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NSY LONG BEACH
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Memorandum

Subject: Review of Initial Assessment Study of Naval Complex
Long Beach, California

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To: Naval Complex Long Beach File

General Comments

In Section 1.5 of the Initial Assessment Study (IAS) report for Naval Complex Long Beach, a confirmation study in two (2) phases, verification and confirmation. The purpose of the verification phase as stated on page 1-3 of the IAS report is to conduct "short-term analytical testing and monitoring and determines whether specific toxic and hazardous materials, identified in the initial assessment study, are present in concentrations considered to be hazardous". The verification statement should be the criteria by which a site goes to confirmation study. Any site in which a release of a substance(s) that is potentially hazardous should go to confirmation study. The second criteria in section 1.4.5, Confirmation Study Criteria, "the contamination poses a potential threat to human health or the environment" can be subjective and difficult to defend without laboratory analyses nor can all possible scenarios be taken into account.

Human exposure and potential health risk exists not only by direct contact such as during excavation or construction on a disposal site but by indirect contact through pathways such as the food chain or contaminated groundwater. This is apparently the rationale for the recommendations given in Chapter 3 of the IAS report. On page 3-1 of the IAS report "If new construction is proposed for Sites 3,9,11, and 12, hazardous wastes could be found during excavation. Thus, use of proper protective clothing and equipment is recommended. Proper containment and disposal of any exposed hazardous wastes will also be required". The recommendation of no confirmation study for the Sites 3,9,11 and 12 is not consistent with the IAS objectives and with the National Oil & Hazardous Substances Pollution Contingency Plan 40 CFR 300 (NCP). The criteria for further study of contaminated sites, a Confirmation Study, to determine the extent of contamination and identify substances present should be consistent with the NCP.

An assessment and environmental impact was not conducted for each site on the release of hazardous substance(s) due to liquifaction of soil from an earthquake. The liquifaction of soils along the Long Beach Harbor area is rated as significant in Section 4.4.2.4 of the IAS report. Also, a direct release into the ocean is possible due to the hydraulic connection of groundwater to the ocean (Section 4.4.2.6 of the IAS Report).

In Table 5-2 on page 5-8 of the IAS Report, battery acid is poured on the ground from 1965 to 1979. Where is the location battery acid is poured to the ground? The area around the Transportation Shop? The Transportation Shop generates an estimated 1,500 gallons to 3,000 gallons of waste oil and solvents, was anything else poured on the ground?

Section 5.4.2.2 Utilities Shop Operations (Shop 03). There are discharges to the Harbor's West Basin and there are National Pollutant Discharge Elimination System (NPDES) discharge permits for each harbor point discharge of once-through cooling water. The IAS report further states that "In the boiler, over 11 tons of chemical additives are added annually. The majority of these additives are expected to be biologically degraded". How does the chemical additives listed in Table 5-3 correspond with the "additives that is expected to be biologically degraded"? Some of the chemical additives listed are by manufacture's trade name e.g. Nalco 19, what is Nalco 19? The other chemicals listed by manufacture's trade name?

Section 5.4.2.2 Utilities Shop Operations (Shop 03). The Utilities Shop was responsible for the maintenance of all Naval Shipyard transformers. Not addressed in the IAS Report is what kind of maintenance? Preventative or repair or both? Was electrical insulation fluid ever changed or filtered? Where was electrical insulation fluid stored? How were PCB spills and leaks handled? The IAS Report cited a report conducted earlier, that identified 20 leaking transformers. How extensive are these leaks and how are they being handled? Are the leaking transformers on cement pads? Sealed cement pads? Where are out of service transformers and switches stored, in tar paper shacks on the Mole (Section 6.8)? Were they drained on site or on the Mole?

Section 5.4.2.3 Maintenance Operations (Shop 07). Rinseate containing pesticide and herbicide residues has commonly been discharged to the ground and the sanitary sewer. Where is the discharge to ground? What pesticide(s) and herbicide(s) does Maintenance Operations handle? Did handle? Maintenance Operations also generated waste paints, solvents and acids which were "reportedly" discharged to the storm drain until the late 1970's. What distinction, if any, was made as to why herbicide and pesticide rinseate was disposed of on the ground and the sanitary sewer and the other categories of waste was only disposed of in the sanitary sewer?

