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ALAMEDA POINT
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10 Mar 2006

Mr. Anna-Marie Cook
United States Environmental Protection Agency
Region IX
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San Francisco, California 94105-3901

Ms. Dot Lofstrom
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Ms. Judy Huang
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Alameda Point Federal Facilities Agreement Members:

**SUBJECT: DRAFT FINAL PROPOSED PLAN FOR OPERABLE UNIT 1 (IR SITES 6, 7, 8,
AND 16), FORMER NAS ALAMEDA, ALAMEDA POINT, CALIFORNIA AND
RESPONSE TO COMMENTS**

Enclosed is a copy of the Draft Final Proposed Plan for OU-1 and Response to Comments. The Navy has incorporated your comments on the Draft Proposed Plan into this version.

Please note that this Draft Final Proposed Plan is not suitable for public release. In accordance with Section 10.2 of the Federal Facility Agreement, this document is scheduled to become final on April 7, 2006. If you have any questions or comments, please call Mr. Steven Peck at (619) 532-0786 or me at (619) 532-0907.

Sincerely,

THOMAS L. MACCHIARELLA
BRAC Environmental Coordinator
By direction of the Director

Enclosure: 1. Draft Final Proposed Plan For Operable Unit 1 (IR Sites 6, 7, 8, and 16), Former NAS Alameda, Alameda Point, California and Response to Comments

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RESPONSES TO REGULATORY AGENCY COMMENTS ON THE DRAFT PROPOSED PLAN, OPERABLE UNIT 1, INSTALLATION RESTORATION SITES 6, 7, 8, AND 16, ALAMEDA POINT, ALAMEDA, CA

This document presents the U.S. Department of the Navy's (Navy) responses to comments from the U.S. Environmental Protection Agency (EPA) Region IX and the California Department of Toxic Substances Control (DTSC) on the "Draft Proposed Plan, Operable Unit 1, IR Sites 6, 7, 8, and 16, Alameda Point, Alameda, CA" submitted in October 2005. The Navy received the comments addressed below from the EPA on December 12, 2005, and from DTSC on December 29, 2005.

RESPONSES TO EPA COMMENTS

Comments provided by Anna-Marie Cook, Remedial Project Manager

General Comments

- 1. Comment:** This Proposed Plan needs substantial revision. EPA requests that the Response to Comments be submitted 30 days after receipt of these comments and the draft final Proposed Plan be submitted 30 days after the submittal of the RTCs. The current PP is too lengthy, discusses an unnecessary amount of background information while missing some relevant explanations and contains substantial errors. Additionally, EPA disagrees with some significant aspects of this PP (e.g., Site 6 RAOs, Site 6 preferred remedy, Site 16 RAOs).

Response: As requested, these responses to comments are being provided prior to submittal of the proposed plan, and submittal of the proposed plan will be delayed until thirty days after submittal of the response to comments. The proposed plan will be shortened and address comments from the agencies, as indicated in this document.

- 2. Comment:** The case for PAHs not being COCs is incorrectly made throughout this PP. The apparent reason for not taking action to clean up PAHs is that they are not site related and their presence can be attributed to dredged material used as fill. However, on other portions of the base, PAHs present in fill from dredged materials are being cleaned up, so that line of reasoning is not solid. Rather, the PP should state, in a fashion similar to that presented in the Site 15 PP, that PAHs are present in the soil at levels below the threshold action level of 1.0 ppm and below the site average action level of 0.62 ppm. These low concentration levels provide a sound reason for taking no action. Please apply this line of reasoning and explanation throughout the document.

Response: The Navy and the agencies established the risk screening criterion of 0.62 mg/kg, and a threshold level of 1.0 mg/kg for PAHs in soil at

Alameda Point during a meeting in May 2001 (Navy 2001).

The proposed plan will be revised to clarify that polynuclear aromatic hydrocarbons (PAHs) were not discounted in the Human Health Risk Assessment (HHRA) as chemicals of concern (COCs) solely because of their source. Based on the data used to perform the HHRA the following was determined:

The PAH concentrations for soil at Site 6, expressed as B(a)P equivalents, range from nondetect to 0.9 milligrams per kilogram (mg/kg) and the site average concentration was calculated to be 0.019 mg/kg.

The PAH concentrations for soil at Site 7, expressed as B(a)P equivalents, range from 0.3 to 10 mg/kg and the site average concentration was calculated to be 0.42 mg/kg.

The PAH concentrations for soil at Site 8, expressed as B(a)P equivalents, range from nondetect to 9 mg/kg and the site average concentration was calculated to be 0.32 mg/kg.

The PAH concentrations for soil at Site 16, expressed as B(a)P equivalents are below the 0.62 mg/kg value.

Although there were some locations where the PAH concentrations exceeded the threshold screening concentration of 1.0 mg/kg, risk from these concentrations is within the risk management range. Therefore, the Navy decided that no further action was warranted for PAHs for soil at Site 6, 7, 8, and 16.

Text will be added to the proposed plan to indicate that PAHs are not a COC at Sites 7 and 8 and are below the site average action level. Text will be added to indicate that PAHs are not a COC at Site 6 and 16 and are below the threshold action level and the site average action level.

3. **Comment:** **Please note that the FS stated that groundwater samples would be taken beneath all OWS per EPA's request. This piece of information needs to be included for all sites in this PP. EPA would not object to the Navy performing this sampling at the RD stage so long as a reopener provision is included in the ROD.**

Response: As presented in the proposed plan, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to oil-water separators (OWS) within Sites 6, 7, 8, and 16. Additional sampling of groundwater to further delineate the volatile organic compound (VOC) plumes at Sites 6 and 16 was also agreed to in the feasibility study (FS) report and will be added to the proposed plan.

4. **Comment:** **The RI and FS overviews should be shortened and combined. The PP is extremely cumbersome to read in its current format.**

Response: The remedial investigation (RI) and FS overviews will be shortened and

combined.

5. **Comment:** **The comparison of alternatives should be done in tabular format similar to that of Site 28 PP. The preferred alternative can be described in greater detail in text, perhaps in a boxed format to emphasize it.**

Response: The proposed plans for both Operable Unit (OU)-1 and Site 28 include comparative analysis of alternatives tables. The preferred alternative will be described in greater detail in a boxed format.

