Department of Toxic Substances Control

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December 29, 2005

Mr. Thomas L. Macchiarella, Code BPMOW.TLM
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Base Realignment and Closure Program Management Office West
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DRAFT PROPOSED PLANS, OPERABLE UNIT 1, IR SITES 6, 7, 8, AND 16, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Macchiarella:

The Department of Toxic Substances Control (DTSC) has reviewed the draft Proposed Plan (PP) for Operable Unit 1 (OU 1), dated October 2005, in conjunction with 1) the response to comments (RTCs) contained as Appendix E to the Final Feasibility Study (FS) Report for the above referenced sites, dated September 28, 2005 and 2) solid waste management unit (SWMU) closure report submitted as Appendix I to the Final Remedial Investigation (RI) Report, dated November 18, 2004. Our comments are as follows:

General Comment

1. **Adequacy of the RTC to Draft Final FS**: The RTC as referenced above was developed without any discussion with DTSC and has largely failed to address DTSC concerns. As documented in the Final RI report and comments on the Draft RI Report by various regulatory agencies, numerous data gaps were identified in OU-1 by the Base Closure Team (BCT). In the interest of moving the project forward the BCT, based on the meeting held on July 29, 2004, has agreed to the following:

   - Site characterization is incomplete, but significant amount of data do exist which should allow the remedy selection.
   - All sites would be moved into the FS despite the risk assessment results, which have most likely been underestimated.
   - Data gaps would be identified by the agencies, carried through the FS and Remedial Design phases and be fully characterized as part of the remedial design.

- Post-remediation risk assessments will be performed for each site after implementation of the selected remedy that will include the newly collected site data.

DTSC is disappointed that the RTC and the draft PP as submitted have not fully reflected this BCT position. Data gaps identified by the DTSC have been largely disputed without any effort to reach DTSC for discussion. The risk assessment results from the RI have been used with no caveats. Remedial Action Objectives (RAOs) have not been properly developed. Post-remediation risk assessment is not mentioned. DTSC considers such a deviation from the BCT position a major impediment to the successful cleanup at OU 1 and requests a meeting to resolve this issue.

2. **Performance Standards**: Please state in the PP that the Record of Decision (ROD) will specify the following performance standards to ensure the success of remediation at all OU-1 sites:

Soil Excavation

- Confirmation sampling, which will establish the criteria for collecting post-excavation soil samples to verify that the RAOs have been met.

Groundwater In-Situ Treatment

- Shut down criteria, which will establish the target concentrations upon which the treatment system can be turned off and monitored natural attenuation (MNA) can commence. The criteria should include: 1) target concentrations for both groundwater and saturated soil media (e.g. 95 to 99 % reduction from the pre-treatment concentration levels) and 2) the time interval allowed to reach the target concentrations,
- End point determination of success, which considers rebounds of contaminants and specifies the time interval that should be allowed before declaring the RAOs are met.
- Contingency for failure, which establishes the criteria for restarting the treatment system after certain period of unsuccessful attenuation.

3. **Institutional Controls (ICs)**: ICs prohibiting extraction of groundwater for all uses into perpetuity will have to be put in place if the RAO is developed based on inhalation exposure pathway only

4. **Hydrogeology**: DTSC continues to believe a good understanding of site-specific hydrogeology to be a data gap at all sites at OU 1. We request that as part of the remedial design, water level hydrographs and site-specific groundwater elevation maps, based on all historical water level data including the quarterly groundwater monitoring data from the Basewide Groundwater

Monitoring Program (BGMP), will be submitted for each site at OU 1. Historical groundwater flow directions, hydraulic gradients, and groundwater flow velocities estimated from these water level data should also be provided.

5. **Petroleum Cleanup:** Please state in the PP that the Navy, upon proper determination that the release involves nothing but petroleum, will contact California Regional Water Quality Control Board (RWQCB) for:

   - Appropriate criteria to screen the site and suitable measures (e.g. site management plan) to mitigate any residual petroleum contamination left in soil
   - Proper closure determination of all above ground and underground petroleum-only storage tanks (ASTs and USTs)
   - Proper closure determination of all petroleum corrective action areas (CAAs)

   As stated in DTSC letter dated June 13, 2005, RWQCB is the lead state regulatory agency for petroleum-only cleanup. DTSC, being a support agency to the RWQCB on such cleanup, will work with the RWQCB to ensure that requirements of both Chapter 6.5 and Chapter 6.8 of California Health and Safety Code (HSC) are met.

