PDR WM-33

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RADIATION PROGRAMS-LAS VEGAS FACILITY
P.O. BOX 18416, LAS VEGAS, NEVADA 89114 • 702/798-2100 (FTS [illegible]-2100)

DATE: NOV 13 1980

SUBJECT: Revised Draft EIS - Proposed Dawn Mining Company Mill Tailings Expansion Project

FROM: Donald W. Hendricks
Director, Office of Radiation Programs-Las Vegas Facility

TO: Elizabeth Corbyn, Chief
Environmental Evaluation Branch (M/S 443)

Per your request, I have reviewed the subject draft and have the following comments:

GENERAL

With incorporation of NRC staff input, the draft is much improved in content over earlier drafts. The quality of the graphics and a number of the tables, however, is such as to make them almost unreadable. It is to be hoped that this poor reproduction quality and better proofreading to correct the copious typographical errors can be improved in the final EIS to give a more intelligible document.

SPECIFIC

Page 2-3, Item 2.3, first paragraph. The last sentence says that groundwater flow is reported to be "modest." This is in apparent contradiction to page F-2 (paragraph 3) where the ground water flow in this zone is referred to as "significant."

Page 3-2. The figure indicates that Dawn has very little property left between dike edges and the property lines. I understand that other states have required mill operators to acquire sufficient real estate to provide a buffer zone in which to work to clean up spills or windblown tailings. Based on studies at other mills we would expect to find land areas contaminated by windblown tailings which would be 3-4 times the area of the tailings piles.

Page 4-4, F. I would regard the applicant's reported stack emission rates (page A-4) of 0.0015 #/hour (dryer) and 0.0011 #/hour as extremely unusual. We have measured the emission rates (using standard EPA methods and equipment) from all of the New Mexico uranium mills and from one Colorado mill (see attached). Only in one new mill have we seen one measurement on a

dryer stack as low as the numbers reported by the applicant. Older mills and even a second new mill more typically had emission rates which were a few hundred times those reported by the applicant. Obviously, if the emission rates are on the average higher than reported, offsite exposures are elevated accordingly. I believe we have suggested in reviews of previous drafts of this EIS that the actual data be made available in the EIS for review.

Page 4-16. In view of the apparent difficulty in 40 CFR 190 compliance, I would strongly suggest reevaluation of the reported yellowcake packaging and drying emission rate data.

Page 5-3. I would suggest that the data reported for the UNC Church Rock dam failure may be partially in error. The reported figure for solids released is based on an engineering survey of the eroded area of the solid tailings beach. It does not take into consideration the suspended solids contained in the liquid fraction released. As indicated on page 5-2 and footnote, it is usually assumed that equal weights of solids and liquids are released. This would indicate the solids loss would have been more nearly 9×10^8 pounds for the Church Rock dike break.

Page 5-4. The values in this table differ by a factor of 1000 from those given on page 7-4 (which appear more reasonable). Suggest checking units.

Page 6-2, Alternative 1. Has either the Midnight mine or the Sherwood mill been moved? According to the Sherwood EIS the Midnight mine is 4.5 miles from the Sherwood mill, which is certainly different than the 22 road miles (page 2-13) from the mine to the Dawn mill. There should be some difference in hauling costs if it was decided to mill at Sherwood.

Page 6-14, 6.2.3.3. Delete sentence starting "This would be recovered from Florida phosphate...."

Pages 7-3 and 7-4. Suggest a hard relook at these pages or the data that went into them. I would agree with the initial statement that for a 0.16 percent ore grade, the individual nuclides should be present at a concentration of about 450 pCi/g. Why then are the tails so far out of equilibrium for ^{226}Ra and ^{230}Th, yet having only a small removal of $^{234,238}U$? Also under "Slimes," I would question the values of 0.004 percent and 0.007 percent. Is the mill really 99.99 percent efficient? The sum of what is in the sands and slimes should be what didn't get removed by the mill.

Page 8-8. Why are there no good maps showing the locations of nearest residents, gardens, ranches, etc.?

