



San Francisco Bay Regional Water Quality Control Board

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U.S. Department of the Navy
Attn. Mr. Keith Forman
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Via email only: keith.s.forman@navy.mil

Subject: Water Board comments on the *Draft Record of Decision/Remedial Action Plan for Installation Restoration Site 24, Naval Station Treasure Island, San Francisco, dated May 6, 2015.*

Dear Mr. Forman:

The Record of Decision (ROD) for Treasure Island's Site 24 memorializes the remedy for Site 24. Site 24 is a 20-acre site where the Naval Station's dry cleaning facility was located from 1942 to 1977. Chemicals of concern (COCs) in groundwater and soil gas are tetrachloroethene (PCE), trichloroethene (TCE), *cis*-1,2-dichloroethene (DCE), and vinyl chloride. The 2011 Treasure Island Development Authority propose future uses as open space/recreation (sports complex) except for an approximately one-acre residential portion along the South-East edge of the site.

The remedy consists of excavation and disposal of soil beneath a portion of and adjacent to Building 99, in-situ ZVI/ISB treatment of remaining VOC groundwater plumes, and groundwater and soil gas monitoring. While soil was targeted based on its potential as an ongoing source of PCE and TCE to groundwater, the human health risk assessment found that no COCs are warranted for soil. No chemicals of ecological concern were identified for terrestrial or aquatic receptors.

We have reviewed the subject document and have the following comments:

1. **General Comment- Monitoring:** It is not entirely clear throughout the document when monitoring would stop and when Institutional Controls (ICs) would begin, if any. If the Navy is yet to determine whether cleanup goals have been met at the time of transfer on or about January 30, 2018. ICs will be prescribed but will eventually be required only if monitoring demonstrates that the Remedial Action Objectives (RAOs) have not been met. However, engineering controls and no additional active remediation may not necessarily be acceptable in some locations if cleanup levels reached after remediation continue to show elevated levels of chlorinated ethenes. Would the level of engineering and institutional controls change depending on what the concentrations are, what the constituents are, and what the intended uses are? These facts are relevant to whether engineering controls are appropriate at that site, and it is premature to say that no additional remediation will be necessary. In addition, depending upon the situation the Regional Water Board is hesitant to turn over engineering controls to a developer and/or

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residential landowner, as opposed to delegating those types of activities to a commercial operation. Again, it would depend upon the levels of cleanup reached and the types of engineering controls proposed.

2. **General Comment- ARARs:** Table C-2, p. C-14, Cal. Code Regs. tit. 22, § 66264.90(c) reads as follows: "Owners or operators shall continue monitoring during the active life of the regulated unit and during the postclosure care period unless the owner or operator can demonstrate that the unit has been in compliance with the water quality protection standard for three consecutive years and all waste and contaminated material has been removed or decontaminated." The Navy has identified this requirement as an "applicable or relevant and appropriate requirement" (ARAR) for monitoring the groundwater and soil gas. The Water Board supports the Navy's commitment to "continue to monitor the groundwater and soil gas after the cleanup goals have been met for a period of three years to demonstrate that the cleanup goals have been met for three consecutive years".
3. **General Comment- Irrigation:** Agricultural water supply (irrigation) is a groundwater beneficial use listed in the Water Quality Control Plan (Basin Plan) for groundwater. Has the Navy considered the groundwater irrigation pathway? If not, this pathway may require restrictions as well. Please explain to what extent irrigation using groundwater has been evaluated in the risk process and, if necessary, how it will be restricted.
4. **General Comment- Unlimited use and unrestricted exposure (UU/UE):** While the Navy is expecting to achieve unlimited use and unrestricted exposure, this document needs to clarify that groundwater use for drinking water and possibly irrigation will be restricted, and if such restrictions are consistent with UU/UE.
5. **Section 1.1 Selected Remedies, (p.3):** "Conduct groundwater and soil gas corrective action monitoring and detection monitoring to confirm that cleanup goals are met". Please clarify the distinction between groundwater and soil gas "corrective action monitoring" and "detection monitoring".
6. **Section 1.1 Selected Remedies (p.3):** "If Site 24 cleanup goals are not met at the time Site 24 is transferred, the selected remedy will include (. . .) institutional controls (ICs) to meet RAOs". How does this meet the Navy's commitment to conduct monitoring for 3 years after the RAOs are met? Would the Navy require ICs but continue to conduct monitoring for 3 years after implementation of the remedy? Please consider indicating the date the Navy expects transfer to happen. How does property transfer affect monitoring frequency, and who is responsible for monitoring after transfer? Please describe the monitoring frequency clearly before and after transfer, and how monitoring will be used to optimize treatment.
7. **Section 1.1 Selected Remedies (p.3):** "If Site 24 cleanup goals are not met at the time Site 24 is transferred, the selected remedy will include (. . .) evaluation and potential installation of engineering controls (. . .) and prohibit residential use unless appropriate engineering controls are implemented that are protective of residential receptors." As written, this section is too vague. The Regional Water Board recommends that the remedy for COCs have specific, identified cleanup levels which must be reached before residential development is permitted, with or without engineering controls. Additional detail should be added concerning the types of engineering controls that are appropriate and identify who will be responsible for maintaining those engineering controls.

