UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: NASJRB/ARS Willow Grove
RI Addendum for Site 1 (Privet Road)

FROM: Linda R. Watson, Toxicologist
Technical Support Section (3HS41)

TO: Lisa Bradford, RPM
Federal Facilities Section (3HS13)

DATE March 14, 2005

I have reviewed the NASJRB/ARS Willow Grove, RI Addendum for Site 1 (Privet Road) and have the following comments to offer:

1. All risk results should be presented in RAGS D Table format per EPA Headquarters, December 1997. Please see http://www.epa.gov/superfund/programs/risk/ragsd/index.htm. The presented tables are difficult to follow, omit pertinent information, and do not follow the currently accepted formatting requirements.

2. The text presentation is somewhat confusing and difficult to follow. EPA recommends reassigning Section 4.0 as Section 2.0.

3. Section 2.3, Section 3.1.1.3, EPA no longer accepts "upfront" background elimination. All COPCs must be carried throughout the risk calculations and background can only be eliminated at the conclusion of the risk evaluation. Please see EPA, "*The Role of Background Soil Constituents in Superfund Risk Assessment and Risk Management*," August 2001 (OSWER 9285.6-07P) and EPA, "*Role of Background in CERCLA Cleanup Program*, April 2002 (OSWER 9285.6-07P).

4. Section 3.1.1, Data Evaluation and Section 3.1.1.4, Representative Concentrations, second paragraph. Please consult with the site assigned Hydrogeologist since the groundwater data was collected in 1991 (14 years old) and 1997 (8 years old). Thus, the groundwater data may longer reflect actual site conditions.

5. Section 3.1.1.1. Distributional Analyses of the Data and Section 3.1.1.4, Representative Concentrations, third bullet. Although the Shapiro-Wilk W test is still the primary statistical tool used when determining data distributions, the default lognormal assumption is no longer accepted when the data distribution cannot be determined. EPA recommends the use of ProUCL to determine the appropriate data distribution, as well as, to determine the exposure point concentration (EPC). Please see and download for use http:/www.epa.gov/nerlesd1/tsc/tsc.htm.

6. Section 3.1.1.3, Subsurface Soil Exposure COPC Selection and Section 3.1.3.2, Potential Receptors, Future Resident. Since surface soil was collected from a depth of 0 - 6 inches then

subsurface soil could become surface soil during excavation activities. Therefore, residential receptors should be quantitatively evaluated for potential exposure to subsurface soil. EPA recommends combining the surface and subsurface soil data together to evaluate the risk to the residential receptors. In addition, the last paragraph in Section 3.1.1.3 may not be true, therefore please remove this paragraph from the section. Finally, potential exposure to subsurface soil following real estate development (see Section 3.1.3.2) cannot be assessed qualitatively but must be assessed and presented quantitatively.

7. Section 3.1.3.2, Future Child Recreational Receptor. EPA recommends changing this receptor to Adolescent Recreational since adolescents are more likely to be exposed then a child. EPA regards children as 1 - 6 years of age and adolescence as 7 - 18 years of age.

8. Section 3.1.3.3.2, Subsurface Soil. The report states, "The exposure scenarios for subsurface soil are based on the assumption that subsurface soil could eventually become surface soil if excavations, erosion, construction, or landscaping activities occurred." Since this is the case, residential receptors should be evaluated for exposure to subsurface soil. Please see comment #6.

9. Section 3.1.3.5.1, Surface and Subsurface Exposure, Inhalation of COPCs in Fugitive Dust. Please follow EPA's *Soil Screening Guidance: User's Guide*, May 1996, (Equations 3 and 4). and EPA's *Soil Screening Guidance: Technical Background Document*, May 1996 to determine the risk from exposure to fugitive dust. The present equation is not commonly used and thus could delay the review process.
http://www.epa.gov/superfund/resources/soil/index.htm

10. Table 3-1. Many of the reported toxicity values have since changed. Please see EPA Region III, most recent, Risk-based Concentration (RBC) table dated 10/8/04. The RBC table is updated every six (6) months. In addition, EPA has a new dermal guidance entitled, *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal risk Assessment*, September 2001.
http://www.epa.gov/reg3hwmd/risk/human/index.htm - RBC Table.
http://www.epa.gov/oswer/riskassessment/ragse/index.htm - RAGS E, Dermal Guidance.

