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WM67/40-8913/DMS/87/09/12

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MEMORANDUM FOR: Docket Files WM-67 and 40-8913

FROM: Dennis Sollenberger, Health Physicist
Uranium Recovery Section
Low-Level Operations Branch

SUBJECT: REVIEW OF DOCKET FILE AND HISTORY FOR THE OLD AMBROSIA
LAKE MILLING SITE (THE FORMER PHILLIPS MILL)

In a letter from Mr. Themelis, DOE, to Dr. Knapp, NRC, DOE requested that NRC review the license status of the Ambrosia Lake site and provide an opinion on whether the site should no longer be designated under Title I of Public Law 95-604 based on the provisions of Section 101(6)(A)(ii).

The NRC staff has reviewed the old AEC docket file (40-1822) and the information available from the State of New Mexico files. A summary was prepared describing the authorized operations carried out under AEC License No. R-216 and AEC License No. SUA-1082.

AEC License No. R-216. An AEC license (No. R-216) was issued to Phillips Petroleum on December 9, 1957. This license authorized Phillips to process uranium ore and sell the product uranium to the AEC. The mill became operational in 1958 and was operated by Phillips until March 27, 1963.

On March 28, 1963, United Nuclear Corporation (UNC) took possession of the Phillips mining and milling operations and AEC License No. R-216 was transferred to UNC effective March 28, 1963. UNC began closing down the mill the following month and continued to salvage the usable equipment in the mill for the next several months. On November 14, 1963, the AEC issued a letter to UNC explaining that the AEC had not yet determined whether the control for radiological safety purposes of solid tailings at closed uranium mills was within the Commission's regulatory jurisdiction. In addition, they stated that they did not plan to terminate uranium mill licenses until they had resolved this issue. There was no additional correspondence until a March 2, 1971 compliance inquiry memorandum discussing the unlicensed operation of a mine water ion exchange plant in the old mill building. On April 2, 1971 UNC submitted a request to amend AEC License No. R-216 to authorize storage and decontamination of uranium milling equipment and the recovery of uranium from mine water through an ion exchange (IX) operation located in the old Phillips mill building. Instead of amending License No. R-216, the AEC terminated License No. R-216 on April 22, 1971, and issued a new license to UNC (License No. SUA-1082).

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AEC License No. SUA-1082. This license issued to UNC authorizes the storage and decontamination of uranium milling equipment and the recovery of uranium from mine water through an IX operation located in the old Phillips mill building. In May 1974, the State of New Mexico became an Agreement State and assumed licensing authority for radioactive materials including uranium milling.

On December 31, 1975, UNC applied for a New Mexico radioactive material license for storage and decontamination of uranium milling equipment and the recovery of uranium from mine water. New Mexico extended SUA-1082 under timely renewal status until a new license could be issued. On February 7, 1979, New Mexico amended License No. SUA-1082 to authorize the operation of an experimental heap leach operation. The NRC staff understands that the experimental heap leach was operated for just the summer of 1979. No actions have been taken to dispose of the heap leach pile. No other licensing actions that would affect the authorized activities under License No. SUA-1082 were taken by the State of New Mexico prior to the program return to NRC on June 1, 1986.

In discussions with the New Mexico staff, the NRC staff was told that UNC ceased all operations at the site in calendar year 1983. No cleanup or decontamination work has been done by UNC for the heap leach area or the old mill building since they ceased operations.

Conclusion. The processing of uranium ore ceased in 1963 and the license authorizing ore processing was terminated in 1971. The subsequent license issued to UNC in 1971 authorized the storage and decontamination of milling equipment and the extraction of uranium from mine water. Neither of these operations in effect on January 1, 1978 affect the designation status of the Ambrosia Lake site based on the provisions of Section 101(6)(A)(ii) of Title I of Public Law 95-604 since that provision refers only to production from ores. The subsequent amendment to License No. SUA-1082 in 1979 authorizing the experimental heap leach operation does not impact the status of the Title I designation since it authorized a unique process separate from any operation carried out under License No. R-216.

Even though the UNC license does not affect the Ambrosia Lake site designation under the Title I program, UNC is responsible for the proper decontamination, decommissioning, and disposal of all materials contaminated by the operations authorized under License No. SUA-1082. To accomplish this UNC will need to provide to NRC for approval a decommissioning plan including the proper disposal (reclamation) of the heap leach pile. Upon completion of the approved decommissioning plan and verification by NRC, License No. SUA-1082 could be terminated. The review, approval and verification discussed above are the responsibility of the Uranium Recovery Field Office in Denver, Co.

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