6. **Impact to Ecological Receptors**: The conclusions that little to no significant risk is posed to ecological receptors at each of the four sites at OU-1 are based on current lack of habitat and an assumption that future use will not lead to significant increases in habitat and thus increased exposure to ecological receptors. To ensure proper protection of the environment, DTSC requests that proper statement is included in the PP as well as the ROD to make it clear that should the future land use differ significantly from current uses, the impact to ecological receptors will be re-assessed per discretion of DTSC and Department of Fish and Game (DFG), co-trustees of the resources for the State of California.

Site 6 (Aircraft Intermediate Maintenance Facility)

7. **Additional Data Gaps**: The PP has only acknowledged sampling adjacent to the oil-water separators OWS-040A and OWS-040B (see pages 11 and 12 of the PP). DTSC believes data gaps other than these two oil-water separators exist at IR Site 6. Please refer to Comments #9 through #13 below for discussions on additional data gaps.

8. **OWS-040A, OWS-040B and Site 6 Boundary**: Please sample directly underneath, rather than adjacent to, the oil water separators whenever possible. Please clarify if the boundary of IR Site 6 has been extended westward to encompass WD-40 in its entirety, including OWS-040A and OWS-040B.

9. **SWMU Evaluation (OWS 41, WD 040, WD 041A)**: Although not reflected in the PP, the above referenced SWMU closure report recommends further action at OWS 41, WD 0040, and WD 041A as part of the remedial design. DTSC concurs with this recommendation and requests that further evaluation include soil and groundwater sampling directly beneath these features. Please revise the PP accordingly.

10. **SWMU Evaluation (GAP 25)**: Generator Accumulation Point 25 (GAP 25) is an approximately 30 by 70 foot area within WD 040. DTSC requests that a minimum of two hydropunch sampling locations are installed within the boundaries of GAP 25 as part of the remedial design. Locations should be selected based on site observations in areas that may have allowed contaminant infiltration such as expansion joints. DTSC requests that both soil and groundwater samples are collected from these locations and analyzed for appropriate parameters.

11. **Storm and Sanitary Sewers**: Although the storm and sanitary sewers have been evaluated for their potential to act as preferred flow pathways, the potential for exfiltration of wastes has not been evaluated. DTSC requests evaluation of storm and sanitary sewers at IR Site 6 with respect to the potential for exfiltration.

12. **Other Locations Within WD 040 and WD 041**: DTSC continues to question whether other locations within WD 040 and WD 041 that were not sampled previously are sources of contamination. However, additional delineation of the horizontal and vertical extent of the plume should assist in addressing these concerns. Please refer to Comment #12 below for further discussions.

13. **Lateral and Vertical Extent of the Plume**: The PP should clearly state that additional sampling (16 sampling locations with samples collected at 5, 8 and 18 feet below ground surface) will be carried out as part of the remedial design to fully delineate the lateral and vertical extent of the groundwater plume at Site 6. Currently, this proposed sampling is not discussed in the PP and the only place the reviewer can find such information is on page C-11 of Appendix C of the Final FS. Please strive for better clarity and transparency in the PP.

14. **Future Land Use**: The future land use at IR Site 6 is residential (page 1 of the PP and Figure 2-6 of the Final FS). To avoid confusion, please remove references such as, "The expected long-term use of Site 6 is commercial/industrial" from the PP (see page 4 of the PP).

15. **Need for Further Action for Soil**: DTSC continues to believe IR Site 6 has not been completely characterized. We cannot concur at this point that no further action is necessary for soil. Please remove such reference from page 11 of the PP.

16. **RAOs for Soil**: DTSC concurs that the RAOs for any chemicals of concern (COCs) identified during the design phase sampling will be based on residential Preliminary Remediation Goals (PRGs). Rationales should be provided if more stringent Cal-modified PRGs are available but are not selected.

17. **Maximum Contaminant Levels (MCLs) as Applicable or Relevant and Appropriate Requirements (ARARs)**: The RWQCB has determined that the deep aquifer underlying the Alameda Point property east of Saratoga Street is a potential drinking water source. Therefore, both the shallow and deep aquifers must be protected for domestic uses. DTSC has determined that MCLs are ARARs for IR Site 6.

