



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Docket No. 40-8989

MAR 28 1994

Mr. Vernon Andrews
Envirocare of Utah, Inc.
215 So. State Street, Suite 1160
Salt Lake City, Utah 84111

Dear Mr. Andrews:

Our staff has discussed with you and Mr. Semnani U.S. Nuclear Regulatory Commission licensing bulk, low-specific activity waste containing Special Nuclear Material (SNM) in quantities of more than 350 grams of contained U-235, the limit in your State of Utah license for low-level radioactive waste disposal and in our regulations in 10 CFR 150.11, which define the maximum quantities that Agreement States may regulate. The purpose of this letter is to describe NRC licensing to receive, possess, and dispose of larger quantities of SNM.

Generally, NRC would issue a license under 10 CFR Part 61 for these activities. The license application would need to address all of the applicable provisions, especially 10 CFR 61.16(a) and (b), which cover physical security and criticality, respectively. With this approach, Envirocare could receive, possess and dispose of larger quantities of SNM than the 350 grams specified above, and would only be limited by the analyses and limits defined in the license application and the NRC issued Part 61 license.

We have enclosed handouts (Enclosure 1) from a presentation by our staff at the July 1993 Agreement State Regulators' Workshop, which define the applicable regulations for a Part 61 SNM disposal license in an Agreement State and other pertinent information. In addition to addressing physical security and criticality measures, Envirocare would also need to address the areas of overlap between the Utah license for disposal and the NRC license. An internal memorandum dated August 8, 1988, is included in the presentation handouts, which describes the NRC staff review in areas of overlap. In addition, 10 CFR Part 51 requires that the applicant submit an Environmental Report (ER), that the staff prepare an Environmental Impact Statement (EIS), and that there be an opportunity for an adjudicatory hearing on the licensing action. In preparing the ER for the Part 61 SNM license, Envirocare may be able to rely on information previously submitted and reviewed by the staff in connection with the Section 11(e).2 byproduct material license we recently issued, where this information is applicable. If you choose to rely on information from the 11(e).2 license EIS, you will need to show how it is applicable, and the staff may be able to issue a supplement to this EIS to satisfy the Part 51 requirements for this licensing action. It may also be possible for NRC to rely in part on any State of Utah environmental review of the site.

We have performed some preliminary analyses of the criticality hazard for bulk, low-specific activity materials, and it is possible that it can be demonstrated that no criticality hazard exists for the additional SNM you wish

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to possess at any one time. Under our current regulations, Envirocare would need to provide definitive analyses in its Part 61 license application demonstrating that, in fact, there was no criticality hazard for the types, forms, amounts, and configurations of materials to be handled at the site, including any heterogeneities in the incoming materials.

Related to this licensing approach is our review of your October 21, 1992, petition for rulemaking. This petition requests NRC to exempt those persons who dispose of very low specific activity wastes contaminated with SNM that are not capable of forming a critical reaction from the current 350 gram possession limits in our regulations. If we were to agree that such wastes should be exempted, a rulemaking to revise Part 150 would be necessary. Until such a rulemaking were completed, Envirocare would have to obtain a Part 61 license to dispose of these materials.

We trust that the above information will be helpful to you. If you decide to proceed with a license application, we are available to consult with you further in developing a complete, high-quality license application. If you have any questions, please call me at (301) 504-3785 or James Kennedy, of our staff, at (301) 504-3401.

Sincerely, (SIGNED) JOHN J. SURMEIER

John J. Surmeier, Acting Chief
 Low-Level Waste Management Branch
 Division of Low-Level Waste Management
 and Decommissioning
 Office of Nuclear Material Safety
 and Safeguards

Enclosure:
 Handouts from July 1993
 Regulators' Workshop

cc: W. Sinclair

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We have performed some preliminary analyses of the criticality hazard for materials of this type and in this form (i.e., in rail cars) and quantity, and it is possible that it can be demonstrated that no criticality hazard exists for the additional SNM you wish to possess at any one time. Envirocare would need to provide definitive analyses in its license application demonstrating that, in fact, there was no criticality hazard for the types, forms, amounts, and configurations of materials to be handled at the site, including any heterogeneities in the incoming materials.

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*United States
Nuclear Regulatory Commission*

SPECIAL NUCLEAR MATERIALS LICENSING

**LLW Regulators' Workshop
July 28, 1993
Rockville, Maryland**

**James E. Kennedy, Section Leader
Low-Level Waste Management Branch
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission**

APPLICABLE NRC REGULATIONS

10 CFR 61.16(a). "Any application to receive and possess SNM in quantities subject to the requirements of Part 73 of this chapter shall demonstrate how the physical security requirements of Part 73 will be met."

