U S NAVY RESPONSE TO U S EPA REGION I COMMENTS REGARDING JAMAICA ISLAND LANDFILL RISK ASSESSMENT NSY PORTSMOUTH ME

12/2/1996

U S NAVY

RESPONSE TO EPA COMMENTS E-MAILED ON 12/02/96
JILF RISK ASSESSMENT
PNS, KITTERY, MAINE

Comment 1: EPA understands that the JILF has a cover system in place. This cover system is reported as consisting of approximately two-feet of clay and soil. Given this fact, the dermal contact and incidental ingestion exposure pathways are actually a measure of exposure to the material imported to the site to construct the cover system rather than the landfill itself. EPA does not feel that any additional characterization of surface soil at the JILF is likely to provide any new information since these samples would also be from the cover system.

EPA would like to see information regarding the cover system included in any presentation of risk from exposure to surface soils at the JILF. This information is critical to a full understanding of potential exposure.

Response: The Navy agrees with the EPA analysis that any additional characterization of surface soil at the JILF is unlikely to provide any new information since these samples (i.e., new surface soil samples) would be from the cover system (as were the original samples collected).

The text of the risk evaluation will be amended to include information on the cover system.

Comment 2: As you know, the exposure assumptions adopted are not consistent with those previously used in the Public Health and Environmental Risk Evaluation for PNS conducted in May 1994. The receptor identified in the May 1994 report was intended to represent a recreational exposure for an adult or older child. While it appears that the receptor of concern identified in this evaluation is an "adolescent child"the exact ages of concern are not specified. Some of the exposure parameters (body weight and duration of exposure) appear in line with values characteristic of a child between 6 years and 18 years of age. In contrast, the assumed soil ingestion rate (200 mg/day) is that typically adopted by EPA as representative of a reasonable maximum soil ingestion rate for a young child (less than 6 years of age). For the 6 to 18 year age group, EPA typically adopts a reasonable maximum soil ingestion rate of 100 mg/day and an average ingestion rate of 50 mg/day, or 1/2 and 1/4 the value adopted by the Maine DEP respectively.

Response: The Navy agrees with the EPA observations regarding the conservative nature of the MEDEP selected exposure assumptions. (From a technical standpoint, the Navy and Brown & Root Environmental are in agreement with the exposure assumptions suggested by EPA Region 1.) However, the fundamental conclusions of the risk evaluation are the same regardless of the exposure assumptions used to generate the exposure dose: "In summary, the cancer risk estimates for soils within the running track area appear to reflect background conditions; adverse noncarcinogenic health effects are not anticipated for the receptor of concern as a result of exposure to the surface soils within the running track area." It should be noted that while the State exposure assumptions produce cancer risk estimates slightly exceeding 10^{-5}, EPA exposure assumptions are likely to produce cancer risk estimates in the 10^{-5} to 10^{-6} range.

Comment 3: In the evaluation of the dermal contact scenario it may be of interest to note that EPA Region I only advocates the quantitative evaluation of this scenario for cadmium, PCBs and dioxin (this policy dates back to August 1995, EPA Region I Risk Update #3). Consequently, the absorption factors identified in the evaluation for cadmium and PCBs do not currently reflect the approach taken by EPA Region I. Other exposure assumptions for this exposure pathway are within reason for a reasonable maximum exposure scenario as described. It may be of interest to note that of the two exposure pathways evaluated (ingestion and dermal contact), dermal contact risks were the greatest, and arsenic was described as having the greatest contribution to the dermal contact risks presented (a compound for which EPA Region I does not advocate a quantitative evaluation).

Response: The Navy and Brown & Root Environmental are aware of EPA Region I protocol for risk assessment. Brown & Root Environmental has completed numerous EPA Region I projects per the stated protocol. However, as noted in the response to Comment No. 2, the fundamental conclusions of the report are not altered regardless of the risk assessment methodology used (EPA versus MEDEP).

Comment 4: The oral reference dose cited for cadmium (5 E-04 mg/kg/day) corresponds to the correct value for water. When evaluating soil exposures, however, EPA Region I typically adopts the reference dose for "food" exposures of 1 E-03 mg/kg/day.

Response: The Navy agrees. However, the fundamental conclusions of the risk evaluation are not altered.

Comment 5: It should be noted that the slope factor for Arochlor 1254 of 7.7 $(mg/kg/day)^{-1}$ has been replaced with a range of potency estimates. The upper bound potency estimate for PCBs is now typically between 0.3 and 2 $(mg/kg/day)^{-1}$.

Response: The Navy agrees. However, the fundamental conclusions of the risk evaluation are not altered.