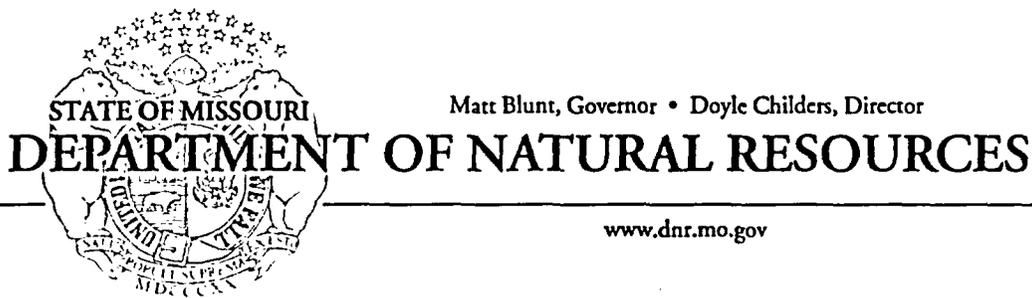


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Matt Blunt, Governor • Doyle Childers, Director

## DEPARTMENT OF NATURAL RESOURCES

[www.dnr.mo.gov](http://www.dnr.mo.gov)

November 1, 2005

Ms. Amy M. Snyder, Senior Project Manager  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Division of Waste Management and Environmental Protection  
Materials Decommissioning Section  
Mail Stop T-7E18  
Washington, D.C. 20555-0001

RE: Comments on the Responses to Comments to the Nuclear Regulatory Commission  
(NRC) Request for Additional Information (RAI)

Dear Ms. Snyder:

Thank you for the opportunity to listen in on the teleconference with Mallinckrodt concerning the discussion on NRC request for additional information (RAI) on the Phase II Decommissioning Plan. The department appreciates the opportunity to work with the NRC to complete the decommissioning at Mallinckrodt.

The department is in agreement with the NRC concerning the health physics and dose modeling comments in the Phase II Decommissioning Plan. We also understand that Mallinckrodt is required to perform an Environmental Assessment (EA) that will characterize the non-radiological wastes, solid wastes units, burials, and groundwater at the site. We are hopeful the EA will address many, if not all, of the concerns the department has commented on regarding these issues.

We do request a discussion in the document regarding specific conditions, including a deed notice or institutional control, as appropriate, of re-use material in deep excavations. In the Phase II Plan, it is not clear what the details and conditions for re-use material are. The Plan defines this material as debris from pavement; concrete slabs, and subsurface material including soil, fill, sewer pipes, and building foundations that will be called "soil". Currently, the document only states "This material must contain less than the specified derivation of soil concentration guideline levels (DCGLs) for soil and may be used as backfill deeper than 4 feet in an excavation cavity."

*Rec'd  
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AMC*

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The department has presented concerns to the U.S. Army Corps of Engineers (USACE) regarding re-use material at the Formerly Utilized Sites Remedial Action Program (FUSRAP) sites on the Mallinckrodt property. Missouri's Solid Waste Laws prohibit the disposal of radioactive contaminated waste in any Missouri landfill (10 CSR 80-3.010 (3)).

The St. Louis Downtown Sites Record of Decision (SLDS ROD) gives the USACE the authority to use material less than deep soil criteria (50 pCi/g Ra 226, 100 pCi/g Th 230, 150 pCi/g U 238 above background) as deep backfill below 4 feet in specific areas on the Mallinckrodt property with institutional controls as appropriate. The USACE issued the *Integrated Survey Plan for Consolidated Materials, Crushate, Overburden, Equipment and Materials (2003)*, which covers the procedures to re-use material.

~~The department came to an agreement with the USACE on re-use material, with the following conditions:~~

- The SLDS ROD presents specific criteria for the use of re-use material as deep backfill below 4 ft. The USACE made a decision not to exceed the 15/15/50 criteria for this material. (This criteria is stated in the SLDS ROD as 15 pCi/g above background of Ra 226, Th 230; 15 pCi/g above background of Ra 228, Th 232; and 50 pCi/g of U 238 from 0.5 – 4 feet below ground surface.)
- Material that exceeds the deep-soil criteria concentrations will be excavated to prevent mixing with material having the potential for re-use as backfill.
- "Material" to be deposited in an excavation needs to be characterized for chemical hazardous waste materials as well as radioactive materials.
- Radiological sampling will be conducted according to Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIMS).
- The material will be stockpiled in an area that will not result in cross-contamination and covered to prevent migration.
- The department will be notified of the proposed backfill use and given a copy of all radiological and non-radiological results prior to use.
- Mallinckrodt should be aware that future changes in applicable clean-up criteria might require the removal of this material from their property.
- Depositing this "material" on site may require deed restrictions and/or other institutional controls to be placed on disposal areas.
- The department recommends that a permanent record be maintained of the quantities, activity levels (prior to removal), and locations of disposal areas.
- This disposal action must be in compliance with all state and local ordinances.
- If Mallinckrodt proposes to crush materials such as concrete or building slabs to use as deep backfill, a plan must be presented to the department outlining how the material will be crushed and the sampling criteria.

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Thank you for giving us the opportunity to review and comment on this document. If you have any questions or need further clarification, please call me at (314) 877-3251. Address any written communication to 917 N. Hwy 67, Suite 104, Florissant, MO 63031.

Sincerely,

HAZARDOUS WASTE PROGRAM



Jo Anne Wade, Environmental Specialist III  
DOE Unit, Federal Facilities Section

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JW:dd

c: Ms. Sharon Cotner, U. S. Corps of Engineers  
Mr. Jim Grant, Mallinckrodt  
Mr. Rich Nussbaum, Missouri Dept. of Natural Resources  
Mr. Daniel Wall, U.S. EPA, Region VII