6. **Comment:** **Site 6:**

As EPA stated in our letter of July 18, 2005, we do not agree with the clean up goals stated for Site 6. The stated RAOs appear too high to be protective of even the industrial receptor. In the worst case scenario, there may be a 1:1 degradation of PCE, TCE and DCE to vinyl chloride which would result in significantly higher risk levels from inhalation to not only residential but industrial receptors. Since the groundwater at Site 6 is Class II (although unlikely to be used as drinking water) and the area is within the zone designated for protection by the RWQCBs Basin Plan, EPA reiterates that MCLs, or the equivalent, should be used as RAOs. The level for vinyl chloride should be set similar to that used for Site 26, and PCE, TCE and DCE should be substantially lowered to account for potential degradation to vinyl chloride.

In addition, EPA does not agree with the proposed remedy for Site 6. Thirty years is a long time for a remedial action when there are two reasonable alternatives that only take 3 to 4.5 years. In addition, the stated proposed remedy uses MNA as a component of the remedy. The lines of evidence to support MNA have not been established for Site 6 or any other site at Alameda Point, and in fact every indication to date has been that the degradation process stalls at the vinyl chloride stage. If the Navy wants to pursue an MNA remedy it will be necessary to make the remedy an interim remedy. EPA requests that the proposed remedy for Site 6 be changed to Alternative 4A or 4B.

Response: Based on the Alameda Point reuse amendment, the future land use for Site 6 is commercial/industrial. Consequently, the Navy had proposed a remedial action objective (RAO) that is protective of this likely reuse scenario. Based on the Beneficial Uses of Groundwater report, the risk assessment concluded that ingestion of groundwater at Site 6 is an incomplete pathway as it is unlikely to be used as a drinking water source. The risk assessment identified inhalation by a commercial/industrial receptor of vapors in indoor air that may migrate from groundwater contaminated with VOCs as the potential risk. The RAO for groundwater at Site 6 was therefore to protect commercial/industrial receptors from this potential risk.

However, based on a teleconference call held between the Navy and the Agencies on February 16, 2006, the Navy understands that the groundwater underlying Site 6 is currently designated under the RWQCB's Basin Plan as suitable for drinking water supply. The Navy reserves its right to demonstrate that this groundwater meets the exemption criteria in the State Water Resources Control Board Source of Drinking Water Policy Resolution 88-63. Until the Navy obtains concurrence that this portion of the aquifer meets the exemption criteria, MCLs will be used as the remedial goals for the Site 6 groundwater.

The RAO paragraph will be rewritten as follows: *The RAOs for the groundwater underlying Site 6 are (1) to protect the beneficial use of the aquifer and (2) to minimize the potential risk of exposure through inhalation of a commercial worker to COCs in the groundwater. The groundwater beneath Site 6 is unlikely to be a potential source of drinking water as explained in the RI and FS; however, this aquifer is currently designated in the RWQCB's Basin Plan as suitable for drinking water supply. Based on this designation, the preliminary remedial goals for the Site 6 groundwater will be the maximum contaminant levels (MCLs) (see Table 4) until the Navy obtains concurrence that this portion of the aquifer is exempt from the drinking water designation. The preliminary remedial goals in Table 4 will also minimize the potential risk to a commercial worker posed by breathing vapors in indoor air that may migrate from the groundwater contaminated with COCs. Remedial goals are finalized in the ROD.*

The Navy agrees that vinyl chloride is a common degradation product in groundwater at Alameda Point. However, the empirical evidence does not support adopting an overly conservative approach of assuming that the vinyl chloride concentration in groundwater is cumulative from the degradation of all other chlorinated hydrocarbons. The preferred remedial alternative consists of an active treatment phase (to remove the bulk of the parent chlorinated hydrocarbon compounds that can degrade to vinyl chloride). Provided the active remediation phase achieves the remedial goals that are protective of the commercial/industrial reuse scenario and institutional controls (ICs) are used to prevent exposure of hypothetical residential receptors to vapor inhalation, the Navy believes its preferred alternative is protective of human health.

The reference made in the Proposed Plan to 30 years of MNA for Alternative 3 was an error. The intent of MNA is to complement the use of active treatment. It is anticipated that the remedial action will support geochemical conditions favorable to MNA. The remedial design will describe how to evaluate and implement the MNA program consistent with EPA MNA guidance documents. Testing can also be conducted to evaluate the presence of the microbial species responsible for biotic degradation (e.g. Dehalococcoides).

The Navy proposes to modify both Alternative 3 and 4 by combining the ISCO and bioremediation (HRC) subalternatives into a single alternative. This will allow more flexibility in treating the site through a combination of abiotic and biotic processes. The intent of each alternative is described below.

Alternative 3: Active Treatment to reduce risk to Commercial/Industrial Workers with *In Situ* Chemical Oxidation (ISCO) and Accelerated Bioremediation, MNA, and ICs

The Navy intends to eliminate subalternatives 3A and 3B and instead use both ISCO and accelerated bioremediation as a treatment train for Alternative 3. The concept behind this remedial action will be to use ISCO to reduce hot spots followed by accelerated bioremediation of the dissolved plume to the point that accelerated bioremediation achieves groundwater concentration levels that are protective for commercial/industrial property reuse. MNA would then be implemented until the RGs (i.e. MCLs) are achieved. MNA may also be employed initially on the fringes of the plume where the concentrations are close to the MCLs. The remedial design will define the actual performance goals for ISCO, accelerated bioremediation, and MNA.

In addition to treating groundwater, ICs would be established to restrict residential land use. The ICs would also protect the groundwater monitoring system. Five-year reviews would be conducted subsequent to the remedial action. The ICs would remain in place until the potential risk presented by the groundwater was within the risk management range allowable for residential use of the property.

Alternative 4: Treatment to Remedial Goals with *In Situ* Chemical Oxidation (ISCO) and Accelerated Bioremediation, MNA, and ICs

The Navy intends to eliminate subalternatives 4A and 4B and instead use both ISCO and accelerated bioremediation as a treatment train for Alternative 4. The concept behind this remedial action will be to use ISCO to reduce hot spots followed by accelerated bioremediation of the dissolved plume to the point that accelerated bioremediation achieves the RGs (i.e. MCLs). If accelerated bioremediation reaches an asymptotic level of concentration above the RGs, then MNA would be implemented until the RGs is achieved. MNA may also be employed on the fringes of the plume where the concentrations are close to the RGs. The remedial design will define the actual performance goals for ISCO, accelerated bioremediation, and MNA.

As with Alternative 3, ICs would be established to restrict residential land use. The ICs would also protect the groundwater monitoring system. Five-year reviews would be conducted subsequent to the remedial action. The ICs would remain in place until the potential risk presented by the groundwater was within the risk management range allowable for residential use of the property.

The Navy prefers Alternative 4 over Alternative 3 because it accomplishes the RAOs in a reasonable timeframe.

