



DEPARTMENT OF THE NAVY

NAVAL AIR STATION  
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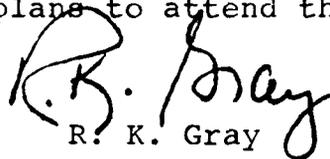
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From: Commanding Officer, Naval Air Station, Moffett Field  
To: Commander, Western Division, Naval Facilities Engineering  
Command

Subj: NAS MOFFETT FIELD INSTALLATION RESTORATION (IR) PROGRAM  
TECHNICAL REVIEW COMMITTEE (TRC) MEETING

Encl: (1) TRC Meeting Minutes, 26 Jan 93  
(2) TRC Meeting Agenda, 27 Apr 93

1. Enclosures (1) and (2) are provided for your information.
2. The next TRC meeting is scheduled for 27 April 1993, from 0930 to 1100 in the Gold Room of the Eagles and Anchors Club, Building 243. Your attendance at this meeting is requested.
3. In addition, an Open House to involve the public in the environmental investigation and cleanup process at NAS Moffett Field is scheduled for 26 April 1993 on 1930 at the same location.
4. It is further requested that LT Susanne Openshaw (Code 189) be contacted at (415) 404-6540 or DSN 494-6540, not later than 21 April 1993, regarding your plans to attend the upcoming meetings.

  
R. K. Gray

Copy to:  
WESTNAVFACENGCOM (Attn: Steve Chao)

**CLEAN**  
Contract No. N62474-88-D-5086

Contract Task Order 0235

Navy Engineer-in-Charge: Stephen G. Chao, PE  
PRC Project Manager: Joshua D. Marvil, CPG  
Montgomery Watson Project Manager: Joseph P. LeClaire, PhD

**NAVAL AIR STATION, MOFFETT FIELD  
MOUNTAIN VIEW, CALIFORNIA**

**TECHNICAL REVIEW COMMITTEE  
MEETING NOTES  
MEETING DATE: JANUARY 26, 1993**

Prepared By

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and

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April 13, 1993

**MINUTES OF THE TECHNICAL REVIEW COMMITTEE MEETING  
FOR THE INSTALLATION RESTORATION PROGRAM  
AT NAVAL AIR STATION, MOFFETT FIELD, CALIFORNIA**

The meeting was called to order at 9:45 on January 26, 1993, at NAS Moffett Field. The minutes for the meeting were recorded by a stenographer's service and are on permanent record as part of the public record at the Mountain View Library.

Captain Kelly Gray, the Base Commander, welcomed everyone to the meeting and introduced Lieutenant Commander Greg Wilcox as the new Staff Civil Engineer, and Lieutenant Susanne Openshaw as the new head of the Environmental Division. Captain Gray then turned the meeting over to Lt. Openshaw.

Lt. Openshaw introduced the first speaker as Mr. Lowell Wille of International Technology Corp. (IT Corp.).

Mr. Wille indicated that the focus of his presentation was the reorganization and status of the various Operable Units (OUs) throughout the base. Mr. Wille provided a brief description of the investigations that IT Corp. had conducted under the HAZWRAP program. Mr. Wille then described how the base was divided into six OUs in 1991, the general purpose of each, and which Installation Restoration Program sites were contained within each OU.

Mr. Wille then indicated that in October 1992, the EPA proposed that OUs 2 and 4 be reorganized. The reorganization resulted in the removal of OU 4 from the Federal Facilities Agreement. This action was taken by EPA in order to prevent the formulation of two Records Of Decision (RODs) for the westside aquifers. The presence of two RODs for the westside aquifers would have provided a conflict because of the potential for different treatment methods proposed by the Navy and the MEW Companies within their respective feasibility studies.

Mr. Wille indicated that the OU 4 Remedial Investigation Report was going to be renamed the Westside Aquifers Site Characterization Report and would include the former OU 4 areas as well as the Chase Park portion of OU 5. The Westside Aquifers Site Characterization Report was described as being similar to the OU 4 format, however, the risk assessment sections had been removed since the risk assessment was now covered within the MEW ROD. This new format will remove the necessity of conducting a feasibility study, and the Navy will review and contribute to the remedial design and remedial activities conducted by the MEW Companies.

