

SAFETY EVALUATION REPORT

DATE: January 2, 2001

DOCKET NO.: 40-8943

LICENSE NO.: SUA-1534

FACILITY: Crow Butte Resources, Chadron, Nebraska

PROJECT MANGER: Michael Layton

TECHNICAL REVIEWER: Michael Layton, P.G., Hydrogeologist
John Lusher, Health Physicist

SUMMARY AND CONCLUSIONS:

Staff concludes that the proposed modifications for the deep disposal well operation comply with the requirements of 10 CFR Part 20, specifically: 20.1301 which defines dose limits allowable for individual members of the public, 10 CFR 20.1302 which requires compliance with dose limits for individual members of the public, 10 CFR 20.2002 which provides a method for approving proposed disposal procedures, and 10 CFR 20.2007 which addresses compliance with other applicable Federal State and local regulations.

DESCRIPTION OF AMENDMENT REQUESTS:

The licensee requested an amendment of License Condition 10.7 by letter dated September 12, 2000 (Crow Butte Resources, Inc., 2000a) to update the deep disposal well operations, based on proposed revisions to its Class I Underground Injection Control (UIC) Permit NE0206369 issued by the Nebraska Department of Environmental Quality (NDEQ). The request included:

- Removal of the injection flow rate and volume limitations, but retaining the current injection pressure limitation of 650 pound per square inch (psi);
- Change the sampling frequency, limitations and analytical requirements for certain monitoring parameters, and adding other monitoring parameters to ensure the waste stream is not a Resource Conservation and Recovery Act (RCRA) hazardous waste; and
- Allow the use of different size and manufacturer of completion components.

By letter dated October 31, 2000 (Crow Butte Resources, Inc., 2000b), the licensee provided a copy of the NDEQ's acceptance letter for the permit modification.

The licensee must demonstrate that the disposal well meets the requirements of 10 CFR Part 20; specifically, 10 CFR 20.1301, 10 CFR 20.1302, 10 CFR 20.2002 and 10 CFR 20.2007 as described in NUREG-1569, "Draft Standard Review Plan for *In Situ* Leach Uranium Extraction License Applications" (SRP)(NRC, 1997).

EVALUATION:

The staff completed its review of the proposed modifications to the deep disposal well for liquid effluent control at the Crow Butte Resources *In Situ* Leach facility. This review included an evaluation using the review procedures in SRP section 4.2.2, the acceptance criteria outlined in SRP section 4.2.3, and a review of the State of Nebraska's acceptance of the modifications to UIC Permit NE0206369. The disposal well had been previously reviewed, approved, and addressed in License Condition 10.7. The previously approved aspects of the disposal well operation were not re-analyzed. Only those aspects of the proposed modifications were examined.

The proposed revisions are largely procedural in nature and fall within the evaluations performed by NDEQ for issuing the modified UIC permit. Consequently, staff did not perform a detailed evaluation of the disposal well operation, construction or design for this amendment request, but relied the NDEQ's finding that the proposals were acceptable, as documented in NDEQ's letter dated October 30, 2000. Staff finds the proposed revisions to the disposal well operations acceptable, based on the acceptance issued by NDEQ dated October 30, 2000.

Staff concludes that the proposed modifications for the deep disposal well operation comply with the requirements of 10 CFR Part 20, specifically: 10 CFR 20.1301 which defines dose limits allowable for individual members of the public, 10 CFR 20.1302 which requires compliance with dose limits for individual members of the public, 10 CFR 20.2002 which provides a method for approving proposed disposal procedures, and 10 CFR 20.2007 which addresses compliance with other applicable Federal State and local regulations.

RECOMMENDED REVISIONS TO THE LICENSE:

The following revisions to the Crow Butte license are recommended. Revisions to License Condition 9.2 are administrative and reflect the change in mailing address for the NRC's Uranium Recovery Program. Revisions to License Condition 10.7 reflects modifications to the operation of the deep disposal well evaluated above.

- 9.2 All written notices and reports to the NRC required under this license, with the exception of reports submitted in accordance with 10 CFR 40.65, shall be addressed to the Chief, Fuel Cycle Licensing Branch, c/o Document Control Desk, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, Mail Stop T 8A33, Nuclear Regulatory Commission, 11545 Rockville Pike, Rockville, MD 20850. Semiannual effluent monitoring reports required under 10 CFR 40.65 shall be addressed to Director, Division of Nuclear Material Safety, Region IV, Nuclear Regulatory Commission, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas, 76011.

Incident and event notifications that require telephone notification shall be made to the NRC Operations Center at (301) 816-5100.

[Applicable Amendment: 7]

- 10.7 All liquid effluents from process buildings and other process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit; discharged to the solar evaporation ponds; disposed by land irrigation in accordance with the licensee's proposal submitted on August 3, 1988, as modified by its submittal on June 7, 1993; or deep well injected in accordance with the licensee's report submitted on August 24, 1993, as modified by submittals dated December 7, 1995, April 3, 1996, and September 12, 2000.

[Applicable Amendment: 7]

ENVIRONMENTAL REVIEW:

The staff has determined that the following criteria have been met for the amendments of License Conditions 9.2 and 10.7:

- There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite,
- There is no significant increase in individual or cumulative occupational radiation exposure,
- There is no significant construction impact, and
- There is no significant increase in the potential for or occurrences from radiological accidents.

Accordingly, pursuant to 10 CFR 51.22(c)(11), neither an environmental assessment nor an environmental impact statement is warranted for this action.

COORDINATION AND CONSULTATION:

This proposed license amendment was discussed and coordinated with NRC's Region IV Inspection Program, and the Nebraska Department of Environmental Quality, which regulates the Crow Butte Resources facility under its Underground Injection Control Program, delegated from the U.S. Environmental Protection Agency. No unresolved concerns were identified through the course of this coordination.

REFERENCES:

Code of Federal Regulations (CFR), Title 10, Chapter I - Nuclear Regulatory Commission, Parts 20 and 51, revised as of January 1, 2000.

Crow Butte Resource, Inc. 2000a. Request to amend License Condition 10.7, Materials License No. SUA-1534. Letter from Michael Griffin, Crow Butte Resources to Philip Ting, Fuel Cycle Licensing Branch, NRC, dated September 12, 2000, with attachments. Accession Number ML003753427.

Crow Butte Resources, Inc. 2000b. Request to amend License Condition 10.7, Materials License No. SUA-1534. Letter from Michael Griffin, Crow Butte Resources to Philip Ting, Fuel Cycle Licensing Branch, NRC, dated October 31, 2000, with attachments. Accession Number ML003767842.

NRC (U.S. Nuclear Regulatory Commission). 1997. Draft Standard Review Plan for *In Situ* Leach Uranium Extraction License Applications. NUREG-1569. Office of Nuclear Material Safety and Safeguards.