

December 11, 1996

MEMORANDUM TO: Charles L. Cain, Acting Deputy Director  
Division of Nuclear Material Safety, Region IV

FROM: Joseph J. Holonich, Chief  
Uranium Recovery Branch  
Division of Waste Management  
Office of Nuclear Material Safety and Safeguards

SUBJECT: INPUT TO REGION IV INSPECTION REPORT 40-8989/96-02 RELATIVE TO  
THE ENVIROCARE OF UTAH, INC. FACILITY NEAR CLIVE, UTAH

Attached for your consideration and use as possible input to the above referenced inspection report are issues identified by Latif Hamdan of my staff (Attachment 1) and a summary (Attachment 2) of the not-yet-finalized report of our contractor, J.C. Chen of Lawrence Livermore National Laboratory (LLNL). The staff and contractor reports were developed as a result of our November 19, 1996, inspection of the Envirocare of Utah, Inc. facility near Clive, Utah.

In light of the issues identified both by NRC and LLNL staff, plans are underway to conduct a mid-January inspection of the Envirocare facility. Our primary foci will be on quality control and various elements of construction of the cell. Ken Hooks of my staff has been designated as Team Leader of the January inspection. Details of the inspection will be coordinated with Bob Evans of your staff who, as we understand, will represent Region IV.

If you have any questions regarding this subject, please contact the Project Manager, Harold E. Lefevre, at (301) 415-6678.

Attachments: As stated

cc: J. Chen

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Attachment 1

ENVIROCARE OF UTAH, INC.  
IDENTIFICATION OF ISSUES  
REPORT OF NOVEMBER 19, 1996, INSPECTION

Latif Hamdan, Uranium Recovery Branch, Division of Waste Management  
Groundwater Hydrologist/Technical Reviewer

**Issue 1. Groundwater Protection Standards**

Discussion of Issue. License Condition 11.1(g) requires that if a baseline/background ground-water quality value listed in Table S-1 of the application and the license for any of the constituents listed in the license [i.e., License Condition 11.1(b)] is exceeded, and the excess is confirmed by repeat sampling and analysis as described in the license, the licensee shall notify NRC and meet the reporting requirements as stated in License Condition 12.2 (i.e., by telephone within 7 days and by letter within 30 days from the time the excess is confirmed).

In addition, License Condition 11.1(g) also requires that within 30 days from the receipt of the confirmatory analysis results, the licensee shall develop and implement proposed site-specific standards for groundwater protection and develop a compliance monitoring plan for individual constituents that have been detected in the point of compliance (POC) wells in excess of the baseline/background values. Furthermore, License Condition 11.1(c) provides that the licensee may establish site-specific standards as the higher of 1) background concentrations, or 2) the maximum concentration limits (MCL) values provided in Table 5C, Appendix A to 10 CFR Part 40.

In NRC's previous inspection that was completed July 11, 1996, a violation of NRC's license requirements was identified, which resulted in a Notice of Violation (NOV) that was issued on August 13, 1996. The violation cited the licensee's failure to notify NRC, pursuant to License Condition 12.2, of the excess of baseline/background levels for uranium in POC well GW-28 (as indicated by a laboratory report received by the licensee on April 29, 1996).

The licensee replied to the NOV, via letters dated September 11, October 3, October 21, October 24, and November 20, 1996, and a licensee memorandum to NRC's Project Manager dated October 1, 1996. The licensee's replies provided explanations as to why the violation had occurred and indicated that measures would be implemented to prevent a recurrence, but rejected the possibility that the excess may be due to leakage of contaminants from the disposal cell into the groundwater. However, the licensee has subsequently reported confirmed excesses for four constituents (i.e., arsenic, mercury, selenium, and uranium) in 10 of the 12 POC wells). But the licensee asserted that the latter excesses resulted from statistical variations and/or interference/discrepancies in the laboratory and analytical procedures.