Mr. Wille then provided a brief description of the modifications that were being made to OU 2. This OU provides for the further investigation and completion of feasibility studies and risk assessments for the unsaturated zone soils throughout the base. OU 2 was modified to remove any of the sites overlying the regional VOC plume. These sites will proceed through the normal RI/FS process within OU 2. The remaining OU 2 sites which overlie the regional VOC plume will be incorporated and discussed within the OU 2 RI report; however, no feasibility study will be conducted for these sites since they are covered by the MEW Endangerment Assessment.

Mr. Wille summarized the schedule for each of the OUs. The Draft OU 1 report has been submitted to the EPA, and comments were received from the EPA in January 1993. The schedule for OU 2 is currently under negotiation and will be completed in the future. The OU 3 RI is currently being revised based on some underground storage tank removal activities and remediation at Site 12. OU 4 is now defunct. The OU 5 Draft Final RI report is due to the agencies on April 1, 1993 and will be finalized by September 2, 1993. The OU 6 Draft RI report is due on February 1, 1994 and the final report is due on January 1, 1995.

Mr. Wille then asked if there were any questions regarding the status of the various OUs.

Dr. James McClure of Harding Lawson Associates, representing the MEW Companies, asked about the RD/RA schedule for the westside aquifers.

Ms. Roberta Blank of the U.S. Environmental Protection Agency (EPA) said that no schedule has been finalized for the soils, and that the groundwater remediation was being done in conjunction with the MEW Companies ROD.

Dr. McClure then asked Ms. Blank about the schedules for soil and groundwater remediation.

Ms. Blank indicated that the schedule for the soils would be negotiated soon based on a Navy proposal and that the final FFA would include the new schedule dates for the Navy deliverables.

Dr. McClure then asked if the recent MEW regional groundwater sampling round would be included within the Westside Aquifers Site Characterization Report.

Mr. Wille indicated that the report was due on March 1, 1993 and that the data from the regional sampling event will be used if it becomes available in time to be incorporated, however, the use of that data appeared unlikely based on the current schedule.

Dr. McClure indicated that a reference to the existence of the data should be made within the Navy's report to direct and alert the readers to the existence of the MEW data and report.

Mr. Lenny Siegel of the Silicon Valley Toxics Coalition (SVTC) indicated that he was curious how the unidentified Navy sources which the MEW Companies had proposed would be incorporated within the OUs.

Mr. Stephen Chao of Western Division Naval Facilities Engineering Command, said that the preliminary assessment of the sites was underway by IT Corp., and that the site inspection would be followed up with investigations as necessary by PRC and Montgomery Watson.

Mr. Joshua Marvil of PRC Environmental Management, Inc., related that PRC was evaluating the IT Corp. preliminary assessment and would follow up that work as necessary in the next field activity with site inspections.

Mr. Siegel said that he was concerned that the MEW reports alleged that additional sites were present within OU 4, and that the sites would not be investigated since there was no longer an OU for that area.

Ms. Blank said that those sites could be included within OU 2.

Mr. Siegel then questioned the potential groundwater contamination from the possible new sites.

Ms. Kelly McCarthy/EPA said that the Navy and MEW Companies are currently negotiating the cleanup of those portions of the plume not identified in the ROD.

Mr. Siegel then asked if and when the public would be able to review and comment on the negotiations.

Ms. McCarty replied that the public would see the results of the preliminary design from the MEW Companies on March 3, 1993.

Mr. Wille then provided a description of the OU 1 Remedial Investigation. IT Corp. received the EPA comments in early January 1993 and is currently in the process of addressing the agency

comments. Mr. Wille provided a description of the two sites, Site 1 and Site 2, within OU 1. Both sites were described as having received domestic garbage, ash, scrap equipment, and potentially hazardous waste including paint thinners, lacquers, solvents, fuels, oils, fuel filters, and sawdust contaminated with PCBs and transformer oils. The RI report is currently being revised and is scheduled for resubmittal in April 1993.

