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LETTER REGARDING COMMENTS ON APPENDIX D FROM THE DRAFT RISK
ASSESSMENT METHODOLOGY RESOURCE CONSERVATION AND RECOVERY ACT
FACILITY INVESTIGATION GENERAL INFORMATION REPORT NS MAYPORT FL
4/13/1995
UNIVERSITY OF FLORIDA



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April 13, 1995

Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
Room 471A, Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Ms. Mora-Applegate:

I have reviewed, at your request, *Appendix D, Human Health*, from the *Draft Risk Assessment Methodology, RFI General Information Report, Naval Station Mayport, Volume I*. Based on my review, I have the following comments:

Table D-1:

- The adult daily inhalation rate implicit in the assumptions used ($0.833 \text{ m}^3/\text{hr} \times 16 \text{ hrs/day}$), $13.3 \text{ m}^3/\text{day}$, is inconsistent with the source cited for these assumptions. That citation, *the Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Parameters"* (HHEM-SG, USEPA, 1991), in fact recommends $20 \text{ m}^3/\text{day}$ for an adult. This value should be used.

Table D-2:

- The assumed soil ingestion rate of 100 mg/day is acceptable, though it is not found in the cited source (HHEM-SG, USEPA, 1991).
- It is unclear how the exposed dermal surface area of the child receptor would be "site specific". A value should be specified.

Table D-3:

- The proposed inhalation rate is inconsistent with the cited guidance (see comments for Table D-1). An inhalation rate of $20 \text{ m}^3/\text{day}$ should be used.
- It is unclear what type of site worker is being modeled here. An exposure frequency of 12 days per year for 25 years appears unusual. Is this intended to represent the current RME or high-end exposed worker at this site?

Table D-4:

- The inhalation rate proposed in this table is acceptable.
- The assumed soil ingestion rate (118 mg/day) is probably too low for this scenario. HHEM-SG (USEPA, 1991) suggests 480 mg/day for activities such as construction work.

Table D-5:

- An inhalation rate of $20 \text{ m}^3/\text{day}$ should be used.

Table D-6:

- An exposure frequency of 45 days/year for trespasser contact with sediments appears inconsistent with the exposure frequency for soils (see Table D-2). Unless there is a reason why 1/3 of the trespassing events will result in sediment, but not soil, contact, the same frequency should be used for both. A frequency of 45 days/year would be reasonable.
- Surface area for the child receptor should be specified.

Table D-7:

- Surface area for the child receptor should be specified.

Table D-8:

- Surface area for the child receptor should be specified.

Table D-9:

- As with exposure to sediments (Table D-6), there is an apparent inconsistency in the trespasser exposure frequency between surface water and soils. Unless a distinction can be justified, the same exposure frequency should be assumed for both – 45 days.
- Surface area for the child receptor should be specified.

Table D-10:

- No comments

Appendix D-2:

- The proposed procedure for evaluating inhalation exposure from soil particulates includes emission rate estimation, as described in *Rapid Assessment of Exposure to Particulate Emissions from Surface Contamination Sites* (EPA/600/8-85/002, 1985), coupled with dispersion modeling using a box model. The outcome of the calculations in Table D-11 is a factor (C10), 2.02×10^{-5} , that when multiplied by the contaminant concentration in soil, yields an airborne contaminant concentration. From a practical standpoint, this value is sufficiently conservative to serve the purposes of risk assessment for this site. The USEPA has more recently refined their procedures for estimating soil particulate concentrations in air, however, including the use of a different approach for considering dispersion. This is described in the *Technical Background Document for Soil Screening Guidance* (EPA 540/R-94/106, 1994). The Navy consultants may want to consider using this more contemporary approach.

Appendix D-3:

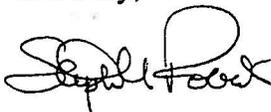
- No comments.

Appendix D-4:

- No comments.

Should you have any questions regarding these comments, please do not hesitate to contact me.

Sincerely,



Stephen M. Roberts, Ph.D.