7. Comment: Site 7:

The explanation for taking no action for groundwater at Site 7 needs to be expanded and clarified. First, as EPA has stated in comments on the RI and the FS, arsenic is not at background levels. The risk is at 2×10^{-3} , which is ten times higher than the background level. The Navy has recently stated that the high levels of arsenic and PAHs are secondary effects due to the presence of the TPH plume that is undergoing treatment at the site. EPA's position is that if the arsenic is being mobilized due to a release of TPH, it is not naturally occurring and is therefore a release itself. Since we consider the water beneath Site 7 to be Class III and there does not appear to be an unacceptable risk, we do not require remediation for arsenic or the PAHs. However, we want the explanation for the presence of the contaminants to be revised to explain that they are not background and the Navy to acknowledge that the RWQCB does protect this portion of the groundwater under its Basin Plan. The Board has stated to EPA that they believe that the TPH clean up program will take care of the PAH problem and may eventually take care of the arsenic. The Board has stated that they expect the Navy to have achieved background levels for arsenic within 10 years and will consider taking additional action if this is not the case. EPA recommends that the PP better explain the ongoing TPH cleanup so that the public has a clearer picture of the action being taken at this site.

Why is the risk presented in Table 2 for soil in the "non-debris" area higher than the risk in the "debris" area? Action is being taken to mitigate the risk in the debris area and it seems only appropriate that action be taken in the seemingly more contaminated "non-debris" area too. Risk due to background arsenic should contribute approximately 2×10^{-5} , and risk from PAHs at the screening level will give an additional 1×10^{-5} , for a total of 3×10^{-5} , which is what we typically see as a background soil risk at other sites at Alameda Point. The risk presented in Table 2 of 2×10^{-4} therefore appears site related and as such warrants a soil

remedy, especially in light of the fact that the area is designated for residential use.

Response: As acknowledged by EPA, the Navy believes that arsenic and PAHs in groundwater are being mobilized due to a release of total petroleum hydrocarbons (TPH) and will return to background concentrations after completion of the TPH cleanup action. The proposed plan will better describe the ongoing TPH cleanup action and its expected affect on the arsenic and PAHs in groundwater.

The site risk outside of the debris area includes risk from soil and groundwater (as shown in Table 2) and the debris area includes risk from soil only. Table 2 will be revised to show risk from soil (non-debris area), soil (debris area), and groundwater separately.

8. Comment: Site 8:

Site 8 also needs additional and current information and explanation to be included in the PP. The PP should state that soil and groundwater samples will be taken at the RD/RA stage when removing the OWS. Recent sampling from the groundwater monitoring program has shown detections of benzene and heptachlor in excess of MCLs. The IR 35 sampling program is going to take additional samples for PCBs and pesticides in soil and groundwater in the northern portion of the site and the results of these samples will need to be taken into account when drafting the Record of Decision. If significant concentrations of contaminants are discovered during the IR 35 pre-ROD sampling we will determine whether it was necessary to pull this site from the ROD and do an FS to evaluate GW remedies.

Response: As presented in the proposed plan, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWSs within Site 8 during the remedial design phase. The Navy will continue to monitor groundwater as part of the groundwater monitoring program and will evaluate the results of the planned Site 35 pre-ROD sampling when they are available to determine whether further action is appropriate.

9. Comment: Site 16:

The RAOs stated in the table for Site 16 are incorrect and need to be replaced with MCLs.

Response: The Navy concurs with EPA that MCLs are applicable or relevant and appropriate requirements (ARARs) at Site 16. According to the Beneficial Uses of Groundwater report, the FWBZ beneath Site 16 is connected to another Class II aquifer (Merritt Sand) that is a drinking water source for off-base wells. The proposed plan, including the remedial goals, will be revised accordingly.

10. Comment: ARARs:

Please refer to the attached memo for an explanation of when and which ARARs are appropriate to include in the Proposed Plan. Description of ARARs beyond that outlined in the memo should be deleted from this and all future PPs.

In each table comparing soil alternatives in the PP, the excavation alternative is rated “high” for reduction of toxicity, etc through treatment. This is not appropriate since there is no treatment.

Response: Navy legal counsel discussed ARARs with EPA legal counsel in early January 2006. Please see the attached revised ARARs file.

In the comparative analysis of soil alternatives tables, the excavation alternative rating for reduction of toxicity, mobility, or volume via treatment will be revised to a rating of “low.”

Specific Comments

1. **Comment:** **Page 3, first paragraph: State that the removal action at Site 16 was for PCBs and lead in soil.**

Response: The proposed plan will be revised to indicate that the removal action at Site 16 was for polychlorinated biphenyls (PCBs) and lead in soil and that it resulted in successfully lowering PCB concentrations to below the residential risk based action level of 1 milligram per kilogram (mg/kg).

2. **Comment:** **Page 4, second paragraph: Please delete the first sentence from this paragraph and all remaining sites. It serves no purpose.**

Response: This sentence will be removed from the proposed plan.

3. **Comment:** **Page 9, first bullet in boxed text: EPA requires a prohibition on residential use of the property until the equivalent of MCL levels are achieved in groundwater.**

Response: The Navy disagrees with the comment. The Navy believes that ICs would remain in place until the potential risk presented by the groundwater was within the risk management range allowable for residential use of the property. The risk pathway of potential concern for residential use of property in this case is volatilization. The Navy requests EPA to provide reference to regional or national policy supporting its position that EPA requires a prohibition on residential use of the property until MCL levels are achieved in groundwater.

4. **Comment:** **Page 12-13: The first paragraph under “Site 6 Feasibility Study Summary for Groundwater” is not internally consistent, and is confusing. If the RAO is to protect residents, why are the numbers stated as being calculated for commercial/industrial use?**