Section 5.4.3.1 Shipfitter (Shop 11). Shipfitter operations include two (2) 1,200 gallon caustic and acid dip tanks and two (2) 1,200 gallon water rinse tanks. The IAS Report states "Between 1950's and 1981, the cleaning and removal of sludge was handled by an outside contractor most of the time". For those times a contractor did not handle the cleaning and sludge disposal, who did? Where was the sludge disposed of? Where was the spent fluids disposed of when not handled by a contractor? Was the Mole Site 3 waste disposal pits used as was the waste from a 800 gallon caustic dip tank of the Sheet Metal Shop (Section 5.4.3.2)?

Section 5.4.3.2 Sheet Metal Shop (Shop 17). Between 1969 and 1976 a 400 gallon degreaser tank was installed. The present disposal practice of using a outside contractor for disposal offsite, has been existence since 1976. Assuming the degreaser was installed in 1969, how was the waste that is removed once a year handled and disposed of?

Section 5.4.4.3 Pipefitters (Shop 56). The refrigeration work center generates waste Freon, resin, oil, and dry cleaning solvents that haven been handled according to current practice since its inception in the late 1970's. What is the current handling and disposal practice?

Section 5.4.5.1 Electrical (Shop 51). On page 5-19 of the IAS Report, second paragraph, the plating and cleaning operations has been described as a "significant source of hazardous waste", this was accompanied by an estimate of the waste generated. Not addressed in the IAS Report is where does all that the waste go? Is the waste stored on site? If so, where? Is the site paved? Bermed? How are leaking drums handled?

Section 5.4.5.2 Electronics (Shop 67). The printed circuit board production operations disposed of trichloroethylene and smaller amounts acids and metal plating solutions along the property line north of Building 210 (Site 8). The circuit board operation extends back to about the early 1970's, however, prior to 1975 Electronics operations was located in Building 129. Did this practice of disposal on the ground take place at Building 129?

Waste material generated by the Antenna shop (Section 5.4.5.2) and the Weapons Shop (Section 5.4.5.3) was apparently stored in drums southwest of Building 210 to await Transportation shop removal. Was this site paved? Bermed? What other spill control and counter-measures were taken? How were leaking drums handled?

In Section 5.4.5.1 Electrical shops and its major subgroups are also located in Building 210, and prior to 1975 was located in Building 129. Why was the printed circuit board production operations the only operation identified dumping waste to the ground? The other operations associated with electrical, electronics, and weapons systems group generated a greater volume of waste and potentially more opportunity to dispose of waste to the ground.

Section 5.4.7 Supply Department (Code 500). A quonset that was utilized by the Supply Department until 1970 for the storage of materials for plating operations. An unknown quantity of chemicals from leaking drums may have leaked through the wooden floors to the ground. A major spill was reported in the IAS Report in 1974 or 1975, in which trichloroethylene (TCE) spilled and caused the asphalt pavement to be rolled up. Building 129 was a significant source of hazardous materials generated by the Electrical, Electronics, and Weapons Systems Group prior to 1975 (Section 5.4.5). These factors indicate a potential problem in the area of Building 129. The IAS Report did not indicate when the area surrounding Building 129 was paved. The leakage from the quonset hut may have been onto unpaved ground. The spillage of TCE in 1974 or 1975 indicates there was asphalt present but asphalt is not impervious, TCE may have reached the soil. The spilled TCE was washed down by the fire department; the application of water would serve as impetus for downward migration of TCE. Also, see comments for Section 5.4.5.1 and 5.4.5.2 in the general comments section.

Section 6.5 Above Ground Tanks and Below Ground Tanks. The IAS Report did not address if any underground tank (UGT) leak program prior to 1965, if any. Of the 54 tanks that existed from 1950 data, 41 were abandoned in place and 4 have been replaced or removed. What is the assessment for UGT(s) to have leaked before the tank monitoring was in place and for the UGT(s) that were abandoned or of the four (4) replaced or removed, was due to leakage. Recommend that the locations of the UGT(s) be noted in the Naval Complex master plan as a potentially contaminated site.

