

Arc Ecology

Environment, Economy, Society, & Peace

May 28, 2004

Keith Forman
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Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

RE: Draft Interim Landfill Gas Monitoring and Control Plan, Parcel E, Industrial Landfill, Hunters Point Shipyard, San Francisco, California, dated March 19, 2004.

Dear Mr. Forman;

Thank you for providing Arc Ecology with the opportunity to review the *Draft Interim Landfill Gas Monitoring and Control Plan, Parcel E, Industrial Landfill, Hunters Point Shipyard, San Francisco, California*, dated March 19, 2004. Our comments and concerns are below.

1. Section 1.1, page 2: The document states, “Additionally, landfill gas may contain trace amounts of NMOCs [non-methane organic compounds] that could degrade air quality. However, based on vapor intrusion modeling using U.S. Environmental Protection Agency’s (EPA) Johnson and Ettinger model ([EPA 2003](#)), there was no indication of unacceptable risk to human health from NMOCs ([Tetra Tech 2004](#)).” The results of the Johnson and Ettinger model were only recently presented to the Base Cleanup Team (BCT) and the public in the Landfill Gas Removal Action Closeout Report, which has not yet received regulatory approval. The information presented in the Closeout Report was not sufficient to determine whether or not there is a risk to human health from NMOCs. Please include a sentence acknowledging that regulatory agreement has not yet been reached on this matter.
2. We are concerned that the proposed action levels for NMOCs at the various sampling locations do not meet the Title 27 performance standards. As listed on page 4, the performance standard states that trace gases shall be controlled to prevent adverse acute and chronic exposure to toxic and carcinogenic compounds. The risks from exposure to trace gases from the landfill cannot be determined without knowing the specific constituents. In order to be truly protective of human health and in compliance with Title 27 requirements, a risk assessment should be conducted using the specific NMOCs to develop risk-based action levels for NMOCs.

3. Section 2.1.2 – Hydrology: It should be noted that the groundwater trends described in this section may change due to the closure of Pump Station A and recent work conducted on sewer lines throughout the Shipyard.
4. Section 2.2.3 – HPS Fill Composition and Potential for Gas Movement: The following statement is not entirely true, “The installed HDPE barrier wall cuts off this pathway, thereby preventing further migration of gas” (page 11). As noted later in the section, the system is unable to operate completely passively and extraction is still required on an intermittent basis to prevent methane migration. Also, an explanation of why the cement grout was necessary should be included in this section.
5. Members of the community have repeatedly expressed concern about the possible existence of pipelines and other underground conduits from Parcel E to Parcel A. The response from the Navy has always been that no lines were encountered in this area while digging the collection trench; therefore there is no reason to believe that any lines remain. However, according to Section 2.2.5, “Several potentially abandoned storm lines run north from the present waste areas toward Crisp Avenue. These storm lines may have been removed or abandoned in place; however, trench backfill may have been left in place, thereby providing a potential pathway for the migration of gas” (page 13).
On Figure 2, there appears to be a storm water line that travels from the northwest corner of the landfill, near gas monitoring probe (GMP) 11A, to Crisp Avenue as well as a line traveling from the region of GMP06B to Crisp Avenue. Are these the potentially abandoned lines that are referenced in Section 2.2.5? Title 27 CCR requires that all underground structures, including basements, vaults, manholes, conduits, and pipelines in the area of potential migration be sampled for methane. Please clarify whether there are storm lines in Parcel E that may be working as conduits for landfill gas and whether or not they are being monitored for methane. Also, please provide a figure that clearly indicates their location.
6. Section 3.5 – Monitoring Plan Design: In the landfill gas monitoring and control plan for fence line and UCSF GMPs it states that action will be taken if NMOCs measured as total VOCs (volatile organic compounds) exceed 500 ppmv and modeling landfill gas analytical results indicates a potential health threat (page 20). Figures 13 and 17 show that samples will be collected and analyzed for VOCs if NMOCs exceed 500 ppmv at the fence line, UCSF, and Crisp Avenue GMPs. Please provide more details in the monitoring and control plan about how these samples will be taken and analyzed and what type of modeling will be done to estimate potential health threats.
7. If methane or NMOC concentrations exceed compliance levels at any of the monitoring locations, the plan calls for notification of the California Integrated Waste Management Board (CIWMB) and Base Cleanup Team (BCT) within 5 days of responding to the exceedance. Is there a plan in place for notifying the public? While it may not be necessary to send notification each time there is an exceedance, the public should be updated on a regular basis about the results of landfill gas monitoring and the successes and failures of the system. We suggest including monthly updates as part of the Restoration Advisory Board meetings.