During the current inspection, the licensee was informed that since the baseline/background concentration levels for four constituents have been exceeded in the majority of the POC wells, the licensee is required to establish or propose site-specific standards for groundwater protection for these constituents, and to develop and implement a compliance monitoring plan, pursuant to License Conditions 11.1(c) and 11.1(g). However, the licensee's representatives took a strong position against establishing such standards on the grounds that establishing the standards would be an admission by the licensee that the disposal cell has leaked, something that the licensee could not agree with, because: (1) the cell has been in operation for only two years, and (2) both the background values and the water quality data reported by the analytical laboratories are being questioned by the licensee.

In addition, the licensee indicated that it switched from one analytical laboratory to another in May, 1996, for analysis of water samples for non-radioactive constituents. The NRC staff pointed out that the new laboratory must be certified as required by the license (License Condition 11.1(g)), and requested to review the certification documents of the new laboratory; but the licensee did not have such documentation at the time of the inspection. It appeared that the licensee did not heed to our August 13 NOV letter which requested the licensee to have all records available for the inspectors.

Compliance with License Provisions. According to License Condition 11.1(g), the standards shall be established by the licensee within 30 days from the receipt of the analysis results confirming excess of baseline/background levels. In that the licensee has confirmed excesses of baseline/background levels via a fax dated October 3, 1996, and the standards were not established by November 2, 1996, the licensee is not in compliance with the license provisions. If one accepts the reported excess of the background for uranium in POC Well GW-28, which was apparently included in a laboratory report dated April 29, 1996, the licensee appears to be in violation of this license condition since May 28, 1996.

The licensee has submitted a compliance monitoring plan via its letter dated October 24, 1996, and proposed to implement the plan and to continue to monitor and report the analytical results. The licensee has further stated that implementation of the compliance monitoring plan "will confirm that there has been no contamination of the groundwater and the 11e.(2) well analyses are at background levels." In the letter dated November 20, 1996, the licensee indicated that it would review the "site hydrogeology, analytical trends, previous groundwater transport models and pertinent 11e.(2) hydrological data", and to submit its findings and conclusions to NRC by March 1, 1997. During the inspection, the licensee indicated that it would supply NRC with copies of the certification for the new analytical laboratory it has recently contracted. However, the licensee did not at any time commit to establishing site-specific standards for groundwater protection as required by the license. Therefore, the licensee continues to be out of compliance with the current license provisions.

Recommended Action. The licensee should be notified that it is in violation of License Condition 11.1(g). Consistent with License Condition 11.1(g), and Criteria 5B(2) and 5B(5) of Appendix A to 10 CFR Part 40, the licensee should be required to establish site-specific groundwater protection standards for the following constituents that meet all of the tests in Criterion 5B(2):

Arsenic, mercury, selenium, and uranium. The standards may be established by the licensee, pursuant to License Condition 11.1 (c), as background/baseline levels, maximum levels for groundwater protection provided in Criterion 5C of Appendix A, which correspond to EPA's MCLs. The licensee may also propose and apply for alternate concentration limits (ACLs), pursuant to Criterion 5B(6), and the ACL standards could possibly be justified considering that the groundwater in the site area is virtually unsuitable for use because of a significant total dissolved solids (TDS) content of up to 70,000 ppm or more.

If the licensee fails to establish or propose site-specific standards for the above constituents, it would not be in compliance with the license, and thus could be subject to enforcement action. There is no MCL value for uranium in the regulations, and the uranium standard has to be established at background/baseline level or a risk based value.

The licensee should be informed that if the standards are established at the background or MCL levels, by either the SERP or NRC, the licensee will be out of compliance with the standards for some constituents (e.g., arsenic, selenium, mercury, uranium), and may therefore be required to undertake corrective action to clean up groundwater contamination, no later than 18 months from the date when excess of a standard has first been discovered, pursuant to License Condition 10.3.

