January 30, 2009

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NTC GREAT LAKES
5090.3a

RESPONSE TO COMMENTS
ILLINOIS EPA REVIEW
December 15, 2008
SITE 19 SAMPLING AND ANALYSIS PLAN
NAVAL STATION GREAT LAKES

1) **Response to Comment #12** – Illinois EPA's Toxicity Assessment Unit (TAU) considers the number and location of environmental samples and the subsequent statistical evaluation of the results to be critical. Our comment was directed toward the proposed modification and use of methods contained in the free software package Visual Sampling Plan, version 5.0, (VSP). The TAU has no experience with this software package, however, a cursory review of the online documentation revealed no serious problems. While we cautiously agree to allow the use of VSP, we are disinclined to approve its use with modifications. Therefore, it is requested that the definitions regarding the null hypothesis and alpha and beta be restored to conform to the VSP guidance before this software package is used. Additionally, the response regarding use of false rejection and false acceptance rates other than 5 and 10%, respectively, must be justified and documented.

Response: ***Typically the Navy uses a range for the alpha and beta parameters from 5 to 25% depending on the degree of potential health and environmental concerns at a site. If the Navy is trying to prove that a site is clean, a more conservative alpha and beta is used, typically 5 to 10%. If an investigation is being conducted for a contaminated site, the Navy will use an alpha and beta ranging from 15 to 25%. The alpha and beta ranges that are used by the Navy are typical ranges recommended by EPA Data Quality Objective Guidance.***

For purposes of deciding the need for remedial actions (is a site contaminated), selecting an alpha of 20%, i.e, taking action at a site when an action is not warranted, does not seem to be that relaxed; in contrast, it is more protective of human health and the environment relative to selecting an alpha of 10%. Selecting a beta of 10%, i.e., not taking action when an action is warranted may be more relaxed than using a beta of 5%, but this is certainly not out of the typical range. Based on the calculations using the alpha and beta parameter described in the SAP, 14 samples would be required to achieve the specified decision performance, however, SAP Worksheet #11 indicates a 20 percent margin was added to the number of samples and then the number of samples was rounded up. These additional samples are providing a more conservative alpha and beta than what was decided. The number of samples was calculated using an alpha of 10% and a beta of 5% as suggested by Illinois EPA and the calculations indicate 32 samples (double the number of calculated planned samples [14] and only 33% more than what was actually collected) would be required. No change is recommended to the worksheet.

2) **Response to Comment #20 –** The response included a list of sources of TACO and IEPA-provided quasi-TACO objectives to be used for screening purposes. The 742 Appendix B Table C pH-specific migration-to-groundwater objectives for inorganic and ionizing organic contaminants must be used with caution. These objectives can only be utilized when sample-specific pH values are available. To adapt these values for screening, we suggest the lowest concentration across the range of potential objectives be used. Also, the URL provided in Agency comments for the USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites targeted a beta version of these tables. A permanent web location is now available at:

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm. For the sake of accuracy and completeness, the newer URL should be cited. The current series of regional screening level tables includes calculated levels for migration from soil to groundwater and from soil to outdoor air obviating the need to use a calculator to obtain these values.

Response: ***All references to the beta version of the USEPA Regional Screening Levels will be replaced by the URL provided above. As recommended, caution will be taken in using the pH-specific migration-to-groundwater objectives for inorganic and ionizing organic contaminants.***

3) **Response to Comment #28 –** The repositioning of surface soil samples from the top of the soil profile to a zone below "post-demolition topsoil or gravel" has no relevance for risk assessment. Most ingestion, dermal, and inhalation exposures for non-construction receptors under current conditions are completed through contact with existing surface soil. Risks for current conditions must be based upon contaminant concentrations at the current surface level and this stratum must be sampled and evaluated.

However, it is understood that, for this portion of the investigation, surface soil samples were intentionally not collected in order to bias data collection to the soil depth intervals most likely to be affected by suspected contamination. This was agreed upon due to the addition of fill material post demolition and the amount of re-working of that material since the indoor firing range was demolished. (In this respect, this investigation more closely resembles a Site Inspection (SI) where the intent is to determine if contamination exists rather than a Remedial Investigation (RI) where the intent is to determine the nature and extent of known contamination). If the results of this biased investigation yield exceedances of the screening values, additional surface soil samples may be required. However, if no exceedances are identified, the Agency would agree that no further action is warranted.

Response: ***Response to Comment 28 accepted. No additional changes are recommended to the worksheet.***

4) **Response to Comment #37-46** – The respective responses are acceptable provided the Navy incorporates the previous Agency comments, where appropriate.

Response: ***Response to Comment #37-46 accepted. No additional changes are recommended to the worksheets.***

5) **Response to Comment #47** – The original comment requested support for the proposed construction worker particulate emission factor (PEF) value. The response identified the construction worker PEF equation provided in the USEPA 2002 Supplemental Soil Screening Levels (SSSL) guidance as the source. The SSSL construction worker PEF equation estimates dust generation resulting from vehicular traffic over dirt roadways whereas the TACO PEF equation estimates wind generated dust. Illinois EPA will accept either of these models. We caution, though, that the SSSL model will result in more dust generation and may not be appropriate for small sites. We caution also that this model requires numerous site-specific inputs. One such input is an estimation of