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MEMORANDUM CH2MHILL

Response to the USEPA's Comments on the *Draft Step 4 Work Plan, Ecological Risk Assessment, Bousch Creek*

TO: Todd Richardson/USEPA

COPIES: Winoma Johnson/NAVFAC MIDLANT
Paul Herman/VDEQ
Channing Blackwell/CNRMA

FROM: Holly Rosnick/CH2M HILL

DATE: November 24, 2004

This document responds to comments from the U.S. Environmental Protection Agency (letter dated 8 November 2004) on the *Draft Step 4 Work Plan, Ecological Risk Assessment, Bousch Creek, Naval Station Norfolk* (October 2004).

1. The work plan proposes using *Leptocheirus plumulosus* for the sediment toxicity tests. Experience has shown that using a single test organism can lead to difficulty in interpreting results, particularly if conditions are not optimal. Furthermore, as sensitivity to contaminants can be significantly different across species, the results obtained for a single test species can be misleading. It is recommended that additional tests be run utilizing a second test organism. Other test species that could be considered include *Neanthes* sp., *Rhepoxynius* sp., *Eohaustorius* sp. or a bivalve.

A preliminary outline for the Step 4 studies was developed in February 2004 to be used as a guide for the Ecological Subgroup in scoping the Step 4 studies. The issue referenced in this comment was raised by BTAG during its review of this preliminary outline. This outline, and the BTAG comments on it, were discussed during a 15 March 2004 conference call of the Ecological Subgroup. During this call, it was agreed that *Leptocheirus plumulosus* was the best choice for the sediment toxicity tests and that multiple test organisms were not needed. This consensus position was reflected in the development of the presentation given to the Tier 1 partnering team at the April 2004 partnering meeting. While increasing the number of lines of evidence is generally beneficial to an ERA, the use of multiple test organisms can, in some cases, actually increase the difficulty in interpreting results when the results for the different organisms are not consistent.

2. Section 4.3.2.6 should indicate that, to the degree practicable, the same species will be submitted for tissue analysis across all sampling locations. In order to ensure that the appropriate data is collected, it would be beneficial if the plan specified the relationship between the data that will result from the proposed sampling activities and the assessment endpoints. For example, the plan should indicate how the data from the whole body fish samples will be used to assess the survival, growth, and reproduction of fish communities.

This section of the work plan will be revised to indicate that, to the degree practicable, the same fish species will be selected for tissue analysis throughout the sampled area. Based

upon the attributes of the Bousch Creek system, it is anticipated that mummichog (*Fundulus* spp.) will be the dominant fish species and will constitute most, if not all, of the fish tissue samples submitted.

The relationship between the assessment endpoints and the data resulting from the proposed Step 4 studies (quantified as measurement endpoints) is shown in Table 2-1.