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MEMORANDUM FOR: Ross A. Scarano, Chief
Uranium Recovery Licensing Branch

FROM: John J. Linehan, Section Leader
Operating Facilities Section
Uranium Recovery Licensing Branch

SUBJECT: TRIP REPORT

Place and Date

Portland, Oregon and McDermitt, Nevada; March 19 and 20, 1980.

Purpose

1. Discuss with the State of Oregon technical assistance by NRC in the state's review of Placer Amex's proposed Aurora Joint Venture - uranium mine and mill in Malheur County, Oregon.

2. Site visit to view proposed and alternative mill sites and tailings disposal areas and to review Placer Amex's alternative site studies.

Discussion

On the morning of March 19, 1980, a meeting was held in Portland at the offices of the Oregon State Health Division to discuss technical assistance by the NRC to the State of Oregon for the review of Placer Amex's proposed uranium mill in southeastern Oregon. The following is a list of meeting attendees:

NAME	ORGANIZATION
Mr. John Linehan	Nuclear Regulatory Commission
Mr. John F. Kendig	Nuclear Regulatory Commission-OSP
Mr. Frank Hamerski	Bureau of Land Management
Dr. Marshall Parrott	Oregon State Health Division
Mr. Larry Rocha	Oregon State Health Division
Mr. George Toombs	Oregon State Health Division
Mr. Larry Patterson	Dept. of Env. Quality-Ptld.
Mr. Michael Pollock	Oregon Dept. of Energy

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In the State of Oregon, there are three groups, the State Health Division, the Department of Energy, and the Energy Siting Council, that are involved in the licensing of uranium mills. Although the State Health Division has the responsibility for issuing Source Material Licenses for uranium mills, the responsibility for the environmental and site review and issuance of a site certificate lies with the Department of Energy and the Energy Siting Council. The determination of whether or not to issue a site certificate is made by the Council based on the review and recommendations of the Department of Energy. All conditions of the license to be issued by the State Health Division, even in the non-environmental areas such as in-plant radiation safety, must be contained in this site certificate. Based on this structure, the main point of contact for the NRC in providing technical assistance would be the Department of Energy. The State of Oregon has no requirements for a written assessment, other than the requirements of UMTRCA for an independent documented assessment. BLM was represented at the meeting since BLM will probably have to prepare an EIS or environmental assessment on the "rights-of-way" (roads, water pipelines and transmission lines) for the project.

Discussions focused on the types of review that would have to be done by the State and BLM, the type of review required by UMTRCA, the type of technical assistance available from the NRC, and possible ways of combining or integrating the state's and BLM's reviews. If BLM prepares an EIS, then this document with input from the state and the NRC, acting as a technical consultant to the State, could be used to satisfy the requirements of BLM, the State, and UMTRCA. However, before a decision can be made on how to proceed, BLM must determine exactly what type of environmental review, assessment or impact statement, they will perform and the timing of such a review. Regardless of the role of BLM and the type of environmental document they will be preparing, the Department of Energy indicated that they would want the NRC to perform the radiological assessment and the evaluations of tailings management alternatives, potential long-term impacts from tailings, and impacts from tailings to surface and groundwater. Both the state and BLM indicated that they could probably finance any technical assistance provided by the NRC since they both have mechanisms for charging the applicant.

It was determined that, before any decision can be made on exactly what type of environmental document will be prepared, there must be a decision by BLM on what type of review they will perform. Another uncertainty is the timing of the filing of an application by Placer Amex. The NRC will not be able to make specific commitments on its involvement in reviewing this project until the time frame in which the review must be completed is known.

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Following our morning meeting in Portland, John Kendig and I, along with M. Pollock of the Department of Energy, flew to McDermitt, Nevada. That evening we were given a presentation by Placer Amex and their consultant, Sergent, Hauskins, and Beckwith on their proposed mill and their site selection study. The proposed mill would be a 3,000 ton per day acid leach mill.

The ore body is located in Malheur County, Oregon, approximately ten miles west of McDermitt, Nevada within a caldera formed by volcanic processes. The site selection process included an evaluation of the regional geologic and hydrologic conditions within a 20 mile radius of the ore body and based on these evaluations and specific site selection criteria, selection of alternative sites for tailings disposal was made.

Based on this study a site, area F-G, just to the south of the ore body was chosen as the proposed tailings disposal area. The proposed method of tailings management would be disposal of tailings into several above-grade dessication cells near the head end of a drainage. The cells would be used on a cyclic basis and have no liner, because of the presence of a low permeability clay-rich sedimatery rock which underlies the site. The groundwater table at the site is approximately 150 feet below the surface.

The following day, March 20th, we visited the proposed site, several alternative sites, and the McDermitt mercury mine and mill. The reason for visiting the mercury facility was to observe the clay-rich material in which the mercury is found and the type of tailings produced after acid leaching this clay-rich material. According to Placer Amex, the clay-rich material is similar to the material in which their urnaium occurs and the material which underlies their proposed tailings disposal location. The tailings observed at the mercury mine were unlike the typical sand/slime uranium mill tailings. There was no indication of any blowing or dusting from the tailings areas even when dry.

The benefit of visiting the proposed site and alternative sites was limited without having had the opportunity to review in detail Placer Amex's tailings alternative study in advance. It became evident during visits to the different sites that the applicant's choice of sites was mainly governed by the existance of an adequate thickness of in-place clay-rich deposits to avoid lining an impoundment. It does not appear that there was sufficient evaluation of the use of installed synthetic or clay liners, specifically the use of specially excavated pits with installed liners. In addition, since it appeared that most of the sites underlain by clay-rich materials had a sloping configuration rather than

flat topographic relief, the optium or prime sites (based on the presence of clay-rich material) were not conducive to below-grade disposal of tailings. However, it should be noted that the above conclusions are based on very limited data available during these site visits. Based on these site visits, the NRC staff were not able to make any definite judgements on the acceptability of the proposed site and tailings management scheme or on the adequacy of the alternatives study.

The applicant will probably not submit a formal application till July or August. At that time specific attention should be paid to: the criteria used in site selection, the adequacy of the alternative study with respect to the treatment of evaluating sites that would require placement of liners, since the applicant's emphasis on areas with natural clay-rich material seems to have precluded several areas which could be used for below-grade disposal, and the technical basis/justification for the applicant's proposed use of natural clay-rich materials, rather than an installed liner.

Original Signed By:

John J. Linehan, Section Leader
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Division of Waste Management

cc: H. Fontecillo, OCM
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