

September 6, 2005

MEMORANDUM TO: George Pangburn, Director
Division of Nuclear Materials Safety
Region-I

FROM: Daniel M. Gillen, Deputy Director **/KGruss for RA/**
Decommissioning Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

SUBJECT: DIVISION OF NUCLEAR MATERIAL SAFETY - REGION-I,
TECHNICAL ASSISTANCE REQUEST: RADIOLOGICAL DOSE
ASSESSMENT IN SUPPORT OF LICENSE TERMINATION FOR
HERITAGE MINERALS, INC., LAKEHURST, NJ

This is in response to your June 7, 2005, Technical Assistance Request (TAR) to the Division of Waste Management and Environmental Protection. The TAR requested assistance in performing an assessment of radiological doses from licensed and unlicensed residual radioactive material in structures and soils at Heritage Minerals, Inc., Lakehurst, NJ (License SMB-1541).

In accordance with your TAR, the Environmental and Performance Assessment Directorate staff conducted a review and assessment of Heritage Minerals, Inc. (HMI) site characterization and survey data. The staff also conducted, in coordination with Region-I, a site visit on July 19, 2005, to become familiar with actual site conditions and environmental surroundings. Subsequently, the staff evaluated potential scenarios that could be applicable to the site for radiological contaminations in soil and on former mill building foundations. Based on these analyses and evaluations, both a suburban resident and a resident farmer unrestricted release exposure scenario were selected for the re-use of soils and foundations. The re-use of the former mill foundations (mill pads) was evaluated using a probabilistic approach using RESRAD-BUILD v. 3.22. For the soil areas, a probabilistic dose analysis using site specific parameters and applicable scenarios was performed using RESRAD 6.1. The staff conclude that the peak of the mean dose to an average member of the critical group would be greater than 25 mrem per year. Therefore, in accordance with SRM-SECY-04-0024, staff must request the Commission's approval to terminate HMI's license.

The attached technical report presents a summary of staff rationale for selection of the applicable scenarios, the dose modeling approach, the assumptions and input parameters, and dose results. This report has been reviewed by your staff and finalized to account for Region I comments.

If you have any questions or comments on the attached report, please contact David Brown, of my staff, at (301) 415-5257.

Attachment:

DOSE ASSESSMENT FOR UNRESTRICTED FUTURE USE SCENARIOS FOLLOWING
LICENSE TERMINATION OF THE HERITAGE MINERALS, INCORPORATED, SITE IN
LAKEHURST, NJ.

cc: Marjorie McLaughlin, Project manager
Decommissioning Branch
Division of Nuclear Materials Safety, RGN-1

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cc: Marjorie McLaughlin, Project manager
Decommissioning Branch
Division of Nuclear Materials Safety, RGN-1

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