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Docket No. 40-8714
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MEMORANDUM FOR: Docket File No. 40-8714

FROM: Sandra L. Wastler, Project Manager
Licensing Branch 1
Uranium Recovery Field Office, Region IV

SUBJECT: REVIEW OF DECOMMISSIONING PLAN FOR CLEVELAND CLIFFs IRON COMPANY'S COLLINS DRAW ISL PROJECT

Background

Cleveland Cliffs Iron Company (CCIC) originally submitted the decommissioning plan for the Collins Draw ISL project to the NRC by letter dated December 16, 1982. By letter dated March 11, 1985, CCIC submitted a revised Decontamination and Decommissioning Plan, for NRC review and approval. At the present time, the NRC has not approved restoration and stabilization of the A-1 and B wellfields at the Collins Draw site. Therefore, while the NRC has reviewed CCIC's decommissioning plan below, implementation of the plan by CCIC cannot begin until the NRC has approved restoration at the Collins Draw site.

Overview of Decommissioning Activities

The decommissioning activities will follow applicable guidelines contained in the Code of Federal Regulations, Title 10, Part 20, "Standards for Protection Against Radiation," January 1, 1983; Regulatory Guide 8.30, "Health Physics Surveys in Uranium Mills," June 1983; Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be As Low As Is Reasonably Achievable," May 1983; and "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of License for Byproduct, Source or Special Nuclear Material," September 1984.

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Five decommissioning activities were evaluated:

Radiation Training Program - All workers will participate in a worker training program approved by the Project Manager and implemented by the project Radiation Safety Officer (RSO). The RSO is qualified in accordance with the requirements of Regulatory Guide 8.31. The program is consistent with Regulatory Guide 8.31 and includes training pertaining to the fundamentals of health protection, methods for reducing and monitoring exposures, and the responsibilities of workers and the radiation safety staff.

Plant Decommissioning - CCIC proposes to conduct radiological surveys prior to and during decontamination to define areas, equipment and structures requiring remedial action and to identify the potential for personnel exposure during decontamination. Surfaces will be surveyed to insure that levels do not exceed limits stipulated in Table 1 of Regulatory Guide 8.30. The amount of removeable alpha contamination will be determined by wiping representative areas with dry filter paper and measuring alpha levels on the paper with an appropriate, calibrated instrument for alpha detection. Areas requiring remedial action will be decontaminated by vacuum cleaning, water scrubbing, high pressure water spray and/or abrasive blasting. Chemical agents such as acids, solvents, radioactivity decontaminants and detergents may be used. All cleaning fluids will be rinsed off of the surface and collected for temporary storage prior to final disposal. The RSO will monitor the decontamination procedures to certify that structural material and equipment meet specified release limits and to maintain personnel exposure records.

Air sampling will be conducted pursuant to License Condition No. 30 and Regulatory Guide 8.30 during decontamination activities. If abrasive blasting is used, CCIC proposes to protect the workers from dust exposure by proper ventilation, water sprays, and/or the use of respirators. CCIC's decommissioning plan did not indicate that an NRC approved respirator program is in place at the Collins Draw site; therefore, the NRC would not recommend the use of respirators for worker protection. Radiological monitoring will continue in compliance with License Condition No. 30 to Source Material License No. SUA-1352.

Well Abandonment - The decommissioning plan states that all injection, production and monitor wells within the test site will be plugged and abandoned in accordance with Wyoming Department of Environmental Quality (DEQ) and State Engineer regulations. CCIC proposes to transfer to the

rancher/landowner the well permits for two domestic water wells (Nos. 250W and 266W) used at the Collins Draw site. These wells penetrate a shallower aquifer separate from the mine production zone aquifer. The NRC has no regulatory jurisdiction in this area, but the transfer of these domestic use wells is subject to approval by WDEQ.

Site Soil Survey - Areas of possible soil contamination around the site, including the well fields, drain fields and plant, will be identified using gamma survey. The survey will be conducted using a grid with 100-foot transect intervals. Grid measurements will be supplemented with random readings taken in between grid points to ensure that a minimum of 25 measurements per feature (e.g., well fields, drain fields, etc.) are obtained. Areas where gamma exposures in air, measured approximately 5 cm above the ground, are greater than 5 uR/hr above background may indicate concentrations of radium in the soil greater than 5 pCi/g. CCIC will establish a site-specific correlation between gamma exposure rate (adjusted for moisture content) in uR/hr and Ra-226 in pCi/g. Based on this correlation, all onsite areas where gamma exposure rate is predicted to be greater than 5 uR/hr above background will be sampled and analyzed for Ra-226 and moisture content. Areas characterized by Ra-226 concentrations greater than 5 pCi/g in the first 15 cm of soil or 15 pCi/g in any 15 cm interval below the surface, will require clean up. Contaminated soils in these areas will be removed and hauled to Petrotomics Uranium Mill. CCIC proposes to conduct gamma surveys during the decontaminated soil removal process to ensure the adequacy of decontamination.

Surface Reclamation

All areas of significant disturbance, including well field area, drain field and buildings will be reclaimed according to WDEQ and surface owner requirements. Certain structures such as the buildings, access roads and site fencing may be left intact for landowners use after meeting unrestricted use standards.

Recommendations

Based on my review of the proposed decommissioning plan, I conclude that CCIC has determined adequately the proper course of action for decommissioning the Collins Draw R&D Facility. However, a modification to the health physics program is suggested. It is not clear that CCIC has an NRC approved respirator program in place at the Collins Draw site. If CCIC does not have an approved program, the NRC would recommend that

ventilation and water spray rather than respirators be used to protect the workers from dust.

I therefore recommend that License Condition No. 35 be added to Source Material License No. SUA-1352, to read as follows:

35. Upon approval of restoration by the Uranium Recovery Field Office, the licensee may implement the decontamination, decommissioning and reclamation of the Collins Draw site in accordance with the site decommissioning plan submitted March 11, 1985, with the following modification:

    A. Respirators shall not be utilized in decontamination and decommissioning of the site unless CCIC has in place an NRC approved respirator program.

    Prior to implementation, the licensee shall submit a schedule for site decommissioning to the Uranium Recovery Field Office for review and approval.

/s/

Sandra L. Wastler, Project Manager
Licensing Branch 1
Uranium Recovery Field Office
Region IV

Original Signed By
Edward F. Hawkins

Approved by: _____
Edward F. Hawkins, Chief
Licensing Branch 1
Uranium Recovery Field Office, Region IV

Case Closed: 04008714201E

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