In addition to the above, and in consideration of the proposed compliance monitoring plan and comments received from the licensee representatives during the inspection, the licensee should be officially notified of the following: (1) Background/baseline concentration levels in Table S-1 of the license can only be changed if the licensee is able to demonstrate that the new background standards are not influenced by possible groundwater contamination from the facility; (2) The credibility of the analytical laboratory reports are the responsibility of the licensee, and can not be used to delay compliance with the provisions of the license; and (3) The licensee must ensure that all the analytical laboratories contracted to provide services on the 11e.(2) facility are duly certified, and that proper certification documents are available in the licensee's site files.

**Issue 2: Changed Procedures Need to be Approved, Recorded and Documented by the Safety and Environmental Review Panel (SERP)**

Discussion of Issue. License Condition 9.4(a) permits the licensee, without prior NRC approval, but subject to certain conditions, to make changes in the facility or process, or procedures presented in the license application. License Condition 9.4(c) requires that the SERP make such determinations. License Condition 9.4(d) requires that the licensee maintain records of any changes made by the SERP until license termination, including written safety and environmental evaluations that provide the basis for determining changes are in compliance with the license requirements. In addition, License Condition 9.4(d) also requires the licensee to furnish, in an annual report to NRC, a description of such changes, including a summary of the safety and environmental evaluation of each, and to submit to the NRC changed pages to the Operations Plan and Reclamation Plan of the approved license application to reflect changes made under this condition.

During the inspection, the licensee representatives mentioned that changes in the procedures were made by the licensee. But the licensee representatives could not be specific on whether or not the changed procedures involved groundwater procedures in the application. It was clear, however, that not all of the changed procedures were made by the SERP, and there is no evidence that the changed procedures were recorded or documented. There is only one SERP decision on record and it does not involve any groundwater procedures (it concerns environmental monitoring stations).

The licensee representatives were informed by the NRC staff of the pertinent provisions in License Condition 9.4 (a, b, c and d), which define the responsibilities of the licensee with regard to the approved performance-based license. Specifically, the licensee representatives were informed that all decisions to change procedures in the application must be made by the SERP, and that SERP determinations must be recorded and documented in the annual reports.

Compliance with the License. It appears that the licensee is in violation of License Condition 9.4, because procedures are being changed without the SERP involvement. The licensee representatives were not specific on the changes made, but it was clear that they did not fully appreciate the responsibilities that go with a performance-based license; namely that any changes of the procedures in the license application must be made by a SERP decision, and that the SERP determinations must be recorded in the licensee files and documented in the annual reports.

Recommended Action. The licensee should be notified that it is in violation of License Condition 9.4. Staff recommends that the licensee be required to: (1) review all of the procedure changes made since the performance-based license was approved; (2) identify any procedures in the application that have been changed; and (3) demonstrate that the changed procedures in the application have been approved by the SERP and that they have been duly recorded and documented.

Attachment 2

**ENVIROCARE OF UTAH, INC.  
SUMMARY OF LAWRENCE LIVERMORE NATIONAL LABORATORY INSPECTION  
REPORT OF NOVEMBER 19, 1996**

Lawrence Livermore National Laboratory (LLNL) performed portions of the NRC inspection conducted by Region IV on November 19, 1996. The purpose of this phase of the inspection was to review earth construction operations performed since the previous inspection date. Any problems which could potentially affect the long-term stability of the 11e.(2) disposal cell were to be identified in this phase of work.

The LLNL representative (J.C. Chen) made field observations and reviewed documentation provided by the licensee. Field tests had been performed by a geotechnical consultant under contract to Envirocare. For the **Foundation Material, Clay Liner, and Waste Material**, it was found that sufficient material tests were made in conformance with specifications. From the quality control perspective, questions were raised regarding the proper evaluation of moisture-density test results. For the **Radon Barrier**, a question was raised regarding the appropriate number of permeability tests.

Based on the number of questions raised, and the fact that additional records review was deemed necessary, a follow up visit is advised. In addition to a review of the questionable items identified above, a review of the independent laboratory qualifications should be made. Weekly evaluation documents from the Site Engineer should be made available at the time of the follow up visit.