



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
BOX 25325
DENVER, COLORADO 80225

DEC 21 1993

URFO:CDMC
Docket No. 40-4492
04004492110R
X61140

MEMORANDUM FOR: Docket File No. 40-4492
FROM: Cynthia D. Miller-Corbett, Project Manager
SUBJECT: AMERICAN NUCLEAR CORPORATION, GAS HILLS: ENVIRONMENTAL
MONITORING REPORT REVIEW FOR THE FIRST HALF OF 1993

By letter dated August 30, 1993, American Nuclear Corporation (ANC) submitted the semiannual environmental monitoring report for Gas Hills, Wyoming. Submittal of this report is in conformance with License Condition No. 13 of Source Material License SUA-667.

Airborne Particulates

Air samples collected at one background station and two other stations are analyzed for natural uranium (U-nat), thorium-230 (Th-230), radium-226 (Ra-226), Lead-210 (Pb-210), and radon (Rn-222). There are no trends in levels of U-nat, Th-230, Ra-226, Pb-210, or Rn-222, and all measured concentrations are well below 5 percent of the maximum permissible concentration (MPC).

Direct Radiation

Direct radiation is measured at five stations with thermoluminescent badges. The quarterly data indicate there are no increasing trends; reported values (mR) are less than or equal to previously recorded data. The highest reading, 78 mRms, was detected at the downwind restricted area boundary.

Vegetation

Samples of vegetation from three monitor stations are analyzed for Ra-226 and Pb-210. A review of measured concentrations (uCi/kg) for these radionuclides during the first half of 1993, shows concentrations are comparable to those for the previous 2 years.

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Soil Samples

Soil samples are collected at three stations and analyzed for Ra-226, Pb-210, and U-nat. There are no trends in concentrations of these radionuclides, measured in uCi/gm; all values have remained in the 10F-6 range since 1989.

Ground Water

Analyses for ground-water samples from three stations are reported on a semiannual basis. For the first half of 1993, radionuclides in ground water samples commonly occurred at levels in exceedance of ground-water protection standards (GWPSs). Analyses for these elements indicate concentrations fluctuate over time, but that there are no trends over the past 3 years. With the exception of selenium, heavy metals are commonly below the GWPSs or detection limits at two of the three ground-water monitor wells. At the third well, located in a direction downgradient of the former operations facility, all GWPSs except that for cyanide are exceeded. A ground-water corrective action program (CAP) was implemented by Amendment No. 45 to SUA-667, dated August 1991. The character of ground-water quality and the effectiveness of the CAP will be further reviewed with submittal of the next CAP report due March 1, 1994.

Cynthia D. Miller-Corbett
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Project Manager

Case Closed: 04004492110R
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bcc:
Docket No. 40-4492
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