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October 30, 1996

Mr. Joseph J. Holonich, Chief
U.S. Nuclear Regulatory Commission
Uranium Recovery Branch
Office of Nuclear Materials
Safety and Safeguards
Mail Stop T7J9
Washington, DC 20555-0001

Re: Amendment Request to Process an Alternate Feed at White Mesa Uranium Mill
Source Material License SUA-1358
Docket No. 40-8681

Dear Mr. Holonich:

As follow-up to a request for this information in support of our September 20, 1996 amendment request, this letter transmits a copy of the procedure for radiometrically scanning transportation vehicles prior to release from the restricted area at White Mesa Mill.

Sincerely,

Michelle R. Rehmann
Environmental Manager

MRR/pl
Attachment

cc: Harold R. Roberts
William N. Deal
Ronald E. Berg
Richard A. Munson
James Park

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2.1 Release of Equipment

All materials, equipment and scrap which are intended for release from the mill site for unrestricted use, are surveyed for radiological contamination levels in accordance with the limits set forth in NRC document, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of License for Byproduct of Source Materials", dated September, 1984. The instructions in this guide in conjunction with Table I specify the radioactivity and Radiation exposure rate limits which are used in accomplishing the decontamination and survey of surfaces and equipment prior to abandonment or release for unrestricted use.

2.1.1. Materials and Scrap

Scrap material and equipment such as pumps, process equipment, etc. which require repair services are cleaned appropriately in an effort to eliminate residual contamination prior to surveying for radiological contamination levels. Radioactivity on the surface of equipment and materials is measured by surveying for alpha contamination, using the appropriate, portable, calibrated alpha survey instruments, such as Eberline Model ESP-1 "Portable Smartmeter" surveying instrument equipped with an AC-3-7 alpha scintillation probe, or other equivalent instrument. Radiation exposure rate measurements are made on these materials using calibrated exposure rate instruments such as a Ludlum Model 3 Beta-Gamma survey meter and probe or equivalent instrument. Materials and equipment are released from the mill site for unrestricted use if the total alpha contamination concentration and exposure rate measurements are less than the applicable limits contained in Table I of the NRC Guide.

2.1.2. Procedure

1. Obtain appropriate calibrated alpha survey instrument from radiological lab.
2. Check meter performance and function using Th-230 calibration source.
3. Survey items on surface for alpha contamination at numerous locations sufficient to determine average and potential maximum contamination levels.
4. Slowly scan over surface of each item @ 1 cm height and determine average and maximum exposure rate measurements.

2.1.2 continued

5. Contamination levels exercised at the mill site for release of equipment for unrestricted use is a total alpha contamination level of 1000 disintegrations per minute per 100 cm² (dpm/100 cm²), and a radiation exposure limit of 0.2 millirad per hour (mr/hr) with a maximum not to exceed 1.0 mr/hr.
6. In the event these limits are exceeded, the item is decontaminated by appropriate means and re-surveyed.
7. If the limits for a total alpha contamination is again exceeded, an alpha smear survey over 100 cm² area is taken to determine removable alpha contamination. In addition, a fixed alpha measurement of the area is made using an alpha meter. If the limits of Table I NRC Guide are exceeded, a more rigorous decontamination method is applied.

2.1.3 Vehicle and Mobile Equipment Release

Vehicle and mobile equipment release proceeds on a similar basis as material and equipment release. An alpha survey is made and an exposure survey is made on the interior and exterior surfaces of the vehicle, particularly the tires and exposed undercarriage, if the conveyance is non-dedicated for exclusive use transport. Paying particular attention to the tires and undercarriage during a survey determines whether a vehicle has become contaminated while crossing in and through the mill Restricted Area. The applicable criteria for contamination limits, decontamination, procedures, surveys / re-surveys and ultimate release are identical to those in paragraph 2.1.2.

If a vehicle is classified as exclusive use whose single transport purpose is intended specifically for hauling radioactive materials on a continued basis, then, only the exterior surface and tires of the transport vehicle are surveyed when leaving the restricted area. Examples of these transport vehicles include: ore haulage trucks and closed bulk transport tankers. Applicable alpha contamination and exposure rate levels are those specified in 49 CFR 173.441 and 173.442. The mill site exercises an alpha contamination control level of 1000 dpm/100 cm² protocol for the transport vehicle tires only upon exiting the mill site. No internal alpha surveys are done on the internal surfaces of closed transport tankers dedicated for exclusive use until these vehicles become decommissioned.