11. Table 3-6. Please review EPA's *Exposure Factors Handbook*, Volumes I - III, August 1997 to provide the appropriate parameter citations for EPA document sources.
http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=12464.

12. Tables 3-6 through 3-15. Throughout the tables the non-carcinogenic averaging time (AT-non-cancer) is incorrectly reported. The correct value should be exposure duration (ED) x 365 days/year.

13. Tables 3-6 through 3-15. Please review EPA's *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal risk Assessment*, September 2001 and/or EPA's *Exposure Factors Handbook*, Volumes I - III, August 1997 to determine the appropriate adherence factor (AF) that should be used for each receptor.

14. Table 3-14. EPA's RME exposure frequency (EF) default for the excavation worker is 250

days/year, not 30 days/year as provided within the table. Please use EPA's default value to determine RME risk.

15. Table 3-20. Please use the risk equations presented in EPA's *Risk Assessment Guidance for superfund, Volume I, Human Health Evaluation Manual (Part A)*, December 1989, Exhibit 6-12 and 6-13 to determine exposure from surface water.

16. Throughout the report Appendix J is referred however there is no information within Appendix J.

17. Section 3.1.3.6, Blood-Lead Modeling, page 3-60. The report states, "These histograms, along with input information particular to each run of the IEUBK model, are presented in Appendix A of the Supplemental RFI/RI Report." This information should be included in the current report. In addition, the report should provide the average soil (surface soil, subsurface soil, groundwater) concentration that was applied in the model.

18. Section 4.5.1, Surface Soil. Throughout the report, the 1992 PCB soil removal is discussed however, the report does not provide information pertaining to the collection of verification samples that were collected after the removal? In fact, the report suggests verification sampling was not performed and the next round of soil sampling occurred in 1997 during the Phase II RI removal. Was PCB verification sampling performed? If yes, this information and sampling analysis should be included within the report. If no, please explain?

19. Section 4.5.1, Surface Soil. The report states, "The soil samples taken during the 1991 soil boring program, designated as 0 to 2 feet, "*are believed*" to have been obtained from the first 6 inches of soil and for that reason are being considered surface soil for . . . " Since this information is not exact EPA recommends combining the surface and subsurface soil together to evaluate the construction worker and the residential receptors. See comment #6.

20. Section 4.5.2.2, Organics. The first sentence includes a typo for the PCB soil removal data (1966)?

21. Section 4.6.2, Conclusions, third paragraphs. The last sentence states, "Leaching of metals from the site to groundwater is a potential transport mechanism." EPA agrees with this statement and thus subsurface soil data should be screened against EPA's RBC for soil-to-groundwater.

22. Section 4.7.4, Risk Characterization, second paragraphs. The first sentence states, "Noncarcinogenic risks after the PCB-contaminated soil removal were also modeled, . . . " Please explain why and what type of modeling was conducted?

23. Table 4-25 through 4-28. The following results do not adequately present the overall risk results since they do not include the COPCs that contributed to risk. Please see comment #1.

24. Section 4.7.4, Risk Characterization. When characterizing risk all COCs contributing to risk should be discussed. In addition, the actual risk value for those COC's exceeding EPA's set benchmark criteria should be presented within the text.

25. Section 4.7.4, Risk Characterization, A Discussion of the Impact of Subsurface Soil Exposure Risks to Future Residential Receptors. Please see comment #6.

26. Tables 4-4, 4-9, 4-10, 4-13, 4-18. Since many of the toxicity values have since changed (see comment #10) the corresponding risk-based concentrations have also changed. Please review EPA's Region III's most recent RBC table for updates.

27. Table 4-7. Please provide the definition and algorithm used to determine the "representative concentration." If the representative concentration is the 95% Upper Confidence Limit (UCL) of the environmental data, the appropriate terminology should be the Exposure Point Concentration (EPC). Please see comment # 5 in regards to using software (ProUCL) to calculate the EPC. Please keep in mind, all results must be reproducible.

28. This review is incomplete since all risk calculations were not included within Appendix J. Please keep in mind, all results must be reproducible.

If you have any questions regarding these comments, please contact me at (X3116).

cc: Eric Johnson