



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER MANAGEMENT



August 18, 1999

Mr. Corey Rich
Tetra Tech NUS, Inc.
661 Andersen Drive
Pittsburgh, PA 15220-2745

Re: Additional Remediation Criteria
Basewide Groundwater OU Remedial Investigation
Naval Submarine Base - New London, Groton, CT

Dear Mr. Rich:

The Department of Environmental Protection and Department of Public Health have reviewed your request dated December 8, 1998 for additional remediation criteria to be applied at the Naval Submarine Base -- New London located in Groton, CT as well as the submittal dated April 14, 1999 responding to the Department's comment letter dated March 16, 1999.

The following are comments from both the Department of Environmental Protection and Department of Public Health regarding the proposed additional criteria:

1. Regarding the proposed dioxin and furan pollutant mobility criteria, the underlying groundwater protection criteria for 2,3,7,8-TCDD with the associated TEFs are found to be appropriate given the additional information submitted.
2. The proposed groundwater protection criteria of 280 $\mu\text{g/l}$ for 2-methylnaphthalene is higher than the groundwater protection criteria of 49 $\mu\text{g/l}$ approved by the Department on April 30, 1999 for use at all sites in Connecticut. Using a reference dose for naphthalene as a surrogate exposure value for 2-methylnaphthalene is inappropriate. The Department of Health referred to the risk information from the Agency for Toxic Substances and Disease Registry (ATSDR) which develops minimum risk levels (MRLs) that are similar to EPA reference doses. ATSDR provides a subchronic oral MRL for naphthalene of 0.02 mg/kg/d, a chronic inhalation MRL for naphthalene of 0.003 mg/kg/d, and a chronic oral MRL for 1-methylnaphthalene of 0.08 mg/kg/d. Taking into account the three MRLs, using the standard ten fold uncertainty factor to extrapolate from the subchronic to chronic oral MRL for naphthalene, and factoring in the carcinogenicity evidence in the case of 1-methylnaphthalene the Department of Health derived an interim exposure level for 2-methylnaphthalene of 0.007 mg/kg/d.
3. The proposed groundwater protection criteria of 0.2 $\mu\text{g/l}$ for dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene based on the detection limits are appropriate.

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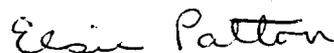
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4. The proposed groundwater protection criteria of 70000 $\mu\text{g/l}$ for dimethyl phthalate is unacceptable. The Department approved a groundwater protection criteria of 5600 $\mu\text{g/l}$ for dimethyl phthalate on April 30, 1999 for use at all sites in Connecticut. The reference dose listed on the Region III table for dimethyl phthalate has been withdrawn, which means the reference dose listed is not well supported. Given that dimethyl phthalate is similar in structure to diethyl phthalate, the Department of Health has found it appropriate to use the reference dose for diethyl phthalate of 0.8 mg/kg/d to develop criteria for dimethyl phthalate.
5. The proposed groundwater protection criteria of 50 $\mu\text{g/l}$ for manganese corresponds to the EPA secondary drinking water standard which takes into consideration odor, taste and staining issues. However, the Department of Public Health supports the World Health Organization target value of 500 $\mu\text{g/l}$ to protect public health.
6. The proposed groundwater protection criteria of 7000 $\mu\text{g/l}$ for vinyl acetate does not take into consideration chemical volatilization from water and the greater toxicity of vinyl acetate by inhalation than by ingestion. The EPA Region III table target tap water concentration of 410 $\mu\text{g/l}$ is a more appropriate value for groundwater protection criteria for vinyl acetate.
7. The current groundwater protection criteria of 600 $\mu\text{g/l}$ for 1,3-dichlorobenzene listed in the Remediation Standard Regulations has been reevaluated. The Region III risk based table lists the target tap water value as 14 $\mu\text{g/l}$ which factors in inhalation exposure. Therefore, it has been determined that 14 $\mu\text{g/l}$ is the appropriate value to be used as ground water protection criteria for 1,3-dichlorobenzene,

Please refer to the attached memorandum from the Department of Public Health for additional details regarding the comments presented above. Please submit any changes to your proposed criteria based on the comments provided by the Department of Environmental Protection and Department of Public Health. If you have any questions regarding this letter, please feel free to call Ruth Lepley at (860)424-3923 or to call the Department of Health directly.

Sincerely,



Elsie Patton

Assistant Director

Permitting, Enforcement and Remediation Division

EP/rel

Attachment

cc: Gary Ginsberg, Department of Public Health
Mark Lewis, PERD, CTDEP

memorandum

TO: ELSIE PATTON, CTDEP/WATER BUREAU
THRU: MARY LOU FLEISSNER, DPH/EEOH *mlf*
FROM: GARY GINSBERG, DPH/EEOH *GG*
DATE: AUGUST 18, 1999
re: ADDITIONAL POLLUTING SUBSTANCES: NAVAL SUB BASE

We have reviewed the April 14, 1999 submission by Tetra Tech NUS on behalf of the Navy which responds to information requested by DPH/DEP in March, 1999. Our review and comments now encompass the December 8, 1998 and the April 14, 1999 submissions.

Many of the additional polluting substance cleanup criteria proposed by Tetra Tech NUS have already been approved for other sites and were again acceptable in this case. The following points refer to those additional polluting substances where additional comment or modification is needed.

1,3-Dichlorobenzene: A GWPC of 600 ug/l is currently available in the RSRs and so it does not need to be evaluated as an additional polluting substance. However, we note that the RSR GWPC is above that which is derived from the E-based RfD available from EPA (210 ug/l) and also above the target tap water value on the Region III table (14 ug/l). This latter value factors in inhalation exposure to volatilized chemical. Based upon these considerations, we recommend a site-specific application of 14 ug/l for 1,3-dichlorobenzene with consideration given to adjusting the existing RSR value as the regulation is updated. A similar type of adjustment is needed for 1,2-dichlorobenzene.

2-Methylnaphthalene: The proposed GWPC of 280 ug/l is higher than the GWPC derived by DPH (49 ug/l) in a previous site-specific assessment. We refer you to that site (Windham Mills, 7/98) for more details.

Dimethyl Phthalate: The proposed GWPC of 70,000 ug/l is well above the value calculated previously at another site (5,600 ug/l at Tectonic, 7/98). The interim GWPC of 5,600 ug/l is appropriate for use at this site as well.

Manganese: The proposed GWPC of 50 ug/l corresponds to the EPA secondary drinking water standard, which is intended to avoid odor, taste and staining issues associated with manganese in water. However, the health-based standard is higher, with a recent risk

assessment by EEOH supporting the use of the World Health Organization target value of 500 ug/l to protect public health.

Pollutant Mobility Criteria and Surface Water Protection Criteria: DPH does not comment on these criteria as they involve additional fate and transport assumptions. However, DPH can comment on the acceptability of the underlying GWPC used to derive the GWPC. In the case of vinyl acetate, the underlying GWPC of 7000 ug/l is too high since it doesn't take into account chemical volatilization from water and the greater toxicity of vinyl acetate by inhalation than by ingestion. The EPA Region III table target tap water concentration of 410 ug/l is more appropriate as a site-specific GWPC. Regarding the proposed dioxin and furan PMCs, the underlying GWPC for TCDD and the TEFs for the dioxins/furans found on-site are appropriate.

Please feel free to contact us (509-7742) if you need additional information.

cc: R. Lepley, DEP/Water