



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
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DENVER, COLORADO 80225

FEB 14 1994

URFO:PJG
Docket No. 40-8903
SUA-1471, Amendment No. 18
X61229

MEMORANDUM FOR: Docket No. 40-8903
FROM: Pete J. Garcia, Jr., Project Manager
SUBJECT: AMENDMENT NO. 18 TO SOURCE MATERIAL LICENSE SUA-1471 FOR
HOMESTAKE MINING COMPANY'S GRANTS MILL

By letter dated January 11, 1994, Homestake Mining Company requested amendment of Source Material License SUA-1471 for the Grants Mill to authorize the use of water collected by the ground-water corrective action program for conditioning of soils to be used for interim cover and the radon barrier on the tailings retention system. The staff review of the request is discussed below.

Placement of cover soils on the tailings pile will require the addition of water to comply with moisture content specifications contained in the licensee's approved reclamation plan. The licensee proposes to use water collected by the corrective action program for this purpose, thereby reducing the amount of water requiring evaporation. Recent discussions with the licensee have indicated that the synthetically lined evaporation pond is rapidly approaching freeboard limits. This situation has worsened recently due to the removal of the enhanced evaporation sprinkler system which had been in operation on the large tailings impoundment. The sprinkler system was removed due to the need to recontour the impoundment top in preparation for reclamation.

The licensee submittal included an analysis prepared by a consultant to show that the use of the slightly contaminated water would not necessitate changes to the design of the radon barrier due to the addition of radium in the water. For the analysis, the licensee assumed a beginning soil moisture content of 6 percent, which is a conservatively low value, and a final moisture content of 17 percent, which is the maximum value authorized in the license for the radon barrier. A recent laboratory test performed on a sample of the water in the evaporation pond revealed that the current combined concentration of radium-226 and radium-228 was 13.1 pCi/l. The licensee submittal stated that concentrations of combined radium in the evaporation pond are expected to

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nearly double due to evaporation. The licensee therefore used a radium concentration of 30 pCi/l to evaluate potential impacts of the use of evaporation pond water on the radon barrier.

The licensee's analysis indicated that the increase of the radium concentration in radon barrier soils as a result of using the evaporation pond water would be about 0.0026 pCi/g. The licensee concludes that this increase is insignificant and will not affect the design of the radon barrier, especially considering that the approved reclamation plan allows the use of soils with radium concentrations exceeding background by 5 pCi/g. The average radium concentration of soils comprising the radon barrier should be well below the limiting value.

The staff agrees that the small increase in radium concentration is insignificant and will not affect the design of the radon barrier. However, to assure that future concentrations of radium in the water do not exceed 30 pCi/l or that the potential impact is evaluated if they do, the staff will require that the licensee analyze evaporation pond water semiannually and submit an evaluation of the potential impact of using the water for conditioning radon barrier soils if sample results exceed 30 pCi/l of combined radium.

In accordance with the categorical exclusion contained in paragraph (c)(11) of 10 CFR 51.22, an environmental assessment is not required for this licensing action. That paragraph states that the categorical exclusion applies to the issuance of amendments to licenses for uranium mills provided that (1) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, (2) there is no significant increase in individual or cumulative occupational radiation exposure, (3) there is no significant construction impact, and (4) there is no significant increase in the potential for or consequences from radiological accidents.

The licensing action discussed in this memorandum meets these criteria as the proposed amendment only authorizes the use of evaporation pond water for conditioning radon barrier soils during placement. An environmental report is not required from the licensee since the amendment does not meet the criteria of 10 CFR 51.60(b)(2).

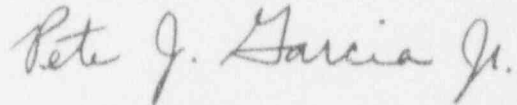
Based on the above, the staff concludes that Source Material License SUA-1471 should be amended to authorize the use of water collected as part of the site ground-water corrective action program for conditioning radon barrier soils by adding License Condition No. 38 to read as follows:

38. The licensee is authorized to use water collected as part of the site ground-water corrective action program for conditioning soils during placement of the interim cover or the radon barrier on the tailings impoundments. The licensee shall also analyze samples of the collection water being used for this purpose for radium-226 and 228 content semiannually. If sample results exceed 30 pCi/l combined radium, the

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licensee shall perform an evaluation of the potential impacts of using this water on the required design of the radon barrier and submit the evaluation for NRC review within 30 days of receipt of sample results.
[Applicable Amendments: 18]

The issuance of this amendment was discussed via telecon with Fred Craft of Homestake on February 4, 1994.



Pete J. Garcia, Jr.
Project Manager

Case Closed: X61229

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bcc:
Docket No. 40-8903
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DBSpitzberg, RIV
lCamper, RIV
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