- Response: See response to EPA general comment 6 above.
5. **Comment:** **Page 12-13: The RAOs are extremely high and no explanation is given of how they were calculated. Are they protective for inhalation? These numbers are much higher than those used for Site 14 and 26 and EPA would require ICs prohibiting residential use of the property until levels of contaminants equivalent to MCLs are reached in the groundwater.**
- Response: See the responses to EPA general comment 6 above and EPA specific comments 3 and 4 above. The proposed plan will clarify that the remedial goals are based on the commercial/industrial reuse of the site and are protective of the commercial/industrial worker indoor air pathway. For Sites 14 and 26, the Navy made site-specific decisions to remediate to residential goals because the cost associated with treatment to unrestricted use at these sites are expected to be comparable to the cost of cleaning up to the planned future reuse at these sites, plus the life-cycle costs of longterm ICs and monitoring.
6. **Comment:** **Page 12-13: The ICs mentioned for Alternative 3 would prohibit domestic use of groundwater, but not residential use of the property. EPA would require prohibition of residential use of the property unless the RAOs were set equivalent to the MCL.**
- Response: See response to EPA specific comment 3.
7. **Comment:** **Page 12-13: The proposed alternative cannot be considered an active remedy, which is EPA's preference for this site, with 30 years of MNA. In addition, MNA is an unproven technology for Alameda Point. Given the long timeframe, the questionable success of MNA and the high levels of the proposed RAOs, EPA does not agree with the proposed alternative for Site 6.**
- Response: See response to EPA general comment 6.
8. **Comment:** **Page 13 indicated that Alternative 3B is preferred partly because Alternative 2 will take much longer (second bullet). However, the writeups on page 12 have 30 years of MNA for both Alternative 2 and 3.**
- Response: This text will be revised to be more consistent with the FS report and more accurately describe the alternatives.
9. **Comment:** **Page 16: The text in the first paragraph says that the RGs are based on the MCLs. But the numbers in Table 14 are not the MCLs.**
- Response: See the response to EPA general comment 9.
10. **Comment:** **Page 16: It is not clear what the difference is between Alternatives 3 and 4.**
- Response: The proposed plan will be revised to more clearly indicate the difference between Alternatives 3 and 4 for Site 16.

The Navy also proposes to modify both Alternative 3 and 4 by combining the ISCO and bioremediation (HRC) subalternatives into a single alternative. This will allow more flexibility in treating the site through a combination of abiotic and biotic processes. The intent of each alternative is described below.

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The Navy intends to eliminate subalternatives 4A and 4B and instead use both ISCO and accelerated bioremediation as a treatment train for Alternative 4. The concept behind this remedial action will be to use ISCO to reduce hot spots followed by accelerated bioremediation of the dissolved plume to the point that accelerated bioremediation achieves the RGs (i.e. MCLs). If accelerated bioremediation reaches an asymptotic level of concentration above the RGs, then MNA would be implemented until the RGs is achieved. MNA may also be employed on the fringes of the plume where the concentrations are close to the RGs. The remedial design will define the actual performance goals for ISCO, accelerated bioremediation, and MNA.

As with Alternative 3, ICs would be established to restrict residential land use. The ICs would also protect the groundwater monitoring system. Five-year reviews would be conducted subsequent to the remedial action. The ICs would remain in place until the potential risk presented by the groundwater was within the risk management range allowable for residential use of the property.

The Navy prefers Alternative 4 over Alternative 3 because it accomplishes the RAOs in a reasonable timeframe.

11. Comment: Page 16: MCLs are ARARs for Site 16 and therefore need to be used as the RAOs.

Response: See the response to EPA general comment 9.

Comments on ARARs in Proposed Plans for Alameda Point and in the OU-1 Proposed Plan

1. Comment: It is not necessary, and can be distracting, to include in a proposed plan an extensive discussion of ARARs. EPA recommends that ARARs discussions in a proposed plan be limited to the following:

- 1. EPA's ROD guidance indicates that the proposed plan should include the preliminary remediation goals and their basis, if appropriate (OSWER 9200.1-23P, p. 3-4 and 3-5). Therefore, if the remedial goal is based on an ARAR (e.g. an MCL), that should be stated in the proposed plan.**
- 2. The ROD guidance also indicates that a key component of the proposed plan is an explanation of the differences between the proposed alternative and the other alternatives, and specifically states that the proposed plan may include key ARARs that must be attained by the preferred alternative but not other alternatives (p. 3-6).**
- 3. The NCP indicates that the proposed plan should discuss any proposed ARAR waivers. Note that this does not require discussion of any regulations the Navy has decided are not ARARs, but only of regulations that are ARARs, but for which the Navy is proposing a waiver. (40 CFR 300.430(f)(2)(iv) and ROD guidance p. 3-6).**

Neither the ROD guidance nor the NCP even suggests that all ARARs should be included in the proposed plan, nor that the proposed plan needs to include a discussion of regulations that are not considered to be ARARs. Rather, the key is informing the public. As stated in the NCP, the proposed plan "briefly describes the remedial alternatives analyzed by the lead agency, proposes a preferred remedial action alternative, and summarizes the

information relied upon to select the preferred alternative.” To the extent that an ARAR is significant to the remedy selection process – e.g., if it is used to set cleanup levels or distinguish the preferred alternative from other alternatives – it should be included. A listing of numerous ARARs, on the other hand, does little to inform the public as to how the preferred alternative will work and why it was selected, and, frankly, could very well be more confusing than helpful.

The ARARs discussion in the OU 1 proposed plan is not only unnecessary, but it also has numerous problems. In general, it is nothing more than a laundry list, with no explanation of what any specific requirement is, why it is an ARAR, or how it would be used in the remediation. More specific concerns include: Why include 42 USC 121 regarding alternative concentration limits? How were the RCRA groundwater protection standards used in developing remedial goals? What specific portions of the Basin Plan are ARARs? Why are the sections from Porter-Cologne ARARs? Why is the Inland Surface Waters Plan included, when it is not in effect? (Does the Navy mean the SIP, and if so, why is the SIP an ARAR?) Why is 88-63 is an ARAR? How is the public informed by a discussion of the historical disagreement over whether 68-16 should be an ARAR? (If the concern is to give the State the opportunity to comment on whether requirements such as 68-16 should be ARARs, they have the opportunity to raise such issues, and bring disputes, at either the FS or ROD stage.) Please note that EPA is pointing out these specific concerns to illustrate why the lengthy ARARs portion of this PP is confusing and does not inform the public. We are not suggesting that the ARARs discussion be lengthened to respond to these comments. Rather, as discussed above, our preference is for the ARARs discussion to be shortened.

Response: See the response to EPA’s general comment 10. The concerns raised in this comment are noted, and the ARAR discussion in the proposed plan will be revised to include only the significant ARARs, with a brief discussion of why the specific ARARs are relevant.

Comments provided by David Cooper, Community Involvement Specialist

1. **Comment:** The Navy did a good job of getting the critical information on the front page in a readable way.

Response: Comment noted.

2. **Comment:** At 22 pages (counting the comment form), the plan is long. It's obvious that someone worked hard to compress a lot of information on 4 separate sites (with a number of buildings), but additional

efforts should be made to drop the page count under 20 pages. A number of my comments are examples of where there are redundancies or extraneous information that could be eliminated to reduce page count, while not impacting the reader's ability to understand and comment. While it's a small thing, an example of true, but unimportant, information is the reference that Building 391 is 2,000 square feet; another is the 1,840 foot distance of Site 7 to Seaplane Lagoon; a third is providing the date when the buildings were constructed.

