



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

IN REPLY REFER TO
LR:DE
40-6659

NOV 14 1958

Petrotonics Company
P. O. Drawer 2450
Casper, Wyoming

Attention: Mr. E. A. Grant
Project Manager

Gentlemen:

The milling of uranium ore by AEC licensees has resulted in the production of large quantities of solid waste tailings.

These wastes (ore residues) normally contain by weight, about 0.02 percent uranium. They also contain small quantities of naturally occurring radioisotopes which were present in the initial ore as uranium daughter products and waste chemicals such as acids, alkalies, salts, and organics. From a radiological standpoint, the principal radioisotope presently appears to be radium-226.

These slightly radioactive tailings are located on milling properties owned or controlled by licensees. As you know, licensees are required to maintain control of the tailings in accordance with their licenses and applicable AEC regulations, particularly 10 CFR, Part 20, "Standards for Protection Against Radiation."

Recent changes in the Commission's procurement program and the depletion of ore bodies in some areas have resulted in the shutting down of a number of mills and upgraders. Other mills which are presently operating may close after present Commission contracts expire.

In response to inquiries of mill licensees, we have previously furnished such licensees with the attached contamination limits, which should be met prior to the transfer of buildings and equipment to individuals who do not hold appropriate AEC source material licenses. We have not yet, however, determined whether control of solid tailings at closed uranium mills for radiological safety purposes is within the Commission's regulatory jurisdiction;

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or if so, whether there is a need for the adoption of requirements for the control of these tailings. We have initiated survey programs to obtain data which will assist in the determination of these questions.

Accordingly, we do not plan to terminate uranium milling licenses until we have concluded our review of the tailings problem and reached a decision as to what control measures, if any, are appropriate under the circumstances.

Your cooperation with us in this matter is appreciated.

Sincerely yours,

Director
Division of Licensing and Regulation

Enclosure:
Contamination Limits

Distribution:
Formal
Doc. Rm.
Suppl.
Compliance

DA 11/5/63
DICTATED -----
APPROVED -----

RADIOACTIVITY CONTAMINATION LIMITS FOR

ABANDONMENT OF URANIUM MILLS

1. The maximum amount of fixed alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 25,000.
2. The average amount of fixed alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 5,000.
3. The maximum amount of removable (capable of being removed by wiping the surface with a filter paper or soft absorbent paper) alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 1,000.
4. (a) The maximum level at one centimeter from the most highly contaminated surface of a building or piece of equipment measured with an open-window beta-gamma survey meter through a tissue equivalent absorber of not more than seven milligrams per square centimeter does not exceed one millirad per hour.

(b) The average radiation level at one centimeter from the contaminated surface of the building or equipment measured in the same manner does not exceed 0.2 millirad per hour.