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LETTER REGARDING REGULATOR REVIEW AND COMMENTS TO THE DRAFT REMEDIAL INVESTIGATION REPORT FOR OPERABLE UNIT 2 (OU 2) NTC ORLANDO FL
8/14/2001
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CTO #0024

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Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

August 14, 2001

Mrs. Barbara Nwokike
Code ES333
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-0068

RE: Draft Remedial Investigation Report, Operable Unit 2, McCoy Annex Landfill, Orlando Naval Training Center

Dear Mrs. Nwokike:

The Department has completed its review of the Draft Remedial Investigation Report, Operable Unit 2, McCoy Annex Landfill, Orlando Naval Training Center, dated March 2001 (received March 14, 2001), prepared and submitted by Tetra Tech NUS, Inc. I have the following comments that should be addressed in the final report:

(1) I cannot reconcile the acreages on pages 1-2 and 1-7. On page 1-2, the acreage for the entire McCoy Annex property is 877 acres while on page 1-7, McCoy Annex landfill occupies 1114 acres.

(2) On page 3-43, Section 3.6.5, Phase III Monitoring Well Sampling, second paragraph, monitoring well MW25C is listed twice as being purged and sampled using a peristaltic pump. I believe monitoring well MW26C should have also been listed as being sampled with a peristaltic pump.

(3) In Table 5-2A, page 5-16, octa-chlorodibenzodioxin (OCDD) is shown as being detected at .18J and .13J µg/kg in surface soil samples H5 and H5-D. In Section 5.2.3, page 5-51, fourth paragraph, OCDD was stated as being detected at a concentration of 18 µg/kg, with a duplicate sample concentration of 13 µg/kg. Please reconcile.

(4) Please check the units for TPH detected in groundwater in Table 5-3C. TPH is listed in the table as being detected at concentrations of .64 µg/L to 1.16 µg/L. I am not aware of an analytical methodology commonly used that can detect

concentrations of TPH at those levels. Section 5.3.1.5, page 5-109, discusses the TPH concentrations detected and also states the concentration range is .64 µg/L to 1.16 µg/L.

(5) On page 5-174, Section 5.4.2.8, second paragraph, the primary drinking water standard for radium (226 and 228 combined) is 5 µg/L, not 15 µg/L as stated.

(6) In Section 6, Human Health Risk Assessment, groundwater monitoring well data from monitoring well MW06B was not included in the risk calculations for Phase III groundwater. The rationale stated is that the well had significantly less contamination than the other wells. However, based upon the data located on page B-376 in Appendix B, Phase III groundwater sampling at monitoring well MW06B detected elevated concentrations of aluminum, arsenic, barium, beryllium, chromium, mercury, iron, lead, manganese, selenium, thallium, nickel, vanadium, gross alpha and gross beta at levels exceeding primary drinking water standards, secondary drinking water standards or groundwater cleanup target levels. Most of these inorganic contaminants were not identified as Phase III chemicals of potential concern in Table 6-2B. Based on the fact that the contaminant concentrations detected in the Phase III sample was consistent with concentrations detected in filtered and unfiltered groundwater samples collected during Phase II sampling, I do not concur that the Phase III data from monitoring well MW06B should be excluded from risk consideration.

(7) On page 6-23, Section 6.3.2.1, is a discussion of receptors potentially exposed to surface soil. I do not concur with the assumption that off-site residents, visitors and tresspassers would primarily wade in ponds and canals on site and that their exposure to surface soils would be minimal. As the northern part of the site is a golf course and the southern portion of the site is scheduled to be a sports complex, the off-site residents and visitors are highly unlikely to spend more time in ponds and canals than in areas where surface soil exposures may occur.

(8) On pages 7-3 and 7-4, Section 7.2.1.1, the northern, central and southern sections of McCoy Annex landfill are discussed. The reader is referred to figure 1-2 to determine the actual boundaries of the three sections. Figure 1-2 is not located in the report or in the Table of Contents section listing figures and their page numbers.

I have attached comments from the Department's risk assessors with the University of Florida's Center for Environmental & Human Toxicology. Their comments should also be addressed. If I can be of any further assistance with this matter, please contact me at (850)921-9991.

Sincerely,

David P. Grabka
Remedial Project Manager

cc: Nancy Rodriguez, USEPA, Region 4
Steve McCoy, Tetra Tech NUS, Oak Ridge, TN
Steve Tsangaris, CH2M Hill, Tampa
Bill Bostwick, FDEP Central District

TJB _____ JJC _____ ESN _____

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June 28, 2001

Liga Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
Room 471A, Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399

Dear Ms. Mora-Applegate:

At your request, we have reviewed the March 12,2001 Remedial Investigation Report (RI) for Operable Unit 2 (OU2), McCoy Annex Landfill, Naval Training Center, Orlando, Florida, prepared by Tetra Tech NUS (TTN). This RI, which includes both human and ecological health risk assessments, is an updated version of RIs prepared previously in 1998, 1999, and 2000. We have commented on previous versions, and the latest revision has incorporated, by and large, our suggestions. However, there have been changes in proposed land use for some areas of the site that have led to new risk calculations in this version. As discussed below, we have concerns about some of the assumptions used in these calculations. Also, some corrections are suggested for the ecological risk assessment portion of the RI. Our specific comments are as follows:

Human Health Risk Assessment

1. In the 1998-2000 versions of the RI report, the site was going to remain a golf course for the foreseeable future. In these reports, the receptors considered to be potentially exposed to soil were site maintenance workers, adult and adolescent recreators (assumed to be golfers), adult and adolescent offsite residents, visitors, or trespassers, and hypothetical future adult, adolescent, and child onsite residents. However, in the March 2001 report under review, a recreational user assumed to be engaged in soccer, baseball, softball, picnicking, or walking on the trails is added because the southern wood portion of the site would be converted into these recreational facilities. An exposure frequency of 75 days/year is assumed for this recreator, taken from an Oak Ridge National Laboratory (ORNL) web-site. This assumption (1.5 days/week) is not very conservative for a site in Central Florida, in our opinion. Generally, FDEP requires calculation of risks for reasonable maximum exposure (RME), and calculation of RME involves use of an upper percentile (e.g., 90^{th}) estimate of exposure frequency. The weather in Central Florida permits outdoor play throughout the year, and an exposure frequency of 75 days/year would be an upper

percentile only if the park had limited use. If the recreational use of the property might be popular, a higher exposure frequency would be warranted. We are aware of no data that point clearly to an appropriate exposure frequency value for recreational use at this particular site. However, for perspective, a park use survey conducted for a site in South Florida with playgrounds and athletic fields near a residential area found a 90th percentile visitation rate of 350 days/year. A value as high as 350 days/year may not be appropriate for recreational areas at the McCoy Annex, but it will be important to be able to defend any choice of a lesser frequency as being health protective under site-specific conditions. The exposure frequency assumption of 75 days/year needs to be more carefully justified, if that's possible, or the value should be reconsidered.

2. A second issue with respect to the recreator scenario is the use of a fraction ingested from contaminated soil (FI) value of 0.5. On page 6-28, TTN justifies the use of this FI by stating "the receptors would not be exposed to the surface soil for a full day as residents would" and that "the receptors will be engaged in a variety of activities ranging from very contact intensive to spectator-oriented." Residents aren't usually in contact with soil for a full day either, and the soil ingestion rate assumption is not predicated on a full day of contact. The issue isn't whether a receptor is on site for a full day, but rather whether contact with soil on site needs to be balanced with some predictable contact with soil elsewhere during the same day. An FI of 0.5 assumes that for every 2-3 hour soccer practice a child attends at the site, the same day he/she will have equivalent soil contact somewhere else. This assumption is pretty hard to defend, and the usual approach is to assume that when a recreator visits a park or playground that will be the principal source of their soil contact for that day. That means, for practical purposes, an FI of 1.

Ecological Risk Assessment

1. Ecological receptors inhabiting a contaminated site are simultaneously exposed to all of the contaminants present at that site. To acknowledge this fact in the modeling exercise (as well as during screening), Hazard Quotients (HQs) should be added for chemicals with the same mechanism of toxicity and/or target organ(s), such as DDT and its breakdown products, chlordane (alpha and gamma), and endrin (endrin, endrin aldehyde, and endrin ketone). For example, although individually DDT and DDE did not represent exceedances, added hazards for the dove based on a NOAEL are in fact 1.38. Also, alpha- and gamma-chlordane were dropped from consideration during the screening comparison with "alternative" (i.e., less conservative) sets of criteria in step 3A. However, the combined exposure concentration for this group of chemicals would exceed the Probable Effects Level (PEL) of the Florida Sediment Quality Guidelines (FSQG).

2. In our opinion, it is not appropriate to use PEL values as screening criteria. The supporting document for the FSQGs states in page 15, Chapter 3 Vol. 2, that concentrations above the PEL

are those for "which biological effects are usually or always observed" and further states that exceedances "represent significant and immediate hazards to exposed organisms."

3. The short-tailed shrew is a burrowing insectivore that feeds almost exclusively on invertebrates, mainly earthworms, embedded in the soil matrix. A 3% incidental soil ingestion was used based on data from the omnivore, white-footed mouse presented in the 1993 USEPA *Wildlife Exposure Factors Handbook*. This value is not appropriate because it has been estimated that earthworms can contain 20 to 30% soil (Beyer et al. 1994). We think the soil ingestion value of 10% based on a range presented by Beyer et al. (1993) for the short-tailed shrew should be used.

We hope that these comments are helpful. Please do not hesitate to contact us if you have any questions regarding them.

Sincerely,

Hugo Ochoa, DVM, Ph.D.

Stephen M. Roberts, Ph.D.

References

Beyer, W.N. Conner, E., and Geroud, S. 1993. Estimates of soil ingestion by wildlife. US Fish and Wildlife Service, Patuxtent Wildlife Research Center, Laurel, MD.

Beyer, W.N. Conner, E., and Geroud, S. 1994. Survey of soil ingestion by wildlife. Journal of Wildlife Management 58:375-382.