

STATE OF COLORADO

Bill Ritter, Jr., Governor
Martha E. Rudolph, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
TDD Line (303) 691-7700 (303) 692-3090
Located in Glendale, Colorado
<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

February 3, 2010

Dr. Angelique Diaz
U.S Environmental Protection Agency
Region VIII
Denver, CO

Subject: Cotter impoundment status

You recently asked for clarification of the status of the Cotter uranium mill impoundments. The context is the NESHAP Subpart W applicability.

The *Colorado Rules and Regulations Pertaining to Radiation Control*, Part 18, Licensing Requirements for Uranium and Thorium Processing (6 CCR 1007-1, Part 18) provide the regulatory framework for management of the impoundments, particularly Appendix A to Part 18, which is anomalous to NRC's regulations at 10 CFR 40. Please note that the Cotter impoundments were constructed prior to the adoption of the regulations at Part 18, and prior to the promulgation of the NESHAPs.

Surface impoundments at the Cotter mill include the Main Impoundment constructed around 1978, which consists of the Primary Impoundment and the Secondary Impoundment; a water distribution pond constructed in 1988; a Fire water Pond also constructed in 1988; and Pond 3, which is a temporary impoundment constructed in 2008. Only portions of the Main Impoundment receive byproduct material, therefore the other impoundments will not be discussed further.

According to the definitions in Part 18, an "existing portion" of an impoundment" means that land surface area of an existing surface impoundment on which significant quantities of uranium or thorium byproduct materials had been placed prior to September 30, 1983. That would apply to both the Primary and Secondary impoundments.

"Operation" means that a uranium or thorium mill tailings pile or impoundment is being used for the continued placement of byproduct material or is in standby status for such placement. A pile or impoundment is in operation from the day that byproduct material is first placed in the pile or impoundment until the day final closure begins.

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According to this definition, the Primary Impoundment is in operation, because it still receives byproduct material (e.g., cleanup soils from the site), and is essentially in stand by. The Secondary impoundment was filled at construction with dry tailings from legacy operations. It is full and never received additional tailings after construction. The one foot of water served as the interim radon barrier. The mill did send some raffinate to the evaporation pond on top of the Secondary when in production, but has not received any byproduct material in any form since 2005. Since the byproduct material was in the raffinate, and Method 115 does not sample flooded areas, it was considered moot to measure the flux from the Secondary; historical understanding is that EPA excluded the Secondary from the NESHAP since it was already constructed and filled at the time the NESHAP was promulgated. There is a solid waste cell built into the surface of the Secondary Impoundment that has now been abandoned, but it did not receive byproduct material either. Therefore, based on the definition in Part 18, the Secondary Impoundment has not been in operation since 2005 at the latest, and upon construction at the earliest.

The definition of existing portion is germane here, since the cells were built (and the secondary filled) prior to the promulgation of the regulations.

Criteria 6 (3) of Appendix A allows for phased emplacement of the final radon barrier, which is what is being implemented for the Secondary impoundment. The Secondary Impoundment is in closure, and is not operational, and not subject to the NESHAP. Radon testing will be required when the radon barrier is put in place, also per Appendix A. Cotter is in the process of revising its Reclamation Plan, which will address final cap design. The current Plan from 2005 provides two options for cap design at various volumes of material in the Primary Impoundment. Criteria 6(5) requires material to not contain elevated radium in the top 3 meters, so Cotter may be hauling additional soil beyond what is required to meet the radon flux rate in order to meet the clean fill criteria. They plan on having the first two to four feet in place by Spring 2010.

Please feel free to contact me at your convenience at 303-692-3423 or steve.tarlton@state.co.us, or contact Phil Egidi at (970) 248-7162, or electronically at phil.egidi@state.co.us.

Sincerely,



Stephen F. Tarlton, Manager
Radiation Control Program

SFT:pve

Cc: John Hamrick, Cotter