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LETTER AND COMMENTS FROM FLORIDA DEPARTMENT OF ENVIRONMENTAL
PROTECTION REGARDING REVIEW AND REJECTION OF FINAL REMEDIAL
INVESTIGATION REPORT ADDENDUM I SITE 40 NAS PENSACOLA FL
3/21/2003
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Florida Department of Environmental Protection

From: Tracie L. Vaught

Date: March 21, 2003

Tracie L. Vaught

To: Mr. Bill Hill

**Site or Document: Final Remedial Investigation Report Addendum 1
Site 40-Bayou Grande**

Facility: NAS Pensacola, Florida

Document Date: February 28, 2003

Receipt Date of Document: February 28, 2003, via email.

I have reviewed the subject document and it is not approved by FDEP. Attached are comments from Hugo Ochoa, which explains the state's position on this matter. I propose that Hugo attend the next partnering meeting to be held in May, 2003. He is not available to attend the partnering meeting next week.



March 19, 2003

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

Dear Ms. Mora-Applegate:

At your request, we have reviewed a February 28, 2003 memorandum containing EnSafe's responses to our comments on the *Addendum I (Human Health) of the Final Remedial Investigation Report – Site 40 – Bayou Grande, Naval Air Station, Pensacola, Florida*. In addition to responding to our comments, the memorandum presents new calculations on risks to fishermen posed by contaminants in Site 40, Bayou Grande. While a number of the exposure assumptions have been changed, the new values are poorly justified, in our opinion. Consequently, we continue to disagree with the risks presented by EnSafe. Details regarding the responses to our comments are as follows:

Comment 1: We recommended that the fish ingestion rate of 26 g/day should be used as the RME assumption, per the U.S. EPA Exposure Factors Handbook. EnSafe agreed to change the fish ingestion rate for the recreational angler to 26 g/day.

Comment 2: We recommended that the fish ingestion rate for the subsistence fisherman should be 170 g/day, per the U.S. EPA Exposure Factors Handbook. Ensafe has responded by dropping the subsistence fisherman scenario from the risk assessment.

Comment 3: EnSafe included a Site Foraging Factor of 0.32 in the exposure calculations, based on the fact that Site 40 only occupies 32% of Bayou Grande. We pointed out that this assumes that fish contact all areas of Bayou Grande equally and randomly, and that this was unlikely to be the case. In the new risk calculations, the Site Foraging Factor has been doubled (to 0.64) to account for the preference of fish for the Site 40 area of the Bayou. This is an improvement, but still assumes that the rest of Bayou Grande is clean, which is highly questionable. We continue to recommend a Site Foraging Factor of 1.0 for recreationally caught fish.

Comment 4: We questioned the EnSafe assertion that PCB contamination in fish is not related to Site 40, but is instead the result of conditions prevalent in the general area around Site 40. In response to this, EnSafe conducted a literature review of background PCB levels in fish. This literature review indicates that PCB concentrations in fish at Site 40 are in fact higher than fish concentrations in nearby reference areas. The revised risk assessment no longer contends that PCBs in fish are not site related.

In calculating risks to fishermen, several new assumptions are made. These include the following:

Comment 1 on New Calculations: Fish consumption rates for children and women of child-bearing age will be constrained by Department of Health fish advisories. Consequently, the fish advisory limit (8 g/day) is used as the ingestion rate for children and adult women. Adult men are assumed to ingest fish at a rate of 26 g/day, the adult ingestion rate recommended in the U.S. Exposure Factors Handbook. This approach places high confidence in the effectiveness of fish advisories to limit contaminant intake, which may be questioned because of several factors. First, fish advisories are not particularly effective in preventing fish consumption. For example, despite considerable publicity about contamination of sport fish in the Great Lakes, a study of consumers of Great Lakes sport fish found that less than 50% were aware of the fish advisories (Tilden et al., Environ. Health Perspectives 105:1360-1365, 1997). Second, the advisory is based on protection against mercury toxicity and only applies to some fish species of certain size. Consequently, even if there is strict adherence to the fish advisory, consumption of contaminated fish by children and pregnant women could exceed the assumptions used in the risk calculations. Third, the fish advisory is a form of institutional control created in response to a different problem (mercury contamination). Because the fish advisory is not linked to Site 40 contamination, a decision to lift the advisory could be made without regard to any continuing risks from Site 40 contaminants in fish. In view of these questions, we recommend dropping the child and pregnant woman risk values and focusing instead on the adult fisherman.

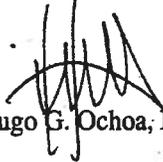
Comment 2 on New Calculations: EnSafe now uses a fraction of contaminated area factor to modify the fish tissue concentration. This factor corresponds to the area estimated to be impacted by contaminants (from sampling results) to the total area occupied by Site 40. We understand that a major concern is the potential for overestimation of fish contaminant concentrations because fish tissue samples collected in 1998 were obtained from locations with the highest sediment PCB concentrations. However, the proposed approach designated areas as contaminated and uncontaminated based on very little data, and it assumes that sediments outside the sampled area are clean. The solution to this problem, in our opinion, would be to collect more representative fish concentration data, either from prey fish taken over a wider area, or preferably, directly from sport fish from the area.

Comment 3 on New Calculations: A new factor is proposed to account for "successful fishing" at Bayou Grande. This factor is based on a personal communication with the Florida Marine Patrol Office that reported, "a full bag limit (one redfish and five trout) is not frequently observed in

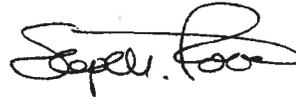
Bayou Grande." According to EnSafe, "This implies a fraction of less than 0.5 for obtaining a full bag limit from Bayou Grande." The fish ingestion rate assumption of 26 g/day is not contingent on a successful limit of fish each outing. In fact, as we pointed out in our previous comments, fishing success is already included in the derivation of this recommended value. They also propose another factor (Fraction Use of Contaminated Area by Fishermen) to address the likelihood that not all fish caught from Bayou Grande will be taken from the Site 40 area. Because the Site 40 area may be attractive to fishermen, they propose multiplying the fraction of the Bayou that is Site 40 (0.3) by 2. This would yield a Fraction Use of Contaminated Area by Fishermen of 0.6. We agree that a Fraction Use factor less than 1 is reasonable, but point out that, in the absence of any data on fishing patterns in the Bayou, this value is speculative. As such, it merits special attention in a discussion of uncertainties associated with the risk calculations.

In conclusion, we cannot endorse the recalculated risks presented in the technical memorandum because some of the assumptions are incorrect, in our opinion. We agree with the assessment that the Site 40 contaminant posing the greatest risk from consumption of fish is PCBs, but the excess cancer risk presented for contaminant has been underestimated.

Sincerely,



Hugo G. Ochoa, DVM, Ph.D.



Stephen M. Roberts, Ph.D.