

Docket No. 40-8794

JUN 17 1994

Molycorp, Inc.
ATTN: Robert B. Brown
Plant Manager
350 North Sherman Street
York, Pennsylvania

Dear Mr. Brown:

SUBJECT: REVIEW OF MOLYCORP SURFACE CONTAMINATION SURVEY AND
RELEASE PROCEDURE

This is in response to your letter dated April 15, 1994, concerning Molycorp, Inc. (Molycorp's) recently developed procedure for the survey and release of potentially contaminated equipment. The U.S. Nuclear Regulatory Commission staff has reviewed the procedure and provides the enclosed comments.

As you know, Regulatory Guide 1.86 includes acceptable surface contamination levels that must be met prior to the release of potentially contaminated materials or equipment for unrestricted use. The principal radionuclides associated with contamination at the Molycorp York site are thorium-232 and its associated daughter products, assumed to be in secular equilibrium. Molycorp's procedure cites the appropriate surface contamination levels for these radionuclides, however the procedure may not permit Molycorp to demonstrate that these guidance levels have been met. Therefore, the NRC staff requests that Molycorp modify its procedure in consideration of the enclosed comments and forward the revised procedure to NRC.

If you have any questions regarding this matter, please do not hesitate to contact me on 301-415-6635.

Sincerely, 

Chad Glenn, Project Manager
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated
cc:
R. Benven, PA-DER
J. Kinneman, NRC Region I

TICKET: 94-D050 * See previous concurrence
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NRC COMMENTS ON MOLYCORP, INC.
SURFACE CONTAMINATION SURVEY AND
RELEASE PROCEDURE

- The first sentence of this procedure states that "... this procedure provides guidance to perform radiological surveys of potentially contaminated equipment". However, Molycorp should ensure (via survey or appropriate documentation) that all equipment has been surveyed to ensure that contamination levels are below the limits specified in Regulatory Guide 1.86 before being released for unrestricted use.
- It is important that Molycorp demonstrate that the minimum detectable activity (MDA) of the survey instrument is less than 200 dpm/100cm², in the scanning mode, to justify using the scan survey to determine the need to perform surveys for removable contamination. The MDA is an estimate of the minimum activity level which is practically measurable with a specific instrument, and sampling and/or measurement technique. Guidance for estimating the MDA for survey instruments is provided in NUREG/CR-5849 (Instrument Detection Sensitivity, Section 5.2).
- Molycorp's procedure refers to qualitative and quantitative surveys, however the procedure should be supplemented to clarify how these surveys will be used. In the NRC staff's view, a qualitative sweep or scan type survey should be performed on all equipment to be released for unrestricted use. This scan survey should be performed using an audible response detector to identify locations with elevated surface activity. A quantitative survey (stationary measurements) should then be performed at locations with elevated activity. Swipes for removable contamination should also be collected at locations with elevated activity. All survey results should be documented.
- In item 4, fourth sentence should be changed to read "Interior surfaces of piping, pumps...taking measurements at all traps and other appropriate access points..." Second to the last sentence should be revised to read "If the surface activity level exceeds 200 dpm/100cm², but the average..." finally, last sentence should be changed to read "If the removable, average, or maximum limit is exceeded, the item will be held for decontamination and resurvey."
- In item 5, revise first sentence to read "Removable contamination surveys must be conducted on equipment with surface contamination levels in excess of 200 dpm/100cm²."
- Molycorp's procedure should also include a provision to ensure that surface contamination is as low as is reasonably achievable (ALARA) before equipment is released for unrestricted use. For example, swiping all potentially contaminated equipment to ensure that removable contamination is less than 200 dpm/100cm² is an ALARA step. Equipment cleaning before release is also an ALARA step, however, care should be taken in cleaning equipment to avoid generating waste that will be difficult to dispose of (e.g., mixed waste).

Enclosure

- In item #7, the procedure states that items contaminated above the release requirements will be held for restricted release or appropriate disposal. Molycorp should clarify the meaning of "held for restricted release".