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Department of Energy
Field Office, Oak Ridge
P.O. Box 2001
Oak Ridge, Tennessee 37831— 8723

February 2, 1993

Dr. Ross Brownson, Director
Division of Chronic Disease Prevention
and Health Promotion
Missouri Department of Health
201 Business Loop 70 West
Columbia, Missouri 65203

Dear Dr. Brownson:

ST. LOUIS SITE - BASELINE RISK ASSESSMENT CONDUCTED BY THE DEPARTMENT OF ENERGY

Per your request of December 24, 1992, the following discussion provides a brief summary of the estimates of health risk for potential receptors of interest to your study, based on the "Baseline Risk Assessment for Exposure to Contaminants at the St. Louis Site, St. Louis, Missouri" (Final Draft, May 1992). Please note that the Baseline Risk Assessment (BRA) has not yet been published in final form, but technical and regulatory review has been completed and no significant changes in the risk estimates are anticipated.

The BRA evaluated potential health risks resulting from reasonable maximum exposure to site contaminants of concern for 14 potential receptors under current land use conditions and 6 potential receptors under hypothetical future land use conditions (i.e., residential use for all properties except for Coldwater Creek). The three receptor scenarios that seem most relevant to your study are the following:

- Residential vicinity property resident - Of the approximately 70 vicinity properties along the haul roads [i.e., along the roadways used to transport materials between the St. Louis Airport Site (SLAPS) and the Hazelwood Interim Storage Site (HISS)] that have been designated for evaluation in the Remedial Investigation/Feasibility Study (RI/FS), five are occupied by homes and zoned as residential properties. Therefore, a residential land use scenario was evaluated in the BRA for these properties. The resident scenario assumed an exposure frequency of 350 days per year over a exposure duration of 30 years.

- Residential vicinity property child commuter - Because contamination at the haul road vicinity properties is primarily located at the edges of the properties along the roadway, the BRA also evaluated a hypothetical receptor who would have routine contact with the more contaminated areas, i.e., a child routinely waiting for a school bus and standing in the contaminated area at the edge of the property. The child was assumed to stand in the area of contamination while waiting for a school bus 0.2 hours per day (1 hour per 5-day week) for 9 months per year over a 12-year exposure duration (i.e., grades 1 through 12).

o HISS trespasser - The HISS site is currently fenced and monitored by DOE, and only authorized personnel have routine access to this property. However, to ensure a conservative evaluation of reasonable maximum exposure, a youth trespasser who might periodically enter the site was also considered. The trespasser was assumed to gain unauthorized entry to the site 26 days per year (once per week for 6 months) for approximately 2 hours per visit over an exposure duration of 9 years.

For all three of these scenarios, the primary exposure pathways were determined to be direct external irradiation from contaminated ground surfaces, incidental ingestion of contaminated soil, and inhalation of contaminated dust. The estimated radiation dose and incremental cancer risk estimated for these exposure scenarios are as follows:

Receptor Scenario	Dose (mrem/year)	Incremental Cancer Risk
Vicinity Property Resident	4	8×10^{-5}
Vicinity Property Commuter	0.7	5×10^{-6}
HISS Trespasser	15	1×10^{-4}

The estimated radiation dose to each of these receptors is well below DOE's primary dose limit of 100 mrem/year effective dose equivalent to the public, and the estimated incremental lifetime cancer risk is within the generally acceptable range of 10^{-4} to 10^{-6} established by EPA CERCLA guidance and the National Contingency Plan. In each case, the estimates of dose and risk incorporate numerous conservative assumptions, and the actual site risks are likely to be significantly lower than these estimates. DOE is continuing to evaluate potential remedial action needs and alternatives for all properties comprising the St. Louis Site through the RI/FS process.

I hope that this information will be helpful to you. If you have any questions, please call me at (615) 576-9634.

Sincerely,

David G. Adler, Site Manager
Former Sites Restoration Division

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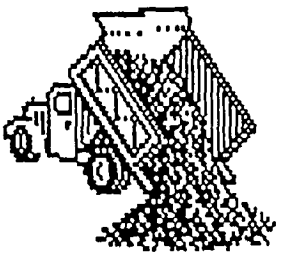

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ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri

U.S. Department of Energy