housing area is part of MFA. However, the Moffett Community Housing area is not discussed in the ROD and is not shown on Figure 2.

Section 2.1, Paragraph 2, Sentence 4 was modified as follows: This area is known as the MEW Superfund study area and contains three Superfund sites.

**Comment 8:** Page 5, Section 2.2. Please revise the last sentence to indicate "Risk estimates were calculated from 95 percent upper confidence limit of the mean concentrations...".

**Response:** The text was modified as follows: Risk estimates were calculated from 95 percent upper confidence limit of the mean concentrations of chemicals of potential concern within the selected area.

**Comment 9:** Page 6, Section 2.2, first paragraph. Please briefly explain and add "an excess" cancer risk that exceeded 1.0E-06.

**Response:** The text was revised as requested and the following was inserted in Section 2.2:

As a means of estimating the potential human health risks caused by exposure to chemicals, EPA has established a target range of risk levels, which are presented as incremental lifetime cancer risks (ILCR) for carcinogens, and hazard indices (HI) for noncarcinogens. EPA considers an ILCR range of 1E-4 to 1E-6 the target range for carcinogens and regards an HI value of 1 for noncarcinogens as protective of human health. In certain cases, a specific risk estimate around or slightly greater than 1E-4 may be protective based on site-specific conditions, such as uncertainties in the nature and extent of contamination and associated risks (EPA 1991). Section 4.0, References, was revised to include EPA's 1991 Office of Solid Waste and Emergency Response (OSWER) Directive 9355.0-30 "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions."

**Comment 10:** Page 7, Section 2.4. Please include the ROD schedule for Site 22 and Site 25, and indicate that the West Side Aquifers are addressed under the MEW Study Area ROD.

**Response:** The ROD schedule was revised for Sites 22 (May 2002) and 25 (January 2003). The West Side Aquifers have been added under the OU Designation and OU Description headings, and the West Side Aquifers are indicated as covered by the MEW Study Area ROD signed June 1989, under the ROD Schedule heading.

**Comment 11:** **Pages 7 and 8, Section 2.5, second paragraph. Please revise the text to indicate the type of plume (i.e., regional groundwater VOC plume, OU5 groundwater VOC plume). The text should also be revised to reflect that NASA is also extracting and treating groundwater with a third treatment system on the west side (see also Responsiveness Summary).**

**Response:** Section 2.5, Paragraph 2, Sentence 2 was revised as follows:

Groundwater for the sites considered in this ROD was addressed separately as part of the OU5 groundwater VOC plume or the regional groundwater VOC plume from the MEW Superfund site. The OU5 plume has been replaced with OU5 groundwater VOC plume and the regional groundwater plume with regional groundwater VOC plume in the remainder of Paragraph 2.

Section 2.5, Paragraph 2, last sentence was revised as follows:

NASA is also extracting and treating groundwater with a third treatment system on the west side.

**Comment 12:** **Page 8, Section 2.5, Current and Potential Future Site and Resource Uses. In accordance with EPA Guidance for Preparing RODs (July 1999), this section establishes the foundation for the site risks section, which provides the primary basis for the site risk section. Current and potential future and groundwater resource uses should be clearly explained and documented. Please also briefly describe in the document what NASA is planning at each site and provide the date of the Draft Programmatic Environmental Impact Statement.**

**Response:** This paragraph describing the current and potential future uses of groundwater at MFA was added to follow Paragraph 2 of Section 2.5:

Groundwater is not currently used at MFA. The only exception is water from a single well screened in the deep C aquifer (deeper than 155 feet below ground surface) is used by NASA for fire fighting, composting, and agricultural purposes. This well is located in the northwestern corner of the Ames Research Center area and is distant from the sites discussed by this ROD. Water is supplied to MFA from the Hetch Hetchy aqueduct owned by the City of San Francisco. Groundwater is unlikely to be used as a water supply source in the future because of poor ambient quality and low formation yield to a well. NASA's draft Programmatic Environmental Impact Statement does not consider development of groundwater as a future water supply source.

The following text was added to show where the sites are located in relation to NASA's four development areas and to describe what NASA is proposing for the no-action sites.

