

N65928.AR.001538
NTC ORLANDO
5090.3a

LETTER REGARDING REGULATORY REVIEW AND COMMENTS ON DRAFT RISK
REASSESSMENT FOR OPERABLE UNIT 3 (OU 3) NTC ORLANDO FL
7/7/2005
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Department of Environmental Protection

JEB BUSH
Governor

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

Colleen M. Castille
Secretary

July 7, 2005

Mrs. Barbara Nwokike
Code ES33
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Draft Risk Re-Assessment Report for Operable Unit 3, Orlando
Naval Training Center, Orlando, Florida

Dear Mrs. Nwokike:

The Department has completed its review of the Draft Risk Re-Assessment Report for Operable Unit 3, Orlando Naval Training Center, dated May 2005 (received May 11, 2005), prepared and submitted by Tetra Tech NUS, Inc. I have attached comments from Stephen Roberts, Ph.D., and Eric Hughes, University of Florida, that should be considered.

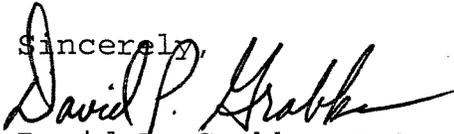
- (1) The main focus of their comments relates to the calculation of alternative freshwater surface water cleanup target levels. Chapter 62-780, Florida Administrative Code, does not allow for the calculation of alternative cleanup target levels for surface water.
- (2) Our risk assessors have determined that for surface water, contaminants of concern would include beryllium, lead and nickel at both Study Areas. The rationales given for the elimination of those contaminants in the Draft Risk Re-Assessment Report are not clear or are not allowed under Florida regulations. However, I could not find a plausible explanation for the presence of beryllium and nickel in groundwater next to Lake Baldwin from past site activities. I feel an indepth discussion of past site activities and the types of contaminants that could be discharged to the environment coupled with a complete explanation of past groundwater analytical data for those compounds, would be a more acceptable method for trying to remove those contaminants as contaminants of concern.

If I can be of any further assistance with this matter, please contact me at (850) 245-8997.

"More Protection, Less Process"

Printed on recycled paper.

Mrs. Barbara Nwokike
July 7, 2005
Page two

Sincerely,

David P. Grabka, P.G.
Remedial Project Manager

cc: Tom Lubozynski, FDEP Central District
Greg Fraley, USEPA Region 4
Steve McCoy, Tetra Tech NUS, Oak Ridge TN
Steve Tsangaris, CH2M Hill, Tampa

JJC JJC ESN ESN
by
ESN



June 23, 2005

Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

Re: *Draft Risk Re-Assessment Report at Operable Unit 3, NTC, Orlando.*

Dear Ms. Mora-Applegate:

We have reviewed at your request the *Draft Risk Re-Assessment Report at Operable Unit 3, Naval Training Center, Orlando*. This report is dated May 2005, was prepared by Tetra Tech and presents a re-evaluation of groundwater analysis for Study Areas 8 and 9 of Operable Unit 3. Recent groundwater sampling was conducted in 2004 for these two areas, and is used in the re-assessment. Although the risk assessment methodology as described in Section 2.0 of the report initially appears to follow both FDEP and EPA guidelines for groundwater assessment and compliance, much of the actual work merits comment. One of the issues that we address here is the questionable reasoning behind some of the data analysis. We list these concerns below.

1. Tables 3-1 and 4-1 present the initial screening of groundwater data for each area against EPA MCL values and the Florida groundwater cleanup target levels (GCTLs). The maximum values for groundwater contaminants are used in this comparison. Additionally in Tables 3-1 and 4-1, the maximum values are compared to *apportioned* screening levels based on Region 9 Residential PRGs. The reasoning given in the text, (page 2-4) is that Region 9 Tap Water PRGs "are adjusted for screening to reflect cumulative issues (e.g., an HW of 0.1)" It is also stated that the "Region 9 screening levels were developed in keeping with the simple apportionment approach presented in the Rule Development Workshop for Chapters 62-777, -780, and -785, F.A.C., Additive Effects and Apportionment (FDEP, May 2004)". This is confusing because as stated in the Final Technical Report: Development of Cleanup Target Levels for Chapter 62-777, F.A.C. page 134 of Appendix E, "alternative groundwater CTLs can be *developed* that allow limited contact with groundwater". This is one of two available types of alternative groundwater CTLs that once developed "must be apportioned". It is very unclear how this would apply or relate to the Region 9 Tap Water PRGs.