Response: The proposed plan will be shortened and revised to eliminate unnecessary information.

3. **Comment:** It appears that the Alternatives sections were written to be nearly free-standing, thus there are a number of cases where the same language appears in all of them, such as "A more detailed discussion ... can be found in the FS." This could be written one time in an earlier section. The parenthetical on the tables could be shortened to "(see Table 11). Little deletions or removal of repetitions sometimes help readability.

Response: The proposed plan will be revised to limit repetitive references, and to shorten or remove parenthetical text in the tables.

4. **Comment:** I also want to note that the Navy did a good job with many of the tables and maps (good size and placement). The text is not in columns, which makes it somewhat more difficult to read. A layout professional might have been able to improve the general look and feel of the document. The paragraphs are often large, which impacts readability. There is a recurring grammar problem with the use of "and" where there are two items grouped then a third item that is separate. I believe that the proper rule is to place a comma between the related couple and the unrelated couple. For example: "we need to review and comment, and send the document on its way."

Response: The proposed plan will be reformatted into a two column layout and grammatical errors will be corrected.

5. **Comment:** As with other plans, the Navy continues to do a comparative analysis of the No Action Alternative. My understanding is that when the No Action Alternative is Not Protective (and sometimes the facilities argue that it is protective), then it can't be selected and should not be further analyzed in the balancing criteria.

Response: The No Action alternative is required by the National Contingency Plan (NCP) in the Code of Federal Regulations at Title 40, Part 300.430(e)(6). It is also discussed in EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, which states, "The no-action alternative provides a baseline for comparing

other alternatives.”

6. **Comment:** For the RAO tables, it would be helpful to know what the current concentrations are. For example, if the concentrations were on an order or two of magnitude above the goal, an MNA option might be more attractive than if concentrations were two to four times the goal, in which case more active treatment would seem advisable.

Response: The proposed plan will be revised to indicate the concentrations of the COCs.

7. **Comment:** A word about the comparison tables. The use of circles and half-circles can mask important comparison information. Usually, this is not true when there is only 2 or 3 options. But when there are five and two sets are variations on a theme, the simple bullets items in the justification are inadequate to explain how the Navy came up with the ratings. In a proposed plan, tables usually work much better when there is more information, not symbols (in an FS, there is infinite space to explain what each table symbol means, and qualify/quantify the differences).

Response: See response to EPA General Comment #5.

8. **Comment:** It is not necessary to have a list of ARARs, only to identify ARAR issues (i.e., where the regulators and Navy disagree on a particular ARAR and that difference changes the viability of the Alternatives under consideration). This is a terrible waste of space and reading time, and makes the document a nearly two pages longer than necessary. Since it is absolutely necessary that all viable cleanup options meet the ARAR threshold, reading them does not help the potential commenter differentiate between options or identify a preferred alternative -- each options's ARARs apply, except the No Action Alternative.

Response: See the response to EPA's general comment 10. The presentation of the ARARs in the proposed plan will be revised.

9. **Comment:** First Page. There are a lot of formatting errors on this page, large gaps in the text. One way that might address this is to put the Comment Period and Public Meeting block at the bottom, which would allow the columns to be wider, which might make for fewer voids -- this is not a request, just a thought. I definitely like that this critical information is prominently displayed.

Response: The proposed plan will be reformatted into a two column format, and the public comment period and public meeting information will be relocated to the bottom of the first page.

10. **Comment:** First Page. I blew by the asterisk. Maybe you could bold it and/or make it bigger to make sure that readers catch it.

Response: The proposed plan will be revised to make the asterisk more visible.

11. **Comment:** **First Page. The last paragraph repeats information from the first regular-text paragraph. It could be shortened by deleting "...the preferred alternatives for 6, 7, 8 and 16."**
- Response: The proposed plan will be revised to limit repetitive references, such as the referenced phrase.
12. **Comment:** **Second Page. I always tell bases that the jargon section on authorities (CERCLA and NCP) is in impediment to readability and provides no useful information about the remedies. Have you ever considered squeezing it into a small footnote or shoving it in the back of the fact sheet? To my knowledge, there is not requirement for where such information must be placed.**
- Response: The Navy believes that the proposed plan should inform the public that the plan must and does comply with CERCLA and NCP. Furthermore, it is important to present this information early in the document to provide the public with the regulatory context for the plan.
13. **Comment:** **Second Page. The second paragraph contains information from the last paragraph of the first page.**
- Response: Because much of the information provided in the referenced paragraph is presented in other sections of the proposed plan, it will be deleted.
14. **Comment:** **Third Page. The last sentence of the first paragraph says some of the same information as the last paragraph on the previous page.**
- Response: The proposed plan will be revised to limit repetitive text, including the referenced text.
15. **Comment:** **Third Page. There are a number of sentence in the site-specific pages about numerous investigations having been performed. It could save space to simple put that comment on this page and delete it from subsequent pages.**
- Response: The proposed plan will be revised to limit repetitive text, including the referenced text, and the RI and FS background sections will be combined.
16. **Comment:** **Fourth Page. The paragraphs could be shortened. The last sentence seems like it belongs somewhere in the second paragraph. The COCs are the point of departure for the risk numbers.**
- Response: The text will be shortened and extraneous information will be removed, including the last sentence in the first paragraph. The last sentence on page 4 will be revised to clarify that the groundwater risk is attributed to the COCs.
17. **Comment:** **Fifth Page. The last sentence of the first paragraph seems to be missing one or more articles.**
- Response: The last sentence will be revised to state that Site 7 is also designated as corrective action area (CAA)-7 due to the presence of petroleum

contamination, which is being addressed under the Navy's TPH program in cooperation with the Water Board.