The following text has been added on Page 8, following the bullet list:

Site 23 – Golf Course Fill Area 3, Weapons Storage Bunkers, and HHRA Exposure Areas 4090 and 4158 are located within the Eastside/Airfield District parcel. The majority of the Upland Soils area also is located within this parcel. Minor portions of the Upland Soils area are located in the NASA Research Park, Bay View, and existing Ames Campus parcels.

Sentence 1 of Paragraph 3 has been revised as follows:

In accordance with the National Environmental Policy Act, NASA has prepared a draft Programmatic Environmental Impact Statement, dated November 2001, for the proposed NASA Ames Development Plan.

The following text was added after Paragraph 3, Sentence 1:

The preferred alternative for the Eastside/Airfield District is to construct a 12,000--square-foot control tower. All alternatives considered proposed light industrial uses for this parcel.

**Comment 13:** Page 9, Section 2.6.2, Site Characterization, second paragraph. The text indicates that four soil samples were collected at Golf Course Area 3 (see Figure 3). However, SBSW-003 is not within the boundaries shown for Site 23. Similarly, SSSW-1 and SSSW-2 are not within the depicted site boundaries. Please explain.

**Response:** The HHRA in the stationwide RI assessed potential risks associated with exposure to chemicals using two different approaches: site-wide and by exposure area. The exposure-area approach evaluated potential exposures to occupational and residential receptors within a predefined "typical" exposure area of a residential lot size of one-half acre. Using a grid, Site 23 was divided into one-half -acre square lots; each one-half acre was evaluated as a separate exposure area (see Plate 9 of the stationwide RI report [PRC 1996]). As noted above, samples SBSW-003, SSSW-1, and SSSW-2 do not lie within Site 23 proper, but these samples are adjacent to the site and do lie within the boundaries of the one-half acre lot that comprises the defined exposure area of Site 23. Therefore, these samples were included as part of the HHRA for Site 23.

**Comment 14:** Page 9, Section 2.6.3, Nature and Extent of Contamination. Please provide a reference to support the statement that metals detected at Golf Course Fill Area 3 are "typical and occur naturally in soils at Moffett Field."

**Response:** The following text was added at the end of the sentence in question "typical and occur naturally in soils at MFA as exemplified by a background comparison in the stationwide RI (PRC 1996)."

**Comment 15:** Page 13, Section 2.7.4, Summary of Risk. Please show HHRA Exposure Area 4093 on Figure 3.

Response: Figure 3 has been re-numbered to Figure 4 and shows HHRA Exposure Area 4093.

**Comment 16:** Page 14, Upland Soils (Ecological Risk). Please include and reference a figure in this section that clearly identifies the upland soils areas.

Response: A new figure (Figure 3) was added to more clearly show the stationwide no-action sites.

**Comment 17:** Appendix A. Please revise the title to indicate the Administrative Record Index is for the Stationwide No Action Sites. Also, please consider removing the Draft and Draft Final Proposed Plans from the Administrative Record.

Response: The title page for Appendix A was revised to indicate the Administrative Record Index is for the Stationwide No-Action Sites and has removed the Draft and Draft Final Proposed Plans from the Administrative Record index.



TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N62474-94-D-7609

Document Control No. TC . 0226 . 11574

TO: Mr. Ron Fuller, Code 02R1.RF
Contracting Officer
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1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

DATE: 05/22/02
CTO: 0226
LOCATION: Moffett Federal Airfield, Mountain View

FROM: Daniel Chow, Program Manager

DOCUMENT TITLE AND DATE:

Final Response to U.S. EPA Comments on the Draft No-Action Sites Record of Decision
May 22, 2002

TYPE: Contractual Deliverable Technical Deliverable (DS) Other (TC)

VERSION: Final REVISION #: NA

ADMIN RECORD: Yes No CATEGORY: Confidential

SCHEDULED DELIVERY DATE: NA ACTUAL DELIVERY DATE: 05/23/02

NUMBER OF COPIES SUBMITTED TO NAVY: O/3C/4E

COPIES TO: (Include Name, Navy Mail Code, and Number of Copies)

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