



Department of Environmental Protection

JUL 13 1999

Jeb Bush
Governor

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

David B. Struhs
Secretary

N00204.AR.001780
NAS PENSACOLA
5090.3a

July 2, 1999

Mr. Bill Hill
Code 1851
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Final Baseline Risk Assessment Errata, OU2 (Sites 11, 12, 25, 26, 27, and 30) Remedial Investigation Report, NAS Pensacola

Dear Mr. Hill:

I have completed the technical review of the above referenced document dated October 30, 1998 (received November 4, 1998). Attached are comments received from the University of Florida, Center for Environmental and Human Toxicology.

I recommend that a meeting with the document authors and the University of Florida reviewers be arranged to discuss these comments. I wish to defer my final comments on this document until after this meeting.

If I can be of any further assistance with this matter, please contact me at (850) 921-9989.

Sincerely,

Joseph F. Fugitt

Joseph F. Fugitt, P.G.
Remedial Project Manager

cc: Ron Joyner, NAS Pensacola
Gena Townsend, USEPA Region IV
Brian Caldwell, EnSafe, Knoxville
Allison Harris, EnSafe, Memphis
Tom Lubozynski, FDEP Northwest District

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"Protect, Conserve and Manage Florida's Environment and Natural Resources"



June 10, 1999

Ms. Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
Room 471 A, Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Ms. Mora-Applegate:

At your request, we have reviewed the *Final Baseline Risk Assessment (BRA) Errata for Operable Unit 2 (OU 2) at the Naval Air Station in Pensacola, Florida*. OU 2 consists of Sites 11, 12, 25, 26, 27, and 30 and is located on the northeast part of NAS Pensacola. This BRA Errata, which includes human health and ecological risk assessments, was prepared by EnSafe, Inc., and is dated October 30, 1998. We previously reviewed and submitted comments to you on this BRA as part of the *Remedial Investigation Report* for OU 2 in letters dated November, 15, 1996, November 26, 1997 and July 7, 1998. In the present BRA Errata, EnSafe has provided responses to our comments. While most of our comments have been satisfactorily addressed in the document, a few outstanding issues remain.

Comments Applicable to All Sites

Management of Site-Related Data

In the letter to you dated November 26, 1997, we commented on the manner in which non-detect sample results were treated in the OU 2 BRA. EnSafe did not respond to that comment and has not made any changes with respect to that comment in the current document. For organic contaminants that are potentially present below their respective sample quantitation limit (SQL), EnSafe used the lower of one-half the SQL or one-half of the lowest qualified (estimated) concentration detected. As we stated previously, this method will tend to bias the mean of the data towards lower values. Implicit in this approach is the assumption that the lowest detected concentration is the highest concentration in all of the non-detect samples. Since no justification for such an assumption is provided, one-half the SQL should be used in accordance with RAGS guidelines.

Inhalation Exposure Pathway for Volatile Contaminants

We previously suggested that the inhalation pathway should be included when considering risks from exposure to volatile contaminants in the soil. EnSafe responded by stating that "the inhalation pathway for volatiles was screened out in the RIs. Revised

risk assessments will include the results of this screening in tabular form." There are no such screening tables provided in the current document. For each site being considered as part of OU 2 there is a table entitled "Exposure Pathway Summary." In each case, this table indicates that the inhalation pathway was screened out because "fate and transport screening determined this to be an insignificant pathway." It is unclear why the screening tables were not provided in the current document. The results of the fate and transport screening must be provided in order to justify the exclusion of this pathway.

Use of a modified reference dose for manganese

We previously pointed out that FDEP makes an additional modification to the reference dose (RfD) for manganese to account for ingestion from other sources. The adjusted RfD used by FDEP is 0.023 mg/kg-day. In their responses to our comments, EnSafe indicated that while the unmodified IRIS oral RfD of 0.047 mg/kg-day would be retained, a footnote would be added to each table in which it was used that states, "using the FDEP recommended RfD (0.023 mg/kg-day) manganese would effectively double its hazard quotient." Unfortunately, this footnote is not present in the tables for all sites in OU 2 where manganese was identified as a COPC. In addition, the RfD used for manganese is inconsistent from site to site. For example, manganese was identified as a COPC in the soil at sites 12, 25, 27, and 30. In the tables for sites 12 and 27, the IRIS RfD is used and the FDEP value is identified in a footnote; in the tables for site 25, the IRIS RfD is used but the FDEP value is not identified by a footnote; and finally in the tables for site 30, the FDEP recommended RfD was used. In addition, at all of the sites where manganese was identified as a COPC in the groundwater (sites 11, 27, and 30), the FDEP recommended RfD was used. The reasons for these inconsistencies are unclear, but EnSafe should pick an approach and apply it at all of the sites at OU 2.

Site 25

Use of the FI/FC Term

Despite continued urging to the contrary, in the current document EnSafe uses an FI/FC of 0.4 to develop EPCs for Aroclor-1260 and cadmium at Site 25. The variability in the data for these chemicals at Site 25 results in a situation in which the 95% UCL exceeds the maximum detected concentration. RAGS guidance indicates that in cases such as this, the maximum concentration should be used as the EPC. However, EnSafe contends that the distribution of these contaminants is localized to small "hot-spots" within the larger site and that the use of the maximum detected level and an FC of 1 is overly conservative. As we have stated previously, the fact that the 95% UCL is greater than the maximum detected value is indicative of the insufficiency of the data to adequately characterize the distribution of contaminants. In a previous correspondence (July 8, 1998), we indicated that if EnSafe insisted on using FI/FC in estimating the risks posed by this site, the extent of the contaminated area must be carefully defined and justified.

In the current document, EnSafe has added more text describing the rationale for the use of the FI/FC term. Unfortunately, the data required to justify their rationale are still conspicuously missing. On page 10-170, EnSafe indicates that the FVFC terms were "calculated using a geospatial analysis." There is no evidence presented in the current document that anything other than an "eyeball" geospatial analysis was performed. It certainly appears that the limited amount of sampling data could equally well support other conclusions about the impacted area of soil.

EnSafe does present the results of another treatment of the hot spot data in the current document. On page 10-172, it states that RAGS guidance indicates that risks from exposure to hotspots may be assessed by averaging soil data over a 1/8-acre area. When this is done for the samples with the highest Aroclor 1260 concentrations, the result is an average concentration of 6.9 mg/kg. EnSafe states that this methodology yields a lower EPC value than the use of the maximum detected value with an FI of 0.4 (EPC = 12,400 mg/kg). While this is true, there is a problem with EnSafe's interpretation of the RAGS guidance. It is impossible to know the true average of soil concentrations over the 1/8-acre area, particularly with only 5 samples. Therefore, EnSafe is back in the position of having to use the lower of an upper bound (95% UCL) estimate of the mean or the maximum detected concentration. Of course, with only 5 samples, the maximum detected concentration would have to be used.

The problem at Site 25 ultimately comes down to insufficient data. Much time and effort could have been spared by simply returning to the site for some additional soil samples to better characterize these "hot spots" at Site 25. Instead, EnSafe has repeatedly tried to justify the use of an FI/FC term that is simply not warranted by the data.

We hope that you find these comments helpful. Should you have any further questions, please do not hesitate to contact us.

Sincerely,



Christopher J. Saranko, Ph.D.



Stephen M. Roberts, Ph.D.

cc: Joe Fugitt