18. **RAOs for Groundwater**: Although MCLs are ARARs for IR Site 6, given the relative size of the plume DTSC is willing to agree to disagree with the Navy on the ARAR determination and consider non-MCL RAOs for cleanup at Site 6 provided that:

    - The nature and extent of the plume will be fully delineated,
    - There is no vertical conduits between the contaminant plume and deeper water bearing zone,
    - Active groundwater remediation will be implemented,
    - Appropriate risk-based RAOs protective of inhalation exposures are developed through rigorous risk calculations.
    - ICs prohibiting extraction of groundwater into perpetuity are put in place (see General Comment #3).

    The RAOs currently proposed for Site 6 (Table 7 of the PP) do not meet these criteria. Rather, they appear to be developed based on a commercial/industrial scenario which is not consistent with the proposed future land use at Site 6. Please revise them.

19. **Proposed Remediation Area**: The proposed remediation area shown as Figure 3 in the PP appears to be based on unrestricted reuse. However, the proposed RAOs as shown in Table 7 of the PP are based on commercial/industrial reuse scenario. Please make sure they are consistent.

Site 7 (Naval Exchange Service Station)

20. **Additional Data Gaps**: The PP has only acknowledged the need of further characterization beneath and adjacent to the oil-water separators OWS-459 (see page13 of the PP). DTSC believes data gaps other than OWS-459 exist at IR Site 7. Please refer to Comments #22 through #26 below for discussions on additional data gaps.

21. **SWMU Evaluation (OWS-459)**: Groundwater sampling has not been performed in the vicinity of OWS 459. DTSC requests that a groundwater sample is collected beneath this OWS and analyzed for appropriate parameters. (Also, note that the SWMU closure report has incorrectly recommended no further evaluation for OWS-459. This comment is meant for the Navy's RCRA/SWMU project manager. No response is necessary.)

22. **SWMU Evaluation (GAP 30)**: DTSC requests clarification as to the whereabouts of GAP 30 (the RFA reported a different location than the EBS). Due to the uncertainty in the whereabouts of this SWMU (per the SWMU evaluation report), DTSC requests that two additional sample locations are selected in the area southwest of former Building 408, and two additional sample locations are selected in the area northwest of Building 408. DTSC requests that both soil and groundwater samples are collected from these locations and analyzed for appropriate parameters. (Also, note that GAP 30 is shown in the incorrect location on Figure 4 in the Proposed Plan.

23. **SWMU Evaluation (UST(R)-15/GAP 16)**: Per unit ID, UST(R)-15/GAP 16 appears to be a Resource Conservation and Recovery Act (RCRA) tank. Table 2-2 of the SWMU report lists waste oil as one of the materials stored at UST(R)-15/GAP 16. Per the SWMU closure report, further action is recommended. Please reflect this in the PP and conduct proper characterization as part of the remedial design.

24. **SWMU Evaluation (UST(R)-16)**: Per unit ID, UST(R)-16 appears to be a RCRA tank. Table 2-2 of the SWMU report indicates the tank has been closed by RWQCB and lists lubricating oil as the only material having been stored there. DTSC requests that pertinent closure data are forwarded to DTSC for review. Alternatively, the Navy may propose further characterization at UST(R)-16 as part of the remedial design.

25. **Elevated Metals Outside of the Debris Area**: Elevated lead, cadmium, and arsenic have been associated with the soil debris area for which excavation is proposed. DTSC is also concerned with elevated levels of these three metals that were found outside the soil debris area. DTSC requests additional sampling to demonstrate that elevated metals are not present in the area south of the excavation where elevated arsenic was found in soil during the

RI, and north of the former incinerator (Building 68-3) where elevated levels of copper and lead were found in soil during the RI.

26. **Industrial Waste Sewer**: DTSC requests investigation of the industrial waste sewer system at Site 7 with respect to the potential for exfiltration. Industrial waste from OWS 459 was presumably discharged directly to this system.

27. **Soil RAOs:** The future land use at IR Site 7 is residential. DTSC concurs that the RAOs for any COCs identified during the design phase sampling will be based on residential PRGs (rationales should be provided if Cal-modified PRGs are available but are not selected). For the COCs currently identified for Site 7 soil, namely, arsenic, cadmium, and lead, we offer the following comments:

    - For clarity, please explain in the PP the basis for selecting the RAOs as listed in Table 9.
    - The proposed RAOs for arsenic and cadmium are 9.1 mg/kg and 1.7 mg/kg, respectively, which are the 95 percentile of the background data set distribution according to the final FS (page 6-5). Please note that the Alameda Point soil background concentration is currently being reviewed and finalized by the BCT. This could impact the cleanup level for arsenic and cadmium. Please acknowledge it in the PP.
    - The proposed RAO for lead is 230 mg/kg, which according to the final FS report, is calculated based on DTSC's 2003 LeadSpread model. The current Cal-modified PRG for lead is 150 mg/kg. DTSC concurs with 230 mg/kg of lead as the RAO for lead in Site 7 soil on the basis that the lead-impacted soil is mostly limited to the debris area and is relatively small.