8. It is unclear what utilities at the fence line will be sampled. In the data quality objectives for monitoring of the northern fence line, one of the decisions that will determine compliance with Title 27 CCR is whether or not concentrations of methane in utilities located at the fence line are greater than 1.25 percent by volume (Table 4, Step 2, #2). Please clarify what utilities will be sampled in both the text and on Figure 2.
9. In the data quality objectives for monitoring of landfill gas along Crisp Avenue (Table 5), the temporal boundaries extend until Parcel A is transferred to the City of San Francisco. Have the City and BCT agreed to this? As the landfill gas control system is a part of Parcel E, it was our understanding that the Navy would continue monitoring until a final remedy for Parcel E and the landfill was in place. Have the City and BCT agreed that monitoring at these locations will no longer be necessary once Parcel A transfers?
10. Table 6: The data quality objectives (DQOs) for the landfill gas control system do not appear to state how it will be determined that Summa Canister sampling is necessary. Step 3 lists the following input to the decisions: "Laboratory analytical results from gaseous organic analysis (samples collected in Summa Canisters) performed, if necessary, during monitoring of landfill gas from the interceptor trench vents." Please provide an explanation within the DQOs of how it will be determined that sample collection is necessary.
11. Figures 13-17: The flow charts for monitoring at all of the monitoring locations are lacking a complete explanation of how the Navy will respond to a detection of NMOCs above action levels. Please complete the flow charts to indicate when and how it will be determined that no further action is necessary for NMOCs and that regular monthly monitoring can resume.
12. The logic for monitoring in the Building 830 crawlspace, at the surface monitoring locations, and in the on-site utilities is difficult to follow. According to the flow charts on Figures 14-16, the only action that will be taken if methane is detected above action levels for two consecutive days is to contact the CIWMB and BCT and resume monthly monitoring. We do not find this to be an adequate response, particularly at Building 830, which is currently occupied by UCSF. In the event that methane is detected above action levels during two consecutive days of monitoring, we encourage the Navy to consider conducting weekly monitoring, if not more frequent, to ensure adequate protection of human health.
13. In Section 4, the Control Plan, it states, "After the system has been shut down in accordance with the O&M procedures in Appendix A, daily monitoring will continue for 1 week. If concentrations remain below 1 percent, monitoring can be reduced to every 2 weeks. If concentrations remain under 1 percent after the second week, regular monthly monitoring should be resumed" (page 22). This is illustrated differently, however, in the flow chart on Figure 18. According to the flow chart, if methane concentrations are less than 1.5 percent after the first week of monitoring, monitoring will either be conducted the following week or monthly monitoring will be resumed. Please clarify the procedure and correct any discrepancies, as necessary.
14. Appendix A, Section 4.1: Please explain why extraction should always be initiated at PV-03 rather than the vent nearest the detected exceedance.

Minor Comments:

Section 1.1, page 2: Please complete the following statement, “Due to the oxygen-deficient environment of the landfill, the primary gas of concern at the site.”

Arc Ecology appreciates having the opportunity to review this document. If you have any questions about our comments, please contact me at (415) 495-1786 or lealoizos@mindspring.com

Sincerely,

Lea Loizos
Staff Scientist

Cc (electronic):

Michael Work, U.S. Environmental Protection Agency, Region IX
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