Mr. Wille said that both of the landfills were constructed within the northern third of the base. These areas of the base were constructed within construction fill areas, therefore the landfills are themselves constructed within fill materials. The Navy has conducted a series of investigations at the landfills including the preliminary site investigations, RI activities and air SWATs for both landfills. During the investigations, monitoring wells were constructed within and adjacent to the landfills. The investigations have allowed the Navy to determine the depths of the landfill materials within the landfills.

Mr. Siegel inquired as to the location of Jagel Slough and what materials separated the slough from the landfill.

Mr. Wille indicated the location of Jagel Slough and said that the materials separating the slough from the landfill probably consisted of construction fill used to build the berms around the salt evaporation ponds.

Dr. McClure asked if the landfill trenches were constructed in fill material or refuse.

Mr. Wille replied that the landfill trenches appeared to have been constructed within bay mud materials that were excavated and used to form the landfill.

Mr. Fred Molloy of SAIC asked if the embankment materials were in contact with the landfill materials.

Mr. Wille said that it appeared to be the case and that the landfill was constructed within the storm water retention pond and salt evaporation pond embankments. The monitoring wells at Site 2 indicated that a similar excavation method had been used in the construction of the Golf Course Landfill. The Site 2 landfill was generally found to contain the same compounds as Site 1, however, the concentrations were roughly an order of magnitude lower than in Site 1.

Mr. Wille indicated that a risk assessment had been conducted for the RI report and that the primary exposure route was the erosion of surface material and the subsequent exposure by dermal contact or inhalation. The risk assessment indicated that both of the landfills should proceed into the feasibility study process since they are only partially controlled and may provide an exposure pathway to ecological receptors.

Mr. Siegel asked if the other contaminants detected within the landfill present a threat to Jagel Slough.

Mr. Wille indicated that the groundwater within and beneath the landfills was to be addressed within OU 5.

Mr. Siegel then asked about the general ranges of concentrations of contaminants found within the landfills.

Mr. Wille replied that the hydrocarbons were on the order of thousands of parts per billion at Site 1 while only hundreds of parts per billion at Site 2.

Mr. Ted Smith/SVTC asked if erosion of the surface cap of the landfill was occurring at this time and for clarification on the potential receptors north of the landfills.

Mr. Wille indicated that erosion was not a concern at this time, however it is a future exposure concern, and that the possible receptors north of the landfills would be examined in OU 6.

Dr. Joseph LeClaire of Montgomery Watson indicated that the Navy had already started work on a site-wide ecological assessment which will take into account exposure from OU 1 as well as all of the other OUs.

Mr. Smith asked about the time frame for the site-wide ecological assessment and if it would look at soil, surface water, and groundwater.

Dr. LeClaire replied that a site walk through by biologists, including agency representatives, was to be conducted after the TRC meeting, that the draft work plan is currently in preparation, and that it would take soil, groundwater, and surface water exposure into consideration.

Mr. Smith asked if any monitoring was currently underway in OU 6, and what concentrations had been found.

Dr. LeClaire indicated that some monitoring had already been done by NASA, EPA, and the Navy; and that OU 6 had been proposed because of the original sampling. The maximum concentrations of contaminants found to date were in the thousands of parts per billion.

Ms. Leslie Byster/SVTC asked if any TCE data were available for the landfills.

Mr. Wille indicated that the detected ranges of PCE in the landfills ranged from 10 to a little over 100 parts per billion.

Dr. McClure asked if the groundwater would be addressed and if it will be included in a risk assessment.

Mr. Wille indicated that the groundwater would be addressed in OU 5, and that OU 5 will include a risk assessment for the leachate from the landfills.

Mr. Siegel then asked for a clarification on the movement of groundwater in the areas of the landfills and if the recent heavy rains were having any impact.