18. **Comment:** **Sixth Page. I didn't understand the reference to "GAP 3."**
Response: The text will be revised to clarify that generator accumulation point (GAP) 3, a small room located on the first floor of Building 114, was used as a hazardous waste storage area.
19. **Comment:** **Seventh Page. The last paragraph is a good example of too much information. The paragraph describes early sampling that lead to later sampling that lead to conclusions. It's enough to say something like: "this is what we found when we sampled."**
Response: This text will be condensed as requested.
20. **Comment:** **Eighth Page. The second paragraph could be reduced to about one sentence. Some of the information is not necessary.**
Response: The paragraph will be revised to eliminate unnecessary details and to better summarize the removal action.
21. **Comment:** **Eighth Page. I think you need a comma in the middle of the third paragraph after "... recreational scenarios..." An editor should check for other instances of multiple uses of the word "and" in a sentence where it might be useful to have commas to make it read more easily.**
Response: Grammatical errors will be corrected.
22. **Comment:** **Ninth Page. Institutional Controls box. I was confused by the third bullet which references groundwater but is talking about indoor air. Also, the phrase ICs "will be incorporated" sounds pre-decisional.**
Response: The third bullet will be revised to read, "Require vapor removal systems in existing buildings located above groundwater plumes where vapor monitoring has indicated that VOCs in groundwater are migrating to indoor air at concentrations that exceed the indoor air remedial goals." The phrase "will be incorporated" will be replaced with the phrase "would be incorporated."
23. **Comment:** **Tenth Page. You used the word you're defining in the definition for #4.**
Response: Based on a teleconference call held between the Navy and the Agencies on February 16, 2006, the EPA indicated to leave it the way it is.
24. **Comment:** **Eleventh Page. There is redundancy in the chemical list between paragraphs one and two.**
Response: The two sentences will be combined and revised to eliminate redundancy.
25. **Comment:** **Twelfth Page. I was confused by the text. I think I understand that Options 3a and 3b are cleaning to industrial standards and 4a and**

4b are to residential standards. If that is so, I'd put it in the titles, e.g., "Treatment to Industrial/Commercial Standards using in-Situ..." and "Treatment to Residential Standards using ISCO..."

Response: See the response to EPA specific comment 10.

- 26. Comment: Twelfth Page. I was confused by the same 30 years of MNA for Options 2, 3 and 4. It seems like Option 2 gets you to the same spot, even if the others get you there much faster. This is the first time I've seen someone use MNA for an active remedy. I thought that the whole purpose of MNA was to avoid active treatment, which is an aspect of Options 3 and 4.**

Response: See responses to EPA specific comments 7 and 8.

- 27. Comment: Page 17. The second bullet is wrong. The preferred alternative costs 4 times more than Alternative 2. There is insufficient information to understand why Options 4A, 3B, and 3A were not chosen.**

Response: The second bullet is incorrect and will be revised to more clearly indicate why Alternative 4 is preferred. This alternative was selected because it meets the MCL remedial goals in a reasonable timeframe. See also the response to EPA specific comment 10.

- 28. Comment: Page 17. Delete the ARARs section. See my comment above.**

Response: Please see the response to EPA general comment 10.

- 29. Comment: Page 19. The Administrative Record should be available to the community of Alameda, not the community of San Diego.**

Response: Although the administrative record file is maintained at the Navy's offices in San Diego, there are two information repositories located in Alameda that are available to the community. These information repositories contain key supporting documents that pertain to OU-1 and an index of Alameda Point documents.

- 30. Comment: Page 20. Since the whole purpose of this proposed plan is to solicit public comments on the alternatives, I would have put the first half of this page at the top of the previous page, with a title like: "Public Comment Process for this Proposed Plan." Based on the process as it's written, I am concerned about the public meeting. The text talks about displays and information, but doesn't say that the Navy will make a presentation explaining all the alternatives. It is important that the public as a whole hear the Navy's entire plan and that they have a venue where they can hear each other's issues and concerns.**

Response: The text that addresses opportunities for public involvement will be revised as requested. In addition, the proposed plan will be revised to indicate that the public meeting will include a presentation.

- 31. Comment: Page 21. I did not review the glossary. Historically, facilities have had mistakes in their glossaries, not the least of which is defining**

the item by using the item in the defining sentence.

Response: The glossary will be reviewed as requested.

32. Comment: Comment Form. Can they be submitted via FAX?

Response: The proposed plan provides a fax number for submitting comments. This fax number will also be added to the comment form.

RESPONSES TO DTSC COMMENTS

Comments provided by Marcia Liao, Project Manager

General Comments

1. Comment: 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 [sic] (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.

Response: The Navy disagrees that no effort has been made to reach DTSC for discussion of data gaps. As referenced in the comment, a meeting was

held in 2004 to resolve this issue, and the Navy and agencies came to an agreement, which was documented in Appendix K of the RI.

The Navy agrees that the proposed plan deviates from previous agreements made by the Base Realignment and Closure cleanup team in that further groundwater delineation was inadvertently omitted. The proposed plan addresses the contamination and the additional soil sampling that is specified in the final FS report, and the plan will be revised to include further groundwater delineation. In addition, one or more references to the agreements in Appendix K of the RI will be added to the proposed plan. However, the Navy believes that it is not appropriate to provide all the details of these agreements in the proposed plan. Instead, the proposed plan should focus on the proposed remedial actions and on the solicitation of public comments. Additional actions necessary to close the site will be addressed in the ROD.

The Navy however does question the benefit of post-remediation risk assessments and requests further clarification from DTSC.

2. **Comment:** **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.**

Response: The proposed plan will be revised to indicate that the ROD and the remedial design will specify performance standards; however, the Navy believes that the level of detail provided in the comment is not appropriate for inclusion in the proposed plan. The Navy will determine the appropriate criteria for consideration by the BCT as the ROD is

prepared.

The risk-based remedial goals for groundwater at Site 6 and 16 are provided in both the draft final Feasibility Study and the proposed plan and will be included in the Record of Decision. Criteria related to performance of the remediation system will be included in the work plan during the remedial design phase. As specified in the response to previous DTSC comments and in the RI/FS, the estimated time for groundwater treatment was provided for cost estimating purposes, and the final design will provide the details for the remediation to meet the groundwater goals. Site-specific data that will be collected during the remedial design are required before more specific criteria can be proposed.

The ROD and remedial design will establish the criteria for collecting confirmation soil samples to verify that the RAOs have been met.

3. **Comment:** **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**

Response: The Navy disagrees with this comment. The Navy's position is that ICs prohibiting extraction of groundwater will remain in place until unrestricted exposure is achieved.

4. **Comment:** **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.**

Response: The proposed plan will be revised to be consistent with the FS and indicate that additional sampling to further delineate the groundwater plumes will be performed as part of the remedy for Sites 6 and 16.

The Navy acknowledges DTSC's view regarding hydrogeology but believes that hydrogeology has been adequately defined at Sites 6 and 16.

5. **Comment:** **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.

Response: The proposed plan will be revised to indicate that the Navy will work with the Water Board to obtain closure of petroleum-only releases within OU-1.

6. **Comment:** **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.

Response: The conclusion that no significant risk is posed to ecological receptors is based on the current site conditions and those reasonably expected to prevail during the planned reuse of the sites, as specified in the Alameda Point reuse amendment. Therefore, the conclusion of no significant risk is protective of the environment. Accordingly, the Navy believes it has fulfilled its obligations through CERCLA and the NCP.

