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LETTER AND ATTACHED COMMENTS FROM UNITED STATES DEPARTMENT OF
INTERIOR REGARDING THE FINAL WORK PLAN FOR SITE SCREENING AREAS 1, 6, 7
AND 15 NWS YORKTOWN VA
12/3/1994
UNITES STATES DEPARTMENT OF THE INTERIOR



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

COLONIAL NATIONAL HISTORICAL PARK
POST OFFICE BOX 210
YORKTOWN, VIRGINIA 23890

December 3, 1994

Ms. Brenda Norton
Naval Facilities Engineering Command
Building N-26, Naval Base (Code 1822)
Norfolk, Virginia 23511-6257

Dear Mrs. Norton:

Attached are the National Park Service's comments regarding the *Final Work Plan: Site Screening Areas 1, 6, 7, and 15, Naval Weapons Yorktown, Report and Baker Environmental*. We feel these are also applicable to the *Draft Final 1995-1996 Site Management Plan, Naval Weapons Station Yorktown*, dated 9/30/94. If you have any question please feel free to contact Dr. Roy Irwin, at 303/225-3520.

Welcome back. I look forward to seeing you and pictures of the baby. I hope you have a very happy holidays.

Sincerely,

Chuck Rafkind
Natural Resource Management Specialist

attachments

cc: COLO-Burnett, Gould
MARO-Bentley, Cooke
NWS-Loftin
WASO-Irwin, Flora
USEPAThompson

November 22, 1994

**Review of Final Work Plan: Site Screening Areas 1,6,7, and 15,
Naval Weapons Yorktown, Report and Baker Environmental,**

**Review Provided to COLO and HAZMAT staff by Dr. Roy Irwin, USNPS-
Water Resource Division**

Overall, there are many good things about the proposed plan. However, there are also appear to be some items in the plan and/or documentation that still need to be corrected:

1) Section 3.1, page 3-1: Chemicals of concern will be selected based on which are detected. Thus it is very important that complete scans be done to determine the full range of chemicals present, and that appropriately low state-of-the-art lab methods be used so that chemicals are not disregarded as "non-detected" when really the problem was simply that the detection limits used were too high. The current proposal does not document that this will be done.

2) Section 3.3, page 3-3: These are not all the documents that should be consulted. The lowest benchmarks from diverse sources, not just the listed EPA sources, should be utilized. This process takes a while, but is what is necessary. For example, at the federal facility at Oak Ridge National Lab, the benchmarks were developed from many sources and documented in the following publications:

Suter, G.W. II, M.A. Futrell and G.A. Kerchner. 1994. Toxicological benchmarks for screening of potential contaminants of concern for effects on aquatic biota on Oak Ridge Reservation, Oak Ridge, Tennessee: 1994 Revision. Oak Ridge National Laboratory, Oak Ridge, TN, Oak Ridge Publication Number ES/ER/TM-96/R1.

Opresko, D.M, B.E. Sample, and G.W. Suter II. Toxicological benchmarks for wildlife: 1994 Revision. Oak Ridge National Laboratory, Oak Ridge, TN, Oak Ridge Publication Number ES/ER/TM-86/R1.

Will, M.E. and G.W. Suter II. 1994. Toxicological benchmarks for screening potential contaminants of concern for effects on terrestrial plants: 1994 Revision. Oak Ridge National Laboratory, Oak Ridge, TN, Oak Ridge Publication Number ES/ER/TM-85/R1.

Hull, R.N., and G.W. Suter II. 1994. Toxicological benchmarks for screening contaminants of potential concern for effects on sediment-associated biota: 1994 Revision. Oak Ridge National Laboratory, Oak Ridge TN, Oak Ridge Publication Number ES/ER/TM-95/R1.

The above are examples for ecological risk assessment. They contain examples of benchmarks for PAHs in the lower parts per billion range, which is one reason why the standard EPA scans for volatile, semivolatiles, and the typical TCL/TAL compounds are usually inadequate: they don't utilize low enough detection limits and they don't cover the complete range of compounds of concern.

For human health (drinking water), PAHs including Benzo(A)pyrene and others also have risk levels in the lower parts per billion range. This is relevant to groundwater and the standard EPA scans are inadequate to fit into the risk assessment scheme proposed in sections 3.4.2 and sections 3.4.3. See the latest EPA updates to MCLs and recent publications such as the following:

Mastran, R.A., A.M. Dietrich, D.L. Gallegher, and T.J. Grizzard 1994. Distribution of polyaromatic hydrocarbons in the water column and sediments of a drinking water reservoir with respect to boating activity. *Wat.Res.* 28: 2353-2366.

3) Section 3.4.1, top of page 3-4: To safely be considered "generally" (universally) acceptable as a "safe" level by EPA, 10-6 is the figure to shoot for.

4) Section 3.4.2 and 3.4.3: Both of these formulas utilize "maximum detected concentrations." Thus it is important that low detection limits be used, or a lot of compounds will inappropriately not be considered (see comments above). This is a very important point, and a reason why the best expanded/fingerprinting scans for PAHs with detection limits in the 1 ppb billion range be used rather than the older EPA scans which use much higher detection limits for a lower number of PAHs. The latest scans can be done by labs such as AD Little in Cambridge, MA; and the GERG Lab at Texas A. and M. Such scans are done by the Navy in other locations (San Diego for example) and now are routinely done by anyone needing scientifically acceptable data for risk assessment or damage assessment. The old EPA scans are simply not acceptable for these purposes. For details, see:

Sauer, T. and P. Boehm. 1991. The use of defensible analytical chemical measurements for oil spill Natural Resource Damage Assessment. 1991 Oil Spill Conference, pages 363-369, reprint available from Arthur D. Little, Inc., 25 Acorn Park, Cambridge, Mass 02140.

5) Section 3.4.3: For ecological risk assessment, this equation is but one of the more simplified ways of doing business. For a more complete guide of what is typically necessary, see:

Suter, G.W II. 1993. *Ecological Risk Assessment*. Lewis Publishers, Chelsea, MI., pp. 1-538.