Mr. Wille indicated that the groundwater in the area of Site 1 generally flows from north to south and that the groundwater flow was influenced by the storm water lift station at the north side of Site 2. Mr. Wille also indicated that the recent heavy rainfall could be causing additional flushing of the landfills. The storm drain system affects and controls the water table in the area and is also pumping larger volumes of water than during the dry periods and is therefore helping to control the water table.

Mr. Siegel indicated that he was concerned based on prior experiences that Site 1 and Site 2 were being compartmentalized and that the Navy would simply leave the landfill material in place when something else could be done with the landfills.

Mr. Wille indicated that the available data on the landfills indicated that the most reasonable method of dealing with the landfills would probably be to cap the materials in place to prevent further leachate formation.

Mr. Marvil indicated that OU 5 would provide further information on the groundwater remediation and that capping the landfills would be examined as part of the feasibility study for OU 1.

Ms. Elizabeth Adams from the Regional Water Quality Control Board indicated that the landfill capping and the leachate and groundwater remediation must be considered as a complete unit since the landfill penetrated the water table.

Mr. Smith asked if the Navy would be preparing another fact sheet describing the revised schedule for the OUs, and if the revised fact sheet would be available in the next two or three months.

Mr. Chao replied that a new fact sheet was in preparation and should be available for the next TRC or open house.

Mr. Smith asked what procedures are in place to allow the public to review each draft document and how an individual is supposed to find out about a specific document.

Ms. McCarty replied that each document was available to the public for review and that if an individual was interested, that they should follow the deliverables schedule.

Mr. Marvil added that the March 3, 1993 report is an MEW deliverable and not the Navy's, however, the Navy is working with the MEW Companies to provide a complete remediation package.

Ms. McCarty stressed that the March 3, 1993 deliverable was not a cost allocation document, but only that it was a preliminary design for the overall remediation of the regional VOC plume.

Mr. Marvil added that the document would indicate what specific areas or components would be addressed by the MEW Companies and the Navy.

Dr. McClure said that he was still concerned about the water levels within the landfills and that the slides and displays showed that the leachate within the landfill was higher than the water table.

Mr. Wille and Ms. Adams indicated that that was correct, however, there was not a significant difference (i.e.: no more than a couple feet difference) between the leachate and the groundwater adjacent to the landfill.

Mr. Smith asked if there was a fairly recent document on the OU 6 area.

Dr. LeClaire replied that the most recent and comprehensive document would be the Draft Site-Wide Ecological Assessment Work Plan due out in March.

Mr. Smith asked if the EPA had reviewed the preliminary draft work plan.

Ms. Blank replied that the document had been received.

Mr. Chao suggested that Mr. Siegel should wait to see the next draft version of the work plan since it will address many of the agency comments and will include the results of the site walk. This draft version will incorporate the extensive comments provided by all of the agencies and will be considered another draft version.

Lt. Openshaw introduced Ms. Deirdre O'Dwyre of PRC as the next speaker.

Ms. O'Dwyre provided a description of the Site 14 South groundwater extraction and treatment system. Ms. O'Dwyre provided a description of the extraction well design, the transportation of

the contaminated groundwater to the treatment facilities and the design of the actual treatment facility.

Mr. Siegel asked how many extraction wells were in the system and who was operating and maintaining the system.

Ms. O'Dwyre replied that the system operated off of a single extraction well, and that the system was fully automated except that the facility was checked on a daily basis by representatives of the staff civil engineers office.

Mr. Patrick Hogan of NASA Ames Research Center asked if there was any way to monitor the down time for the system.

Ms. O'Dwyre replied that there were several ways to monitor the down time for the system. For instance each time the pumps shut off, a counter records the cycle. Additionally, by comparing the pumping rate to the totalizer flows, you can estimate the down time.

Mr. Hogan asked what the pumping rate was.

Ms. O'Dwyre replied that the pumping rate was 1.8 gallons per minute and that the treated water is discharged to the Sunnyvale POTW under a discharge permit.

Mr. Smith then asked about the treatment specifications and discharge quality.

Ms. O'Dwyre replied that the TPH discharge limit was 100 ppm and the Total Toxic Organics was 1 ppm. The current treatment system was operating at 100 percent removal efficiency with non-detect concentrations reported for all compounds of concern.