The following sites are of concern and are recommended for confirmation study and/or further investigation.

- Site 1 Mole Solid Waste Operations.
- Site 2 Chemical Material and Waste Storage Area
- Site 3 Industrial Waste Disposal Site
- Site 4 Mole Extension Operations
- Site 5 Skeet Range Solid Waste Fill Area
- Site 6 Boat Disposal Location
- Site 8 Building 210 Trichloroethylene Disposal Sites.
- Site 9 Building 129 Ground Floor Spills
- Site 10 Los H Past Operations.

- Site 11 Hillside East of Dry Dock 1
- Site 12 Toxic Sandblast Disposal
- Unnumbered Site Maintenance Operations (Shop 07)

Comments for Sites of Concern

Site 1 Mole Solid Waste Operations. Solid waste operations was conducted from 1940's to mid 1960's, an era in which there was little or no regulation for the disposal of hazardous substances. Solid waste disposal operations appear to overlap operations associated with Site 2 and Site 3, a potential for hazardous substances to be disposed of may be greater than that postulated in the IAS Report. Tidal influences may leached the saturated zone of extractable substances, however this is not a certainty. An environmental assessment based on data would alleviate some doubt.

- Site 2 Chemical Material and Waste Storage Area.
- Site 3 Industrial Waste Disposal Pits.

The period of time the industrial waste disposal pits and the chemical and waste storage area(s) appear to overlap. Large quantities of hazardous waste may have been disposed of in these pits. Leakage from any drums in the waste storage area could easily migrate vertically and horizontally in the porous soil that make up the mole. The location(s) of the pits or the number of pits involved was not or could not be identified in the IAS Report. In a more recent draft report, Preliminary Hydrogeological Investigation and Environmental Assessment of U.S. Naval Servmart Long Beach Naval Station by SCS Engineers dated October 1986, soil borings for the original location of the Servmart and the Alternate Site 1 on the mole pier indicate contamination outside the area of Site 2 and Site 3. The report did not identify the activity which generated the contamination. Does the contamination come from the industrial waste disposal or drum storage that operated over a wider area than identified in the IAS Report? Contamination is present, the nature and extent is not known. The area of concern as depicted in Figure 3-1 should be extended to cover the newly discovered contamination or the area may be listed as a separate site. It would be prudent to conduct an environmental assessment based and data.

Site 4 Mole Extension Operations. Table 8-1 of the IAS Report shows that the Mole Extension Operations was conducted between 1950's to 1972. This period of time overlaps operations for Site 1, Site 2, and Site 3. The material to be bulldozed over the ocean to extend the mole may have been contaminated. The 330,000 tons of sandblast grit may contain lead or copper which is being leached out by the sea water. Eddies or tidal

influences created by the rip-rap may cause accumulations of metals in another location. Salt water algae are adversely affected at approximate lead concentrations as low as 15.8 ug/l. Is this be a possible explanation for the lack of algae Lithothamnion sp. at Station 13A (Section 4.5.1.4)? The uniform distribution of the urchin and bat star was not found at Station 13A. Two explanations are given to explain low species diversity in outer harbor. Not addressed in the IAS Report is the possibility of substances toxic to marine life leaching from the mole pier.

Site 5 Skeet Range Soild Waste Landfill. This landfill was operational from mid-1930's to 1968. Information developed about the site must have been incomplete. How was the determination made, that only solid waste was disposed of on this site?

Site 6 Boat Disposal Location. This operation took place between 1942 and 1965 an era in which there was little or no regulations on the disposal of hazardous substances by todays definition. Not addressed in the report is what distinction was made on the type of waste disposed of, why just shipyard solid waste? Oily waste was used for dust control and compaction, why not other liquid wastes? Oily waste may also included PCP laced oils, or could be cut with solvents. The waste oil could also, contain trace and heavy metals. The sandblast grit that was disposed of could contain metal based paint chips contributing to the potential metal accumulation or potential migration. An environmental assessment should be conducted based on data.