2. Tables 3-2 and 4-2 present the summary of cancer risks and hazard indices derived through the use of exposure point concentrations. However, the method used to derive the exposure concentrations is basically flawed. The exposure point concentrations calculated for groundwater are stated to be "the arithmetic averages of the concentrations in wells in the highly concentrated area of the plume". While concentrations of a contaminant in groundwater may vary over a site, an individual will

be exposed only to the concentration that exists where a drinking water well is placed. Exposure risks from groundwater, calculated using a site-wide average groundwater contaminant concentration, consequently have no clear meaning.

3. Tables 3-3 and 4-3 present the comparison of maximum groundwater concentrations to Florida "Level 1 Direct Contact" Groundwater CTLs as was done previously in Tables 3-1 and 4-1. The value gained in screening against these values twice is apparently none, since the same contaminants were chosen again. Why this comparison was repeated is unclear.

4. Tables 3-4 and 4-4 present the comparison results of shoreline groundwater to surface water CTLs. Ordinarily, this method is very appropriate and considers the effects that contaminated groundwater may have upon surface water. It also complies with FDEP requirements for groundwater analysis at the location of groundwater discharge to surface waters. However, the appropriate CTL values were not used. The "Florida Freshwater Surface Water CTLs Based on Direct Contact" presented in these tables are not the Florida Freshwater Surface Water Criteria found in Chapter 62-777 F.A.C. Instead, these alternative CTLs were calculated with the reasoning that FDEP Risk Management Option Level III "allows for the development and use of alternative CTLs". It is unclear whether this risk assessment is following the additional requirements of Option III, or Option III was convenient for the purpose of deriving alternative freshwater cleanup levels. Some of these calculated values, for example the beryllium CTL, are well above surface water standards and should not be used as their replacement.

5. Also in Tables 3-4 and 4-4 are alternative CTLs for freshwater surface water based on fish ingestion. The reasoning given for these is that (page 2-4) "If surface water CTLs for fish ingestion were not provided in Table 1 of Chapter 62-777, then values used for screening were calculated using the equations and exposure factors presented in Figure 3A, Chapter 62-777 F.A.C. (FDEP, August 2003)." However it appears that alternative values were calculated for surface water contaminants regardless of whether there was a CTL available in Table 1. In addition, these calculated values differ drastically from those in Table 1 and could not have been calculated using the same exposure factors from Figure 3A. For example, the CTL for aluminum listed in Table 1 is 13 ug/L compared to the calculated value of 3,990,000 ug/L. The Table 1 CTL for Iron is 1000 ug/L compared to the calculated value of 1,010,000 ug/L. In the case of arsenic, the calculated CTL is far below the value in Table 1. This brings into question, why were alternative values calculated for these contaminants?

6. Shoreline groundwater values were also compared, as appropriate, to Chapter 62-302.503 Florida Freshwater Surface Water CTLs for Class III Freshwater and several contaminants were identified as COPCs: beryllium, lead and nickel. However, in Tables 3-6 and 4-6, the following rationale was given for the subsequent elimination of these contaminants:

1. Narrow concentration range (lead, area 8).
2. Shoreline well concentrations similar to source area well concentrations.
3. The spatial distribution of the data does not suggest a strong relationship with contaminant source areas.
4. A 10-fold dilution would result in lead concentrations less than screening criteria.

Exactly how these reasons prove that the contaminants are not site related and should not be considered is unclear. In addition, FDEP requirements do not allow for dilution as a solution for groundwater impacts to surface water. Therefore, if accepted, these rationale need to be proven further with more clarity.

In summary, the methodology used for this groundwater risk assessment appears to be based on some confusion concerning the requirements and application of FDEP groundwater cleanup criteria. Therefore, many of the conclusions are questionable. It might be useful to schedule a meeting with Tetra Tech in order to resolve some of these issues. In light of this, however, upon examination of the sampling history of groundwater contamination for this particular site the major contaminants such as arsenic appear to be stable or decreasing. Nevertheless, we are in agreement that future residential use of this site should include institutional controls to prevent the use of wells for drinking water.

For clarity, the contaminants of concern that exceed Florida Groundwater Cleanup Target Level Criteria according to Chapter 62-777 and Chapter 62-302 F.A.C. for each study area are:

	Groundwater	Surface water
Study Area 8	Arsenic Manganese	Beryllium Lead Nickel
Study Area 9	Arsenic Alpha-BHC Gamma-BHC Nickel	Beryllium Lead Nickel

We hope these comments are helpful and look forward to assisting you further in the resolution of this site.

Sincerely,



Stephen M. Roberts Ph.D



Erin M. Hughes M.S.