Site 6 (Aircraft Intermediate Maintenance Facility)

7. **Comment:** **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.

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-040A and OWS-040B and will include additional sampling of groundwater to further delineate the VOC plume at Site 6.

A reference to the agreements regarding data gaps, which were documented in Appendix K of the RI, will be added to the proposed plan; see the response to DTSC's general comment 1. Additional actions necessary to close the RCRA solid waste management units (SWMUs) at the site will be identified and addressed in the remedial design.

8. **Comment:** **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.**

Response: The boundary of Site 6 has not been extended. As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-040A and OWS-040B.

9. **Comment:** **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.**

Response: The proposed plan will be revised to include additional sampling of groundwater to further delineate the VOC plume at Site 6. As presented in the OU-1 RI report, the groundwater contamination at Site 6 was attributed to activities at OWS-041 and the solvent dip tank that were associated with washdown area (WD)-041A, and WD-040. Text will be added to the proposed plan that states the groundwater remedial action is intended to close these RCRA SWMUs.

10. **Comment:** **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.**

Response: See the response to DTSC's Site 6 comment 7.

11. **Comment:** **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.

Response: Figure 4-2 of the Final RI presents the results of an evaluation of the storm sewers at Site 6. All of the storm sewers were identified as being located below the water table. Because the sewers are gravity sewers, any small breaks in the sewer would likely result in groundwater infiltration to the sewer, due to the inward pressure gradient. Any exfiltration from the storm sewers would be a liquid, and would show up in groundwater sampling at this site. The investigations performed at Site 6 included 20 groundwater or soil sampling locations along the sanitary and storm sewer lines at Site 6.

A review of the groundwater plume maps for Site 6 (Figures 4-10 to 4-13 from the Final RI) do not show a groundwater plume that would be indicative of a exfiltration from a storm or sanitary sewer. The highest concentrations of groundwater contaminants are found near the former portable avionics laboratories. The only sewer lines near the groundwater plume are at the downgradient edge, indicating that they are not likely a source of the groundwater contamination. Furthermore, because the Navy is no longer conducting operations at Site 6, there is little potential that the sewers are acting as continuing release pathway. Any future use of the sewers by a commercial or industrial entity would have to comply with all appropriate federal, state, and local requirements.

12. **Comment:** **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.**

Response: See the response to DTSC's Site 6 comment 7.

13. **Comment:** **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.**

Response: The proposed plan will be revised to indicate that the groundwater plume at Site 6 will be further delineated; however, the Navy believes that the level of detail requested is not appropriate in the proposed plan. The additional sampling to address the lateral and vertical delineation will be carried out in the remedial design

14. **Comment:** **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).

Response: Page 1 of the proposed plan does not indicate that the future land use at Site 6 is residential; rather, it indicates that one of the actions is to restrict residential use of Site 6 until vapor inhalation risks have been addressed. Based on the Alameda Point reuse amendment, the expected future use of Site 6 is commercial/industrial.

15. **Comment:** **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.

Response: The PP does not state that no further action is necessary for soil. The preferred alternative is sampling and excavation of soil at the oil water separators that exceed PRGs.

16. **Comment:** **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.

Response: The Navy has agreed to using residential preliminary remediation goals as RAOs at Sites 6, 7, 8, and 16 only with respect to the oil-water separators. The RAO for all of the OU-1 sites is to prevent exposure to soil that contains contaminants at concentrations above the residential PRGs at the oil-water separators. The rationale to use the Federal PRGs instead of California-Modified PRGs is based on the Navy's status as a federal entity and EPA OSWER Directive 9285.7-53.

17. **Comment:** **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.

Response: See the response to EPA's general comment 6.

18. **Comment:** **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.

Response: See response to EPA's general comment 6 and DTSC's comment 3.

19. **Comment:** 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.

Response: Figure 3 will be revised to show only the area that requires remediation above the remedial goals.

Site 7 (Naval Exchange Service Station)

20. **Comment:** 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.

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-459. A reference to the agreements regarding data gaps, which were documented in Appendix K of the RI, will be added to the proposed plan; see response to DTSC general comment 1. Additional actions necessary to close the RCRA solid waste management units (SWMUs) at the site will be identified and addressed in the remedial design.

21. **Comment:** 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.)

Response: This comment has been forwarded to the Navy's RCRA SWMU project manager. See the response to DTSC's Site 7 comment 20.

22. **Comment:** **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.**

Response: Figure 4 of the proposed plan will be revised to show GAP 30 in the same location as it is shown in the FS. See the response to DTSC's Site 7 comment 20 regarding additional sampling.

23. **Comment:** **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.**

Response: See the response to DTSC's Site 7 comment 20.

24. **Comment:** **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.**

Response: This comment has been forwarded to the Navy's RCRA SWMU project manager. See the response to DTSC's Site 7 comment 20 regarding additional sampling.

25. **Comment:** **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.

Response: As presented in the final FS, the proposed remedial action includes the removal of debris area soil and collection of confirmation samples. Specific sampling locations will be determined in the remedial design phase.

26. Comment: 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.

Response: Figure 5-2 of the Final RI presents the results of an evaluation of the storm sewers at Site 7. Sediment was removed from the storm sewers, and the storm sewers have been videotaped. Samples were collected from 19 locations along the sewers at Site 7. The RI indicated that OWS-459 was presumably connected to the industrial sewers located on Site 7, and that discharge may have infiltrated to the storm sewers as well. The RI indicated that OWS-459 and the industrial sewer are within the debris area and may be one of the sources of contamination at Site 7. There are soil and groundwater samples adjacent to the industrial waste sewer that connects to OWS-459. Therefore, the RI has already investigated the industrial waste sewer at Site 7.

27. Comment: 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.

Response: See the response to DTSC's Site 6 comment 16 regarding the use of

preliminary remediation goals (PRGs) for OWS.

The proposed plan will be will be revised to indicate that the remedial goals for arsenic and cadmium in soil are based on background concentrations. Any revisions to the background levels can be further addressed in the ROD.

The Navy believes it is more appropriate to base the remedial goal for lead on a site-specific risk calculation than on a PRG.

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

Response: Figure 4 of the proposed plan will be modified to include the proposed excavation area.

29. Comment: 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.

Response: The proposed plan will be revised to indicate that groundwater remediation is not required under CERCLA at Site 7 and that groundwater remediation at the site is being conducted under the TPH program.

Site 8 (Pesticide Storage Area)

30. Comment: 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.

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-114. A reference to the agreements regarding data gaps, which were documented in Appendix K of the RI, will be added to the proposed plan; see response to DTSC general comment 1. Additional actions necessary to close the SWMUs at the site will be identified and addressed in the remedial design.