Page 9-1. As we have suggested previously, why not show the stack sampling data?

Page 9-6. Why are there no vegetation sampling locations closer to the site?

Page 10-5, Construction. Seriously question that the dust raised (at least initially) will be at background levels, since we would expect substantial windblown contamination on the soil near the existing pile.

Page E-4. Most of the air samples would seem to indicate low levels of airborne tailings or yellowcake. How representative are these samples and over what kind of time period were they collected?

Page E-5. This page appears to be nonsense. The caption says it is a radon gas analysis, yet the units are given in working levels. The values might be reasonable if the units were pCi/l. If the numbers are really in units of working levels they are as high as one would expect in a uranium mine.

Page E-7. Where is the "New site"? Some of the limited results indicate yellowcake contamination at sites where tailings contamination would be expected. What are the second sets of values at some sites, i.e., a second sample, a second analysis, a different date...?

Page E-8. The radon results appear to be low to be so close to the tailings pile. Surely the site would have been downwind during one of the sampling periods?

cc:
Dr. David M. Rosenbaum, ORP/HQ
Mr. Edward J. Cowan, Region X
bcc:
Mr. Ross Scarano, NRC

YELLOWCAKE STACK TEST RESULTS

DATE	MILL	STACK	VOL. FLOW RATE DSCFH	EMISSION RATE pCi U_{NAT}/HR	EMISSION RATE #U_3O_8/HR
4/18/77	C	PKG.	1.1×10^5	2.0×10^7	0.08
5/17/78	D	PKG.	3.0×10^4	9.6×10^7	0.37*
5/18/78	D	PKG.	3.9×10^4	1.4×10^6	0.005
5/21/78	D	DRYER	1.3×10^5	1.0×10^6	0.004
5/22/78	D	DRYER	1.0×10^5	3.4×10^6	0.001
5/23/78	D	DRYER	1.0×10^5	1.6×10^6	0.006
5/24/78	D	PKG.	3.9×10^4	5.3×10^6	0.02
6/16/78	E	DRYER	3.5×10^5	1.00×10^8	0.38
6/17/78	E	DRYER	3.6×10^5	5.86×10^7	0.22
6/17/78	E	DRYER	3.5×10^5	1.25×10^8	0.48
6/18/78	E	PKG.	1.0×10^5	5.98×10^7	0.23
6/18/78	E	PKG.	1.0×10^5	6.08×10^7	0.23
6/19/78	E	PKG.	9.8×10^4	3.15×10^7	0.12

* RUPTURED BAG FILTERS

YELLOWCAKE STACK TEST RESULTS

DATE	MILL	STACK	VOL. FLOW RATE DSCFH	EMISSION RATE pCi U_{NAT}/HR	EMISSION RATE #U_3O_8/HR
4/15/77	A	DRYER	6.7×10^5	7.9×10^7	0.3
4/16/77	A	PKG.	2.4×10^5	2.6×10^7	0.1
4/17/77	A	PKG.	2.3×10^5	1.8×10^7	0.07
9/8/77	A	PKG.	2.0×10^5	8.9×10^6	0.03
9/9/77	A	PKG.	2.0×10^5	1.5×10^7	0.06
9/9/77	A	PKG.	2.4×10^5	6.2×10^7	0.24
9/12/77	A	PKG.	2.4×10^5	1.3×10^7	0.05
9/13/77	A	DRYER	4.5×10^5	2.3×10^8	0.87
10/13/77	B	DRY-PKG.	2.1×10^5	3.6×10^7	0.14
10/14/77	B	DRY-PKG.	2.0×10^5	2.8×10^7	0.11
10/15/77	B	DRY-PKG.	2.0×10^5	4.7×10^7	0.18
10/16/77	B	DRY-PKG.	1.9×10^5	6.6×10^7	0.25
10/17/77	B	DRY-PKG.	1.9×10^5	4.2×10^7	0.18
10/18/77	B	DRY-PKG.	1.9×10^5	8.2×10^7	0.31
10/19/77	B	DRY-PKG.	1.9×10^5	7.3×10^7	0.28