

June 26, 2007

MEMORANDUM TO: File

FROM: Amir Kouhestani, Project Manager **/RA/**
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Federal and State Materials and Environmental Management Programs

SUBJECT: REVIEW OF "MALLINCKRODT DISPOSAL OF UNIMPORTANT
QUANTITIES OF SOURCE MATERIAL" AND PREVIOUS ANALYSIS OF
DISPOSAL OF UNIMPORTANT QUANTITIES OF SOURCE MATERIAL
AT WASTE CONTROL SPECIALIST ANDREWS FACILITY AND US
ECOLOGY IN GRANDVIEW, IDAHO

On May 24, 2007, Mallinckrodt, Inc., submitted a request and proposed to transfer approximately 320 cubic yards of unimportant quantities of source material to either Waste Control Specialist (WCS) Andrews facility in Texas or to US Ecology in Grandview, Idaho. In a June 1, 2007, supplemental letter Morton Associates on behalf of Mallinckrodt provided additional information in support of their request. Mallinckrodt in seeking staff's acceptability of their disposal request referenced two previous dose analysis it had submitted for similar-in-nature material. The Mallinckrodt analysis for disposal at WCS and US Ecology Idaho facilities were submitted to NRC on April 17, 2000, and June 24, 2002, respectively. Attached for the Public Document Room file is NRC staff internal analysis of proposed Mallinckrodt request and prior dose assessment applicability to current Mallinckrodt request.

Docket No.: 40-6563
License No.: STB-401

Enclosure: Internal analysis of, "Mallinckrodt Disposal of Unimportant Quantities of Source Material," Karen Pinkston, June 15, 2007

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Mallinckrodt Disposal of “Unimportant Quantities of Source Material”
Karen Pinkston
June 15, 2007

Mallinckrodt submitted a request to dispose of solid waste containing “Unimportant Quantities of Source Material” (*i.e.*, less than 0.05 weight percent) on May 24, 2007. This request was supplemented by an additional submittal on June 12, 2007 that provided an updated table containing radionuclide concentration information for the containers of waste as well as some additional clarifying information. Mallinckrodt proposes to dispose of the waste at either the Waste Control Specialists (WCS) facility in Texas or the US Ecology Idaho facility. Mallinckrodt previously requested and NRC previously approved the disposal of similar material at the WCS site in 2000 and the US Ecology Idaho site in 2002.

Table 1 of the June 12, 2007 submittal contains a list of the 32 containers of waste that Mallinckrodt intends to dispose of. Each of these containers has 270 cubic feet of waste. The concentrations of uranium and thorium were measured for the material in all of the containers except for four. These measured concentrations correspond to a weight fraction of source material that is much lower than the 0.05 weight percent limit. The four containers for which the radionuclide concentrations were not measured contain concrete and asphalt. This material was surveyed in the field and the levels of radiation were found to be at background levels for this site. Based on the sampling results provided, the NRC staff agrees that this waste material listed in Table 1 qualifies as unimportant quantities of source material under 10 CFR Part 40.13(a).

Mallinckrodt previously submitted dose assessments for the disposal of in support of their earlier requests to dispose of similar material at the WCS and US Ecology Idaho Facilities. The dose assessment for the WCS facility was submitted on April 17, 2000, and the dose assessment for the US Ecology facility was submitted on June 24, 2002. In these dose assessments, the potential dose to a member of the public resulting from the disposal of this material at these facilities was calculated. NRC staff previously reviewed these dose assessments and concluded that the dose consequences to the public from the disposal of unimportant quantities of source material at these facilities is well below 25 mrem per year. This conclusion is documented in letters sent by the NRC to Mallinckrodt on August 16, 2000 for the WCS facility, and August 27, 2002 for the US Ecology Idaho facility. Because the material in the current request is similar in nature to the material analyzed in these dose assessments, the results are applicable to the solid waste in the current request and the disposal of this material at either of these facilities would result in a dose to a member of the public of less than 25 mrem per year.

Enclosure