31. Comment: SWMU Evaluation (OWS-114): Please sample directly underneath,

rather than adjacent to, the oil water separators whenever possible.

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-114.

32. Comment: 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.

Response: As presented in the OU-1 RI report, the soil contamination at Site 8 was attributed to activities associated with OWS-114, which is associated with WD-114. The proposed plan will be revised to state that the remedial action and data gap sampling for soil beneath and adjacent to OWS-114 are intended to result in the closure of both of these RCRA SWMUs.

33. Comment: 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.

Response: Comment noted.

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

Response: Figure 6-2 of the RI shows the locations of sanitary and storm sewers at Site 8. A review of Figure 6-4 from the RI shows that there were 28 sampling locations located near the sewer lines at Site 8. As indicated in Section 6.1.1 of the RI, OWS-114 was connected to the storm drains at Site 8. Any exfiltration from the storm sewers would likely be a liquid, and the presence of associated contaminants would have been detected during previous groundwater sampling at this site. Figures 6-6H through 6-6M of the Final RI show the groundwater sampling locations at Site 8. Many of these were either adjacent or near to sewer lines. Although some detections were found in groundwater samples downgradient of the sewer lines, these are at low concentrations. The risk from background groundwater at Site 8 was determined to be greater than the risk due to site activities. The RI recommended no further action for groundwater under the CERCLA program at Site 8. Because the Navy is no longer conducting operations at Site 6, there is little potential that the sewers are acting as a continuing release pathway. Any future use of the sewers by a commercial or industrial entity would have to comply with all appropriate federal, state, and local requirements.

35. **Comment:** **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.**

Response: See the response to EPA's general comment 8.

36. **Comment:** **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-specified mixtures (e.g. aroclor-1254 and aroclor-1260) and 0.39 mg/kg for low risk un-specified 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.**

Response: The Navy has agreed to using preliminary residential remediation goals only with respect to the data gap soil sampling at the OWSs.

The proposed plan will be revised to indicate that the highest concentration of lead occurs in the northeast corner of Site 8.

The proposed plan will clarify that the remedial goals for the remainder of Site 8 are based on site-specific risk calculations for residential reuse of the site. The Navy believes it is more appropriate to base remedial

goals on site-specific risk calculations than on PRGs.

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

Response: Figure 5 of the proposed plan will be revised to show the proposed excavation area.

38. **Comment:** **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.**

Response: See the response to EPA's general comment 8.

39. **Comment:** **Need for Groundwater Remediation: Site 8 is identified as petroleum corrective action area (CAA)-8 due to its downgradient 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.**

Response: The proposed plan will be revised to indicate that no further action is required under CERCLA for groundwater. Although text regarding corrective action area (CAA)-8 is already included in the proposed plan, additional text will be added to describe the petroleum contamination and to clarify that it is being addressed under the Navy's TPH program.

Site 16 (Shipping Storage Container Area)

40. **Comment:** **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 pages 15 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.**

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-608A and OWS-608B, and in the PCB excavation area. A reference to the agreements regarding data gaps, which were documented in Appendix K of the RI, will be added to the proposed plan; see response to DTSC general comment 1. Additional actions

necessary to close the SWMUs at the site will be identified and addressed in the remedial design.

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

Response: As presented in the proposed plan and specified in the final FS report, the Navy has agreed to perform data gap sampling for soil beneath and adjacent to OWS-608A and OWS-608B.

- 42. Comment:** **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.**

Response: Comment noted.

- 43. Comment:** **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.**

Response: As presented in the OU-1 RI report, the groundwater contamination at Site 16 was attributed to activities associated with UST 608-1/NAS GAP 17 (UST(R)-18/GAP 17). Text will be added to the proposed plan that states the groundwater remedial action and plume delineation are intended to close these RCRA SWMUs.

- 44. Comment:** **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.**

Response: Comment noted.

- 45. Comment:** **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.**

Response: Comment noted.

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

Response: As reported in the RI (See Figure 7-2), all storm sewers at Site 16 were investigated and determined to be in sound condition. During the investigations at Site 16, samples were collected from 19 locations along the sewer lines. A review of the groundwater plumes identified at Site 16 in comparison to the location of storm and sanitary sewers indicates a plume pattern that is not consistent with the sewers being a release mechanism for contamination. Most of the groundwater plumes

are near, but not adjacent, to sewer lines. The PCE, 1-2 DCE, and vinyl chloride plumes, which do include the area where a storm sewer is located, include areas located both up and downgradient of the sewers, indicating that the sewers are not likely the source. Because the Navy is no longer conducting operations at Site 16, the sewers present a low potential to act as a continuing release pathway. Any future use of the sewers by a commercial or industrial entity would have to comply with all appropriate federal, state, and local requirements.

47. **Comment:** **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.**

Response: The proposed plan will be revised to indicate that additional sampling will be conducted to further characterize the groundwater plume.

48. **Comment:** **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.**

Response: The proposed plan will be revised to indicate that additional sampling will be conducted to further characterize the groundwater plume; however, the Navy believes it is not appropriate to provide the level of detail requested in the proposed plan.

49. **Comment:** **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.**

Response: The Navy believes that the increases in metal concentrations in groundwater are related to the in-situ chemical oxidation that is occurring at the site. A recent report on the Site 16 removal action, Field Summary Report Full-scale In-situ Chemical Oxidation Removal

Action at Installation Restoration Site 16 South (Shaw 2005), showed that another injection of chemical oxidant occurred just prior to the Summer 2004 groundwater sampling event. Typically an increase in metal concentrations associated with ISCO is a temporal and localized event and concentrations return to previous levels as the aquifer conditions (e.g. redox) restabilize after injection. Continued groundwater monitoring for metals to verify that levels have declined will be addressed in the ROD.

- 50. Comment: 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.**

Response: The last sentence of the third paragraph on page 8 of the proposed plan states the expected long-term use of Site 16 is commercial/industrial.

See the response to DTSC's Site 6 comment 16 regarding the use of PRGs for OWSs.

- 51. Comment: 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.**

Response: See the response to EPA's general comment 9.

REFERENCES

Navy. 2001. "Preliminary Remediation Criteria and Closure Strategy for Petroleum Contaminated Sites at Alameda Point, Alameda, California." May 16.

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ALAMEDA POINT
SSIC NO. 5090.3

ENCLOSURE 1

DRAFT FINAL PROPOSED PLAN
FOR OPERABLE UNIT 1
IR SITES 6, 7, 8, AND 16

DATED 01 APRIL 2006

IS ENTERED IN THE DATABASE AND FILED AT
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