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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545-0001

NUS 13124

MEMORANDUM FOR: Joseph J. Holonich, Chief
High Level Waste & Uranium Recovery Branch
Division of Waste Management, NMSS

FROM: Margaret V. Federline, Chief
Performance Assessment & Hydrology Branch
Division of Waste Management, NMSS

SUBJECT: ACCEPTABILITY OF ENVIROCARE AMENDMENT

My staff has reviewed the Envirocare of Utah, Inc. (Envirocare), license amendment request dated March 1, 1994 (supplemented on June 29, 1994). We find the amendment request acceptable for the areas under review by this branch.

The amendment request proposes four major changes to the license. These are:

- 1) A request to change the maximum time period allowed for confirmatory sampling.
- 2) A request to delete license condition 10.2(b), which currently requires Envirocare to analyze and characterize specified key radon attenuation model parameter values during placement to verify that the values used in Envirocare's radon attenuation model have been achieved.
- 3) A request to remove or modify all license conditions that used the term, "high activity (greater than 1000 pCi/g for any one radionuclide)." This resulted in two requested modifications - one to license condition 9.6(e) and one to license condition 10.7.
- 4) A request that the average activity requirements and the limitation of the "high activity" annual waste volume to 10% of the yearly total disposed waste, license conditions 10.8(g) and 10.8(h), be removed.

My staff was requested to review the amendment request with regard to the third and fourth proposed changes.

Envirocare requests modification to two license conditions, 9.6(e) and 10.7, based on the request to remove the terms "high activity" and "low activity." License condition 9.6(e) is a requirement that Envirocare modify the Quality Control/Quality Assurance Plan to provide quality controls for waste sampling and characterization, and protective and respiratory protection equipment. License condition 10.7 states the minimum condition needed to declare an incoming shipment of waste a Radiation Area. Currently, this condition is based on the inventory of the incoming shipment (i.e., "high activity" waste).

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Envirocare proposes to change this prescriptive requirement to a performance-based license condition, which requires Envirocare to survey each shipment and post a shipment as a Radiation Area, if the survey results are in excess of 0.05 nSv/hr (5 mrem/hr). The staff has no objection to these modifications.

Envirocare, also, requests that license condition 10.8 be amended to remove the limitations on annual average radiological concentrations in the waste disposed, and the 10% total volume limit on "high activity" waste. Envirocare intends to use a spreadsheet program, based on the model in Appendix A of the application to various receptor points and described in Appendices A-2 and A-3, as a planning tool to estimate off-site impacts of the disposal process for any potential disposal, ranging from single disposals to annual disposals. Because the spreadsheet is intended to be a planning tool and is based on the model reviewed previously for the original license, the spreadsheet has not been validated by the staff. Envirocare will continue to show compliance with 10 CFR Section 20.1301 (public dose limits) by measurement of effluent concentrations in the air at the site boundary, as per 10 CFR § 20.1302(b)(2)(i).

By use of this planning tool, Envirocare proposes that the limits on average concentrations for the waste disposed of in a year, based on the values used in the safety assessment, are not needed to control the release of effluents off site. Removal of the limitations will allow Envirocare more flexibility on an annual basis. The initial safety assessment for the site was based on a bulk mass of 4.54×10^5 tonnes (5×10^5 tons) disposed of per year with an average concentration of 500 pCi/g per radionuclide and 10 percent of the waste averaging 1000 pCi/g. This resulted in a projected dose during operations of 1.16 mSv (116 mrem) IDEF annual dose at the southern site boundary. Envirocare is limited, by 10 CFR Section 20.1301, to a public individual annual dose of 1 mSv (100 mrem) IDEF during operations. Therefore, removal of the limitation on disposal of high activity waste and the annual concentrations will not allow effluent concentrations off-site greater than that reviewed in the Final Safety Evaluation Report (NUREG-1486, January 1994). After cover emplacement, Envirocare will be limited to a radon fluence rate of 20 pCi/m²s, as per 10 CFR Part 40, Appendix A, Criterion 6.

Envirocare is requesting that the limits on the annual concentrations be removed. Other constraints on the disposal of 11e.(2) byproduct material remain. These include:

- 1) The total annual volume of disposed waste (4.54×10^5 tonnes),
- 2) The total embankment capacity (2.52×10^6 m³),
- 3) The maximum activity in any shipment (i.e., a railcar or truck),
- 4) The maximum annual disposal area (3.8477×10^5 m²),
- 5) 10 CFR Section 20.1301, and
- 6) 10 CFR Part 40, Appendix A, Criterion 6.

The staff has no objection to the removal of the license conditions limiting the annual disposal of high activity waste and annual average concentrations for the annual disposal volume.

Margaret V. Enderline, Chief
 Performance Assessment & Hydrology Branch
 Division of Waste Management, NMSS

cc: S. Wastler, HLUR

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Margaret V. Federline, Chief
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