28. **Proposed Remediation Area**: Please depict the proposed excavation area on a map (e.g. Figure 4 of the PP).

29. **Need for Groundwater Remediation**: Site 7 is designated petroleum corrective action area (CAA)-7. Active remediation is currently underway to remove petroleum contamination beneath Site 7. It is, therefore, inappropriate to state, "No action is required for groundwater at Site 7 because groundwater contamination does not pose a significant risk to human health or to the environment." (page 13 of the PP). Although petroleum release is excluded and no remedy is required under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), to allow the community to have a full understanding of the site the PP should discuss the petroleum contamination and its mitigation at Site 7.

Site 8 (Pesticide Storage Area)

30. **Additional Data Gaps**: The PP has only acknowledged the need of further characterization at the oil-water separator OWS-114 (see page14 of the PP). DTSC believes data gaps other than OWS-114 exist at IR Site 8. Please refer to Comments #32 through #35 below for discussions on additional data gaps.

31. **SWMU Evaluation (OWS-114)**: Please sample directly underneath, rather than adjacent to, the oil water separators whenever possible.

32. **SWMU Evaluation (WD-114)**: In the SWMU evaluation report, further action is recommended for WD 114. Please reflect this in the PP. DTSC requests that further action include soil and groundwater sampling beneath WD 114 in areas that were not previously sampled.

33. **SWMU Evaluation (GAP 03)**: There is no information on the actual location of this SWMU. However, per the SWMU closure report the SWMU was located inside former Building 114 and on a concrete floor. Therefore, DTSC concurs with the no further evaluation (NFE) determination for this SWMU.

34. **Sewers**: DTSC requests evaluation of industrial, storm, and sanitary sewers at IR Site 8 with respect to their potential for exfiltration.

35. **Horizontal and Vertical Extent of the Plume**: It is the opinion of DTSC that the horizontal and vertical extent of the plume at IR Site 8 has not been fully characterized and remains a data gap. DTSC requests that data gap sampling include plume delineation to levels that are protective of human health.

36. **Soil RAOs:** The future land use at IR Site 8 is residential. DTSC concurs that the RAOs for any COCs identified during the design phase sampling will be based on residential PRGs (rationales should be provided if Cal-modified PRGs are available but are not selected). For the COCs currently identified for Site 8 soil, namely, lead, dieldrin, aroclor-1254, aroclor-1260, and total polychlorinated biphenyls (PCBs), we offer the following comments:

    - For clarity, please explain in the PP the basis for selecting the RAOs as listed in Table 11.
    - The proposed RAO for lead is 230 mg/kg, which according to the final FS report, is calculated based on DTSC's 2003 LeadSpread model. The current Cal-modified PRG for lead is 150 mg/kg. DTSC concurs with 230 mg/kg of lead as the RAO for lead at Site 8 on the basis that the lead-impacted soil is mostly limited to the north-east corner of Site 8 and is relatively small (Also, there appears to be an error on page 6 of the PP

where the highest concentrations of lead is reported to be observed in the "northwest" corner of the site).

- The proposed RAO for dieldrin is 0.03 mg/kg which is based on 2004 residential PRG. There is no Cal-modified PRG for dieldrin. DTSC concurs with this RAO selection.
- The proposed RAOs for PCBs are 0.22 mg/kg for aroclor-1254 or aroclor-1260 and 1 mg/kg for total PCBs. The current residential PRG for PCBs are 0.22 mg/kg for high risk un-speciated mixtures (e.g. aroclor-1254 and aroclor-1260) and 0.39 mg/kg for low risk unspeciated mixtures (e.g. aroclor-1016). DTSC will consider RAOs for PCBs at Site 8 as follows: 0.22 mg/kg for the sum of aroclor-1254 and aroclor-1260 and 1 mg/kg for total PCBs.

37. **Proposed Remediation Area**: Please depict the proposed excavation area on a map (e.g. Figure 5 of the PP).

38. **Groundwater Contamination**: As stated in Comment #37, DTSC continues to believe further characterization, as part of the remedial design, is necessary to gain a complete understanding of the nature and extent of the groundwater contamination at Site 8. Upon review of the data gap sampling results, DTSC will be able to determine if there is a non-petroleum plume underneath Site 8, if it is commingled with the petroleum plume originating from the fuel line south of the site (see comment below), and if remediation under the CERCLA program is warranted.