8. **Section 2.5.1 Human Health Risk Assessment (p. 14):** This section states: "In 2001, the Water Board recommended that the Basin Plan be revised to exclude groundwater at TI as a potential source of municipal or domestic water." Please revise this section as follows: "In 2001, the Navy requested the Regional Water Board's concurrence groundwater at TI meets the exceptions to State Water Resources Control Board Resolution No. 88-63 and Regional Water Board Resolution 89-039 (Sources of Drinking Water Policy) as a potential source of municipal or domestic water. On January 23, 2001, the Regional Water Board sent a letter [insert link here] concurring that the quality and hydrogeologic conditions of the groundwater at Treasure Island are such that the water meets the exceptions to the general rule that all groundwater is a potential source of drinking water."

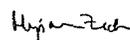
For this reason the Water Board does not require cleanup to groundwater drinking water standards. This exception, however, results in a restriction on groundwater use as drinking water, and as such should be memorialized in a document associated with the deed of trust such as a deed restriction or the Covenant to Restrict Use of Property (CRUP).

9. **Section 2.9 Remedial Action Objectives (p. 20):** Please add the following RAO: "Prevent exposure to groundwater over MCLs through deed restrictions."
10. **Section 2.11.2.1 Chemical Remedy (p. 30):** "Groundwater and soil gas monitoring would be conducted to verify and optimize success of ZVI/ISB groundwater treatment". Please include a brief explanation about how monitoring will optimize treatment success.
11. **Section 2.11.2.1 Chemical Remedy (p.31):** "If cleanup goals are not met at the time Site 24 is transferred, the Navy will place ICs to meet RAOs in the areas of the site where cleanup goals are not met". If the Site is transferred on or around January 20, 2018, it would seem that there would not be enough time to conduct sufficient monitoring to determine that RAOs have been met, as outlined in the ARARs (see comment #6).
12. **Section 2.11.2.1 Chemical Remedy (p.32):** "The ICs would (. . .) prohibit residential use unless appropriate engineering controls are implemented that are protective of residential receptors."
13. **Section 2.11.2.1 Chemical Remedy (p.32):** "Although the Navy may transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Navy would retain ultimate responsibility for remedy integrity." Please explain how the Navy will retain ultimate responsibility for remedy integrity after the procedural responsibilities have been transferred to TIDA though the transfer agreement.
14. **Section 2.11.3 Expected Outcomes of the Selected Remedies (p. 33):** "For the chemical remedy, implementation will be followed by groundwater and soil gas monitoring until analytical results allow for termination of further monitoring." How will transfer affect monitoring of the remedy at Site 24?
15. **Miscellaneous comments:**
- Acronyms and Abbreviations (p. iii): Add: "ISCR: In-situ chemical reduction".
 - Section 1.1 Selected Remedies, (p.3): "Implement institutional controls (ICs)" (plural acronym).

- Section 2.2, Site Characteristics, Figure 2 (p.8): This Figure includes a "Not to scale" notation, but it does appear to be to scale. Can you indicate the scale?
- Section 2.4, Current and Potential Future Site Uses, p. 12, "concessionaire": does the Navy mean commercial food franchises, or concessionaire parking?
- Section 2.10.2.2 Primary Balancing Criteria, Implementability (p.29): "the soil remediation component for each alternative is *straightforward*" (one word)
- Section 2.11.2.1 Chemical Remedy (p. 30): "Building 99 *will* be evaluated (. . .) Excavation *will* be followed (. . .) Groundwater and soil gas monitoring *will* be conducted".
- Section 2.11.1 Rationale for Selected Remedies and 2.11.2.1 Chemical Remedy (p. 30): "Alternative 4 is anticipated to reach cleanup goals *faster* than other alternatives" (not "more quickly")
- Section 2.11.2.1 Chemical Remedy (p. 32): "A LUC RD that describes the ICs that *will* be implemented if Site 24 cleanup goals are not met" and "The Navy would *be* responsible . . ."

Please contact me at myriam.zech@waterboards.ca.gov or 510-622-5684 with any questions you may have.

Sincerely,



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