Mr. Siegel asked what the source of contamination was and if any solvents or degradation by-products had been detected.

Ms. O'Dwyre replied that the original source was a pair of leaking fuel tanks and that the original concentrations of benzene were as high as a couple hundred parts per billion and that no solvents or degradation by-products had been detected.

Mr. Siegel suggested that perhaps the extraction well had been placed in the wrong location.

Ms. O'Dwyre indicated that the extraction well was located downgradient of the spill location and that pump tests indicated that the extraction well would have a large enough radius of influence to capture the contaminants. Ms. O'Dwyre also indicated that an extensive monitoring well network was in place to allow the monitoring of the extraction system and the contaminant plume.

Mr. Siegel indicated disappointment that the benzene at the spill site was not being captured and extracted at the offset.

Ms. O'Dwyre indicated that the benzene is still present and will migrate towards the extraction well and should be captured by the extraction well.

Lt. Openshaw then introduced Dr. Joseph LeClaire as the next speaker.

Dr. LeClaire indicated that the topic of his presentation was the Site 12 bioremediation and the construction of the bioremediation pad. Dr. LeClaire started his presentation with a description of the Site 12 Fire Training Facility and the nature and extent of the TPH contamination. Dr. LeClaire

then turned the presentation over to Mr. Rod Warner of Montgomery Watson for a presentation on the construction of the bioremediation pad.

Mr. Warner provided a slide presentation showing the various phases of the construction of the bioremediation pad. Mr. Warner described how the pad was sloped outward to allow the leachate to be removed from the pad. The leachate would be captured within a series of sumps surrounding the pad and then recycled onto the pad to optimize the soil moisture.

Mr. Siegel asked if the soil is covered while it is on the pad.

Dr. LeClaire indicated that the process used by the contractor would dictate whether the soil had to be covered or not. The contractor can only load 66 cubic yards of soil per day on the pad without having to keep the entire soil pad covered.

Mr. Warner provided a description of how the individual portions of the pad were constructed and indicated that the pad had been designed with flexible joints to allow it to flex instead of crack as it was loaded and unloaded. Mr. Warner also described the water stops that were installed between the sections of the remediation pad to prevent leachate loss from the pad.

Mr. Hogan asked when the Navy was going to start using the pad.

Mr. Chao indicated that the Navy was negotiating with a bioremediation contractor and indicated that the excavation and treatment could start as soon as April of this year and require approximately four months to fully excavate and treat the entire spill.

Lt. Openshaw asked if there were any other questions either specific or in general.

Ms. Blank asked Mr. Smith if he had any knowledge of an extensive letter-writing campaign to the EPA about the regional cleanup.

Mr. Smith acknowledged that the public was writing the letters to the EPA to express their concern over the lack of action by the Navy and the MEW Companies in the remediation of the regional VOC plume, and to protest the schedules and the proposed order of Navy sites to be remediated. Mr. Smith also indicated that the Silicon Valley Toxics Coalition was considering a public meeting with a question and answer session to allow the various groups to inform the public of their activities and to directly answer questions from the public.

Lt. Openshaw indicated that the next TRC meeting would be scheduled for late April or early May.

Mr. Siegel indicated that the public appreciated the last evening public meeting and requested that the Navy work with them to schedule another similar meeting.

Lt. Openshaw thanked everyone for their attendance and then adjourned the meeting at 11:30.

AGENDA  
FOR  
INSTALLATION RESTORATION (IR) PROGRAM  
TECHNICAL REVIEW COMMITTEE (TRC) MEETING  
NAVAL AIR STATION, MOFFETT FIELD  
27 April 1993

- I. WELCOME
- II. IR PROGRAM STATUS
  - A. Overview of Draft Operable Unit 5 Remedial Investigation Report
  - B. Status of Restructure of Operable Units
  - C. Source Control Activities Update
- III. AGENDA/SCHEDULE FOR NEXT TRC MEETING
- IV. CONCLUSION

Encl (2)