39. **Need for Groundwater Remediation**: Site 8 is identified as petroleum corrective action area (CAA)-8 due to its dowgradient location to a fuel line situated south of the site boundary. It is, therefore, inappropriate to state that no action is required for groundwater at Site 8 (see pages 7 and 14 of the PP). As stated in Comment #29, the PP should discuss the petroleum contamination and its mitigation at Site 8 to allow the community to understand the site better.

Site 16 (Shipping Storage Container Area)

40. **Additional Data Gaps**: The PP has only acknowledged the need of further characterization at the oil-water separators (OWS-608A and OWS-608B) and the PCB excavation area (see pages15 and 16 of the PP). DTSC believes additional data gaps exist at IR Site 16. Please refer to Comments #42 through #49 below for discussions on additional data gaps.

41. **SWMU Evaluation (OWS-608A and 608B)**: Please sample directly underneath, rather than adjacent to, the oil water separators whenever possible.

42. **SWMU Evaluation (WD-608)**: Based on observations made during the site visit on December 5, 2005, DTSC concurs with the NFE recommendation for WD 608. Due to the size and condition of the washdown area, previous sampling performed directly beneath the washdown area is sufficient.

43. **SWMU Evaluation (UST(R)-18/GAP 17)**: Per SWMU closure report, further action is recommended for UST(R)-18/GAP 17. Please reflect this in the PP and conduct proper characterization as part of the remedial design.

44. **SWMU Evaluation (AST 608)**: Based on observations made during the site visit on December 5, 2005, DTSC concurs with NFE for AST 608 on the basis that this tank is mounted on a concrete pad with secondary containment.

45. **SWMU Evaluation (AST-338-A1)**: DTSC concurs with the NFE recommendation for this AST-338-A1 on the basis that this tank was used to store propane.

46. **Sewers**: DTSC requests evaluation of the storm drain and sanitary sewers at IR Site 16 with respect to their potential for exfiltration.

47. **Building 608 and the Scrapyard**: DTSC continues to question whether Building 608 and the scrapyard are sources of contamination. However, additional delineation of the horizontal and vertical extent of the plume should assist in addressing these concerns. Please refer to Comment #48 below for further discussions.

48. **Lateral and Vertical Extent of the Plume**: The PP should clearly state that additional sampling (34 sampling locations with samples collected at 5, 8 and 18 feet below ground surface) will be carried out as part of the remedial design to fully delineate the lateral and vertical extent of the groundwater plume at Site 16. Currently, this proposed sampling is not discussed in the PP and the only place the reviewer can find such information is on page C-35 of Appendix C of the Final FS. Please strive for better clarity and transparency in the PP.

49. **Spikes in Groundwater Metal Concentrations**: In Summer 2004, lead was again detected at an elevated concentration in groundwater (270 ug/L) at well 608MJ-MW2. Elevated cadmium was also detected during this round. DTSC requests that the Navy clarify, as part of the remedial design, whether this spike in metals could be related to the in-situ chemical oxidation (ISCO) activities conducted as part of the removal action at Site 16. DTSC also requests that continued quarterly monitoring for metals in the vicinity of Site 16 removal action is performed as part of the Basewide Groundwater Monitoring Program to verify that levels of metals have declined and remain below screening levels.

50. **RAOs for Soil:** The future land use at IR Site 16 is residential. DTSC concurs that the RAOs for any COCs identified during the design phase sampling will be based on residential PRGs. Rationales should be provided if the more stringent Cal-modified PRGs are available but are not selected.

51. **RAOs for Groundwater**: Aside from the fact that the RWQCB has determined that the aquifers east of Saratoga Street should be protected for domestic uses, existing potential domestic supply wells are reportedly located in the immediate vicinity of Site 16. Furthermore, the aquitard separating the shallow and deep aquifers is known to be thin or absent at the southeastern portion of Alameda Point property. DTSC has determined that 1) MCLs are ARARs for IR Site 16 and 2) groundwater at Site 16 must be cleaned up to meet MCL standards. Please revise the RAOs described in the PP (page 16 and Table 14) accordingly.

Additional comments from DTSC Public Participation Unit will be forwarded under a separate cover. If you have any questions regarding our comments, please do not hesitate to contact me at 510-540-3767 or mliao@dtsc.ca.gov.

Sincerely,

Marcia J. Liao

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