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U S NAVY RESPONSES TO REGULATORY COMMENTS ON REMEDIAL INVESTIGATION  
FOR SITE 44 NAS PENSACOLA FL  
10/8/2007  
NAVFAC SOUTHERN

**NAVAL AIR STATION PENSACOLA  
PENSACOLA, FLORIDA  
REMEDIAL INVESTIGATION REPORT FOR SITE 44  
(FORMER UST SITE 3221 SW)**

**RESPONSE TO FDEP COMMENTS DATED OCTOBER 8, 2007**

**GENERAL COMMENTS**

Comment 1

Page ES-2, 4<sup>th</sup> paragraph General Issue: In this paragraph, Tetra Tech state [sic], “Carcinogenic risks exceed  $1 \times 10^{-4}$ , for exposure to groundwater by hypothetical future residents.” The Department has always required  $1 \times 10^{-6}$  for this scenario. Please review this and address this in the final Remedial Investigation Report.

**Response:**

**The Navy is not disputing that FDEP’s target risk level is  $1 \times 10^{-6}$ . The language will be revised to reflect the distinction between the agencies’ respective target risk levels and will state that the carcinogenic risk to groundwater exceeds both of these targets.**

Comment 2

Chapters 6 and 7: Please review the attached comments from the University of Florida for the Departments [sic] comments on these chapters.

**Response:**

**See the attached response to “specific comments” below.**

Comment 3

Conclusions: The Department concurs with the recommendation to proceed with a Feasibility Study for this site.

**Response:**

**Concur.**

**SPECIFIC COMMENTS**

Comment 1

In section 4.0, both cadmium and lead SPLP results showed an exceedance in the leachability to groundwater criteria but were not discussed further as potential COPCs in Section 6.0.

**Response:**

**Although cadmium and lead leachate concentrations in the SPLP procedure exceeded the groundwater criteria, the concentrations in the corresponding soil samples were all less than their respective leachability criteria. Moreover, cadmium was not detected in groundwater and lead concentrations in all groundwater samples were less than the GCTL or below detection limits.**

Comment 2

For arsenic, the site concentrations in soil appear to be indicative of background. The highest on-site value is 2.5 mg/kg. Any values above 2.5 mg/kg would need further evaluation.

**Response:**

**Concur.**

**Comment 3**

On page 6-5, surface soil is defined as zero to one feet bls and subsurface soil is defined as soil collected from depths one to nine feet bls. Chapter 62-780, FAC defines surface soil as soil located from zero to two feet bls and subsurface soil as greater than two feet bls.

**Response:**

**In actuality, surface soil in this report is defined as zero to 0.5 feet bls. Investigations were conducted at this site and other sites at NAS Pensacola prior to the promulgation of 62-780 and this definition of surface soil is consistent throughout other investigations. The language will be changed to reflect how surface soil was defined.**

**Comment 4**

For the construction worker scenario, a groundwater exposure route should be added for completeness to account for inadvertent exposure to groundwater during construction activities.

**Response:**

**Although possible, exposure to groundwater by a construction worker would be regarded as negligible relative to direct exposure to soil. The text will be modified to reflect that this exposure pathway is possible, but its contribution to overall risk would be insignificant.**

Comment 5

A soil-to-air inhalation pathway was not included in the risk assessment evaluation due to partial covering of the site with asphalt and concrete. Although exposed soil may not be a significant portion of the site, inhaled fugitive dusts from exposed soil areas should be included for completeness.

**Response:**

**In actuality, risks associated with inhalation of fugitive dust were included as part of the risk assessment for Site 44, despite levels being less than the soil screening levels for volatilization from soil to air. This pathway is identified in Table 6-4 and is discussed in detail in Section 6.3.3.3. Language regarding the asphalt cover providing a rationale for not evaluating this pathway will be removed from the text.**

Comment 6

For the maintenance worker scenario, documentation on frequency of duties is necessary to determine whether 30 days/year is an upper limit exposure for EF. We also recommend a soil ingestion rate of 100 mg/d (US EPA, 2002) because the grounds maintenance worker will spend part of the day outdoors.

**Response:**

**The Navy disagrees with increasing the soil ingestion rate from 50 to mg/kg to 100 mg/kg. The soil ingestion rate is consistent with FDEP's exposure assumption for an industrial worker, which forms the basis for the derivation of the industrial SCTLs. The EF of 30 days/year is recognized as professional judgment for evaluating risk at the site. It should be recognized that this provides a point of reference to the industrial worker who is assumed to have an EF of 250 days/year.**

Comment 7

The exposure frequency for adult/adolescent recreational users and trespassers was assumed as 45 d/y based on professional judgment. In the past, FDEP has recommended and finalized an exposure frequency of 200 d/y for recreational users.

**Response:**

**As stated, the exposure frequency for recreational users and trespassers is based on professional judgment. Increasing their exposure frequency to 200 d/y renders these receptors almost equivalent to an industrial worker. The purpose of the assumptions for receptors other than the default residential and industrial receptors is to provide a plausible range of exposures to the site. The current assumption provides the point of reference that is needed for making risk management decisions at the site. Therefore, no change will be made for the purposes of this report, but can be considered in future risk evaluations.**

Comment 8

We recommend changing the adult skin adherence factor for future adult recreational users/trespassers to 0.08 mg/cm<sup>2</sup> (US EPA, 2004) based on the same conditions as the adolescent (95<sup>th</sup> percentile value for soccer players in moist conditions).

**Response:**

**Changing the skin adherence factor from 0.07 to 0.08 mg/cm<sup>2</sup> will pose a negligible change to the overall risk, and would have no significant impact on any risk management decisions. It is suggested that no change will be made for the purposes of this report, but can be considered in future risk evaluations.**

Comment 9

For the ecological risk assessment, the following values should be updated for screening values in Tables 7-1 and 7-2.

- a. For total PAHs, a new value of 1.1 mg/kg was developed based on protection of mammals in June 2007 by US EPA.
- b. For manganese, an ecological screening value of 220 mg/kg was developed based on protection of plants by US EPA in April 2007. The conclusion that manganese is not a COPEC at this site remains valid.
- c. The Canadian Soil Quality Guideline (2006) recommends using a soil screening value of 0.1 mg/kg for benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene for the protection of the environment and human health. This value is the same as the US EPA Region 4 surface soil screening value for benzo(a)pyrene.

**Response:**

**The recommended USEPA Ecological Soil Screening Levels (SSLs) for total PAHs and manganese, as well as the recommended Canadian Soil Screening Guidelines for benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene will be incorporated into the ecological risk assessment (Table 7-1). The text will be modified accordingly to reflect the use of these screening levels and to reflect any changes in estimated potential ecological risk.**