AMERICAN ENVIROTEST

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REVIEW COMMENTS
El Toro Marine Corps Air Station
Draft Engineering Evaluation/
Cost Analysis (EECA) Documents
Sites 4, 7, 11, 13, 14, 19, and 20

Based on my review of the EECA documents for Sites 4, 7 (Unit 1), 11, 13, 14 (Unit 1), 19 (Unit 2), and 20 (Units 2 & 3), I have several general concerns. To begin with, the three clean-up options seem to, at least in part, been chosen because economies of scale allow these options to be cost-effective. However, the economies of scale are based on the assumption that all seven sites will be cleaned up simultaneously. I do not think this is a reasonable, or even prudent assumption. The inherent difficulties in obtaining necessary approvals from both the Department of Defense and the responsible regulatory agencies tend to create a situation where contracts and permits for multiple locations would not be issued at the same time. Further, there are difficulties that may be encountered in the clean-up process that would cause delays at one or more of the sites. Finally, I am concerned that while somewhat similar, the "best" clean-up method for any given site may not be the same as for the other sites.

In addition to the clean-up method selection, I am concerned about the choice of only excavating contaminated soils to a depth of ten feet below ground surface. While I understand that this depth was chosen based on a clean-up standard for near-surface soils for potential residential uses, leaving contaminated soil in place poses some issues, particularly for real estate transfers. To obtain construction loans, future developers may need to show that all contaminated soil has been removed or cleaned up to regulatory levels -- generally 100 mg/kg for gasoline-related hydrocarbons, 1,000 mg/kg for diesel and other heavier petroleum hydrocarbons. In cases where contamination is shallow, and contaminated soil may only extend to say 15 feet below ground surface, it shows poor judgement to stop at 10 feet below ground surface. Further, it should be noted that in cases where contamination is due to a former underground fuel storage tank, the top of contamination may not start until at least 10 feet below ground surface, at the base of the former tank location. In general, it is not uncommon in cases where hydrocarbon-contaminated soil has been found beneath former underground tanks to excavate and treat or dispose of soils to depths of 20-25 feet below ground surface.

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The following document-specific comments are organized by Site. These comments are focussed on the potential applicability of bioremediation versus thermal oxidation.

Site 4

This is the Ferrocene Spill Area, which involves near-surface contamination from surface spills of oil and ferrocene. Bioremediation as a clean-up method is likely to be somewhat less efficient given the presence of ferrocene in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.

Site 7, Unit 1

This is a Drop Tank Storage area where near-surface contamination primarily from surface spills of petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be the more cost-efficient clean-up method for this site.

Site 11

This is a Transformer Storage Area, which involves near-surface contamination from surface spills of transformer oil, some of which contained PCBs. Bioremediation as a clean-up method is likely to be somewhat less efficient given the presence of PCBs in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.

Site 13

This is the Former Oil Change Area where near-surface contamination primarily from surface spills of petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be the more cost-efficient clean-up method for this site. Concentrations of chlorinated pesticides at this site are likely consistent with those found throughout the base, and may need to be considered separately.

Site 14, Unit 1

This is the Battery Acid Disposal Area, which involves near-surface contamination from disposal of battery acid and paints, some of which contain lead. Bioremediation as a clean-up method is likely to be generally less efficient given the presence of acids and relatively higher concentrations of lead in soil. For this site, thermal oxidation would be the more likely choice.

Site 19, Unit 2

This is the ACER Site, which involves near-surface contamination from surface spills of JP-5 from refueling activities, which contained PCBs. Bioremediation as a clean-up method is likely to

be somewhat less efficient given the presence of PCBs in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.

Site 20, Units 2 & 3

This is the Hobby Shop area where near-surface contamination primarily from surface run-off containing petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be a cost-efficient clean-up method for this site. Concentrations of chlorinated pesticides at this site are likely consistent with those found throughout the base, and may need to be considered separately.

Should you have any questions regarding these comments, I may be reached at (714) 559-5935.

Sincerely,

Enid Cohn Gary

Enid Cohn Gary, R.E.A.
El Toro RAB Member

cc: Marcia Rudolph, Community Co-Chair
El Toro RAB