

A79-1 V-E-24
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FEB 13 1985

(a/b)

SUBJECT: Submittal to Docket A-79-11

FROM: Criteria & Standards Division (ANR-460) *Charles Robbins*

TO: Central Docket Section (LE-130)

Attached for submittal to Docket A-79-11 are the following documents. We have retained copies of each for our files.

- a. Letter from Quivira Mining Co to Larry Boggs, American Mining Congress dated January 28, 1985 subject Radon Emission Standard.
- b. Letter from Homestake Mining Co to Larry Boggs, American Mining Congress dated January 28, 1985 with enclosures A, B, C, D, E pertaining to underground uranium mine radon-222 emission standard.

Enclosure A. Control of Radon Daughters in an Underground Mining Operation by Langan W. Swent 1984.

Enclosure B. Mine Ventilation and Air Conditioning by Howard L. Hartman.

Enclosure C. SME Mining Engineering Handbook Vol 1 by Arthur B. Cummins, 1973.

Enclosure D. Controlling Employee Exposure to Alpha Radiation in Underground Uranium Mines, Vol 2 U.S. Bureau of Mines

Enclosure E. Mine Engineering and Ventilation Problems Unique to the Control of Radon Daughters MESA Informational Report 1974

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 - GRANTS, NEW MEXICO 87020

January 28, 1985

A-79-11
VE-4

(a)

REC'D A. H. U.

JAN 30 1985

Larry Boggs/
American Mining Congress
1920 N. Street N.W. - Suite 300
Washington, D.C. 20036

Re: Radon Emission Standards

Dear Mr. Boggs:

The following two maps indicate the active and inactive areas of two operating uranium mines. The areas highlighted in red are the inactive areas; blue are active mining areas.

As shown on both mine maps, approximately 95% and over are inactive areas. Most of these inactive areas have been isolated from active mining areas by bulkheading the entrance to the haulages (travelway) or bulkheading the raise (access to stope level working area). In either case, extensive use of bulkheading is performed on stope level to redirect air flow and or prevent radiation from entering fresh air supplies. The bulkheads shown on the map represent approximately less than 10% of all bulkheads used in each mine.

Sincerely,

QUIVIRA MINING COMPANY

Bill Ferdinand

Bill Ferdinand
Ventilation Engineer

ms

HOMESTAKE MINING COMPANY

P.O. BOX 68
GRANTS, NEW MEXICO
87020

January 25, 1985

A-77-4
KEY
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JAN 26 1985

✓ Larry Boggs
American Mining Congress
1920 N. Street N.W. - Suite 300
Washington, D.C. 20036

Re: Radon Emission Standards

Dear Mr. Boggs:

Please find enclosed the following EPA requested materials for inclusion in your package to be sent to the EPA for their use in developing their underground uranium mine radon emission standard:

- 1) Proposed standard and definitions
 - A. Bulkhead definition includes a design criteria of 5 inches water pressure drop to satisfy EPA concern of bulkhead structural reliability.
- 2) Maps of two mines, one (Sec. 13) was operational for 4 years and the other (Sec. 23) has operated for 27 years, showing fresh air routes, exhaust air routes and bulkheads (note - Section 23 map identifies approximately 20 to 25% of the bulkheads existing due to the scale of the map)
- 3) Map showing active versus inactive working areas (note - inactive working areas constitutes in excess of 96% of the mine area)
- 4) Excerpts from literature which may help EPA understand ventilation control in underground uranium mines.
 - A. Control of Radon Daughters in an Underground Mining Operation, Langan W. Swent, 1984.
 - B. Mine Ventilation and Air Conditioning, Howard L. Hartman
 - C. SME Mining Engineering Handbook, Vol. I, Arthur B. Cummins, 1973
 - D. Controlling Employee Exposure to Alpha Radiation in Underground Uranium Mines, Vol. 2, U.S. Bureau of Mines.
 - E. Mine Engineering and Ventilation Problems Unique to the Control of Radon Daughters, MESA Informational Report / 1974.