Site 8 Building 210, Trichloroethylene Disposal Site. See comments for Sections 5.4.5.1 and 5.4.5.2 in the general comments section.

Site 9 Building 129 Ground Floor Spills. Building 129 was occupied by both the electrical and electronics shops. (Section 5.4.5.1 and Section 5.4.5.2). The type and quantity of waste that may have contaminated the wood and soil may be more extensive than postulated in the IAS Report. Four underground sumps are associated the building this may also be a source of contamination. The outside area surrounding Building 129 should also be considered for investigation. (see comments for Section 5.4.7 Supply Department in the general comments section). An assessment based on data would be prudent.

Site 10 Lot H Past Operations. Site 10 is the same as Scrapyard 1 (SY 1) in section 6.3 of the IAS Report and had similar operations as Scrapyard 2 (SY 2). SY 2 under went a separate study and and "subsequent clean-up operations". The same factors and environmental assessment which prompted the investigation and clean-up operations at SY 2 should be the same for SY 1.

Site 11 Hillside East of Dry Dock 1. The IAS Report stated that the primary hazard is from the cuprous oxide paint chips in the spend grit is a compound that is toxic when ingested, and recommend mitigation action. There is a potential for erosion and subsequent discharge into the bay. Any erosion control would require long term maintenance and inspection without fully determining the nature and extent of any contamination present. A more thorough assessment can be made if data were available.

Site 12 Parking Lot X Toxic Sandblast Disposal. See comments for Site 11 Hillside East of Dry Dock 1.

Unnumbered Site Maintenance Operations. See comments for Section 5.4.2.3 in the general comments section.

Comments for Sites Not Recommended for Confirmation Study

Site 7 Long Beach Harbor Sediments. Not addressed in the IAS Report is when the Long Beach Harbor was last dredged and if any analyses of data is available. Sediment analyses is apparently standard operational procedure by the Army Corps of Engineers before dredging activity takes place. A full priority pollutant analysis is recommended for selected samples, especially for sample points near the harbor discharge points. It is also recommend that the IAS Report be made available to marine research group(s) conducting studies in the area.

Preliminary Assessment Recommendation

The Naval Complex Long Beach, California, ERRIS file should remain active and Naval Complex Long Beach should be notified of EPA's determination that confirmation studies are recommended to ensure consistency with the NCP. National Priorities List scoring should be initiated as soon as sufficient confirmation study data is available.

U.S. EPA Region 9
Generic Preliminary Assessment Format

1. Introduction
2. Overall Facility Description
 - Size (site boundaries)
 - Location - map
 - Environmental setting
 - adjacent land use, sensitive environments (any and all endangered species, national monuments, scenic areas, etc.)
 - Hydrogeologic summary
 - description of all aquifers and their uses
 - 20 year monthly averages for precipitation/evaporation
 - Human receptors
 - population within 4 mile radius, locations of domestic and agricultural wells within 4 miles and population served by wells
 - Environmental receptors
 - History
 - Waste generation and disposal
 - Overall site and hazard assessment
3. Site Specific Descriptions
 - Site name
 - Site location and map (or site diagram)
 - History
 - Waste Generation and disposal
 - waste quantities (in precise quantities, if possible)
 - Potential problem
 - Known releases (ie: extent of problem)
 - include summary of analytical data, know extent of soil contamination, number of homes on properties with documented soil contamination, number of persons in each of these homes, and especially number of children under age six who live in these homes.
 - Potential for direct contact or fire and explosion hazard
 - Potential for ground water release
 - Number of wells within a 4 mile radius of site, interconnectedness of aquifers within 2 miles of site
 - Potential for surface water release
 - identify any surface water intakes within 15 miles downstream
 - Potential for air releases
 - Threats to food chain
 - Threats to the environment (including sensitive wildlife and environments)
 - Conclusion and recommendation:
 - No Further Action: No potential for harm to human health or the environment
 - Active: Follow-up Site Investigation and/or Hazard Ranking System evaluation is needed