



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MASSACHUSETTS 02114-2023

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March 18, 2002

Mark Evans, Remedial Project Manager
U.S. Department of the Navy
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

Re: Dioxin Reassessment at the Lower Subase

Dear Mr. Shafer:

As you know, EPA will be completing its comprehensive reassessment of dioxin exposure and human health effects entitled, *Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds*. The latest version of the dioxin reassessment can be found at <http://cfpub.epa.gov/ncea/cfm/dioxin.cfm?ActType=default>.

EPA has determined that its earlier policy cleanup number of 1 ppb is not protective of human health and the environment. Although a soil cleanup number has yet to be formally issued, it is very likely that the level will be less than 1 ppb. The findings from the dioxin reassessment reveal that the current cleanup level for dioxin at 1ppb is not protective since it is associated with approximately 7×10^{-4} lifetime excess cancer risk, which is outside EPA's acceptable risk range of 10^{-6} to 10^{-4} . Therefore, for dioxin cleanup numbers in soil, EPA suggests that a risk-based cleanup level be developed for the site. EPA also suggests that the cleanup level of 1 ppb be compared with the new risk-based cleanup number in a risk management report or in the Feasibility Study.

EPA's current cancer slope factor is from the World Health Organization (WHO) Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife of 1998 as contained in *Environmental Health Perspectives*, Vol. 106, No. 12, December 1998. EPA requests that the TEFs for dioxins and furans for humans and mammals be used for all quantitative human health risk evaluations involving oral exposure to dioxins and furans. This will enable the project team to derive a "2,3,7,8 TCDD toxic equivalent concentration" or TEQ.

EPA recommends that, at sites where dioxin has been detected (*i.e.*, Lower Subase), the dioxin TEQ concentration should be evaluated using two distinct oral slope factors. This will result in two distinct estimates of cancer risk. The first evaluation should be performed by using the current 2,3,7,8-TCDD oral slope factor available from the EPA HEAST database of 1.5×10^5 (mg/kg/day)⁻¹. A second risk evaluation should be performed using the same dioxin TEQ and the newly derived oral slope factor from the EPA Draft Dioxin Reassessment for 2,3,7,8-TCDD of 1

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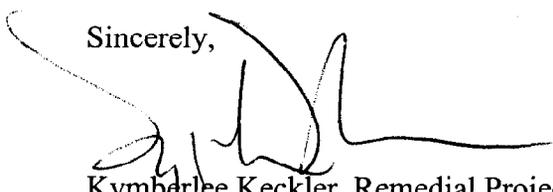
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$\times 10^6$ (mg/kg/day)⁻¹ noted above. The difference in the two cancer risk values should be discussed and risk-based cleanup numbers for dioxin in soil and sediment will need to be developed.

I look forward to working with you and the Connecticut Department of Environmental Protection toward the cleanup of the Lower Subbase. Please contact me at (617) 918-1385 to discuss how this will interface with our on-going plans to evaluate remedial alternatives.

Sincerely,



Kimberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

cc: Mark Lewis, CTDEP, Hartford, CT
Dick Conant, NSB, Groton, CT
Mary Sanderson, USEPA, Boston, MA
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