

JUN 16 1980

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Mill File

Subject File

~~DES~~

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REBrowning

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HJMiller

Albert J. Hazle, Director
Radiation and Hazardous Wastes
Control Division
Colorado Department of Health
Denver, Colorado 80220

Dear Mr. Hazle:

I am responding to your letter of May 13, 1980, in which you requested a separate MILDOS computer output for the Pioneer Uranium, Inc., San Miguel ore buying station. As your letter indicates, the proposed ore buying station would be located at the same site as the proposed mill project. My staff is preparing an assessment of the tailings management program and radiological impact associated with the mill project pursuant to your previous technical assistance request.

Although the radiological impacts from the ore buying station would be a subset of those from the whole mill, resource limitations prevent us from performing a detailed analysis of the ore buying station alone.

However, since our radiological assessment for the whole mill project is under preparation at this time, my staff has been able to examine the preliminary results and estimate the percent of doses to nearby individuals and the concentrations at site boundaries which result from ore buying station activities. The attached tables present our estimates.

Based on the calculations, it is estimated that the contributions to total doses which result from the ore buying station would be a maximum of 55% of the doses which result from the entire mill project. Calculated doses for the mill project were well within the EPA limit of 25 millirem (40 CFR 190); therefore, doses received from the ore buying station should cause no problem in terms of compliance with the standard.

Air concentrations of radioactive materials in unrestricted areas are limited under 10 CFR Part 20 to certain maximum permissible concentrations (MPCs). The staff's assessment of Pioneer's proposed mill project includes evaluation of compliance with MPC limits at those site boundaries found to have the highest concentrations. Concentrations at all locations are found to be within MPC limits for individual isotopes and the sum of fractions. As you are well aware, 10 CFR 20 requires that the sum of fractions of isotope concentrations may not exceed 1 at any unrestricted area location. The largest sum of fractions calculated in the evaluation

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- 2 -

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The total annual dose commitments in millirem/year from the ore buying station are estimated to be:

Location		Total Body	Bone	Lung	Bronchial Epithelium
Nearest Residence	Dose	1.95E-01	1.60E+00	1.01E+00	3.53E+00
	Percent of mill dose	37%	52%	42%	16%
Slick Rock	Dose	1.63E-01	1.37E+00	7.48E-01	2.79E+00
	Percent of mill dose	36%	50%	42%	16%
Egnar	Dose	6.80E-02	7.93E-01	9.09E-02	2.68E-01
	Percent of mill dose	43%	46%	44%	20%

The total calculated 40 CFR 190 dose commitments from the ore buying station are estimated to be:

Location		Total Body	Bone	Lung
Nearest Residence	OBS Dose	1.01E-01	1.50E+00	9.20E- 01
	Percent of mill dose	53%	55%	45%
Slick Rock	OBS Dose	8.97E-02	1.29E+00	6.74E-01
	Percent of mill dose	52%	54%	46%
Egnar	OBS Dose	6.30E-02	7.85E-01	8.56E-02
	Percent of mill dose	47%	47%	47%

Maximum Permissible Concentrations at Boundary Locations
With Highest Concentrations

Location	OBS Sum of Fractions	Whole Mill Sum of Fractions	OBS Percent of mill
N-restricted area boundary (.3 km N of mill)	3.57E-02	6.78E-02	53%
WNW-restricted area boundary (.2 km WNW of mill)	2.54E-02	5.83E-02	44%
NE-restricted area boundary (.5 km NE of mill)	4.49E-02	7.26E-02	62%