10 CFR 61.16(b)(1) "Any application to receive and possess SNM in quantities that would be subject to the criticality requirements of 70.24, "Criticality accident requirements" shall demonstrate how the requirements of that section will be met,..." (2) "describe proposed procedures for avoiding accidental criticality which address both storage of SNM prior to disposal, and waste emplacement for disposal."

10 CFR PART 150 - "Exemptions and Continued Regulatory Authority in Agreement States and In Offshore Waters Under Section 274."

- **NRC maintains regulatory authority for licensing Pre-Disposal Possession of SNM in critical mass quantities. These quantities are:**
 - **Uranium Enriched in U-235 in quantities not to exceed 350 grams of contained U-235**
 - **200 grams of Uranium-233**
 - **200 grams of Plutonium**
 - **Any combination of the above using the sum of fractions rule**

- **Disposed SNM quantities do not count against the above**

NRC LICENSING

- **NRC has defined division of responsibilities between Agreement States and NRC (see attached)**
- **Agreement States - NRC will issue Part 61 license addressing physical security and criticality and rely on Agreement State programs concerning SNM in other areas (e.g., PA, environmental monitoring)**
- **NRC has existing SNM licenses for Hanford and Barnwell**
- **NRC is preparing internal review plan for SNM**

PETITION FOR RULEMAKING

- **On Oct. 21, 1992, Envirocare petitioned NRC to revise its regulations to exempt low specific activity SNM waste from NRC licensing**
- **Petition notice filed in Federal Register on Feb. 22, 1993**
- **Comment period closed April 23, 1993**

CONCLUSION

- **License applicants for LLW disposal facilities in Agreement States may also need an NRC license to dispose of SNM**
- **Parts 150 defines when an NRC license is required**
- **Division of responsibilities between NRC & Agreement States has been defined and is being documented in NRC SNM Review Plan**
- **SNM licensing will require close coordination between NRC and Agreement States**



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20548

AUG 8 1978

MEMORANDUM FOR: Hugh L. Thompson, Jr., Director
Office of Nuclear Material Safety
and Safeguards

FROM: Malcolm R. Knapp, Director
Division of Low-Level Waste Management
and Decommissioning

SUBJECT: PROPOSED APPROACH FOR NRC LICENSING OF SNM WASTE DISPOSAL
AT AGREEMENT STATE LICENSED LLW DISPOSAL FACILITIES

This memorandum, for your endorsement, outlines a proposed approach for NRC to license and regulate disposal of special nuclear material (SNM) at the Agreement State licensed low-level waste disposal facilities where SNM is disposed of under NRC license. We anticipate that implementation of this approach will more effectively utilize limited staff resources and minimize dual regulation.

The NRC can relinquish responsibility for regulating disposal of low-level waste containing small amounts of SNM to Agreement States. However, disposal of amounts of SNM that are sufficient to form a critical mass must be regulated by the NRC (AEA 274(b) and 10 CFR Part 150.10 and 150.11). NRC's regulatory program for SNM disposal must ensure that three objectives are met:

1. Maintain criticality safety through control of SNM during receipt, storage, disposal, and post-disposal;
2. Safeguard the SNM from diversion or sabotage; and,
3. Protect the public health and safety from the hazards of disposal of SNM through demonstration of compliance with the requirements of 10 CFR Parts 20, 51, and 61. (Per Section 61.1, the applicability of Part 61 requirements to existing disposal facilities is to be determined on a case-by-case basis and implemented through terms and conditions of licenses or orders issued by the Commission.)

Consistent with the intent of the law and to take advantage of the work of Agreement States, the NRC will directly regulate SNM disposal in objectives 1. and 2. above, and will rely, to the extent practicable, on Agreement State programs to help regulate SNM disposal so as to meet objective 3. In more detail, the above three areas are distributed among twelve individual subjects that LLW regulation addresses. These subjects, and the NRC activity in each, appear in Enclosure 1.

In both Washington and South Carolina, NRC will be relying on the State to effectively regulate overall disposal facility design, construction, and operations. Therefore, NRC must ensure through its Agreement State oversight program that the State's program for regulation of source and byproduct

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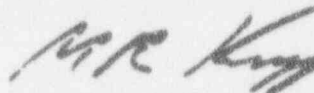
Thompson, Jr.

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Material is also adequate for the disposal of SNM, assuming all these classes of material are disposed of in the same disposal unit. To effectively discharge this responsibility, LLWM staff will participate in the NRC reviews of the State's program to review activities and technical quality of licensing (including SER or comparable documentation) involving regulation of the Hanford and Barnwell disposal facilities. Problem areas will be identified to the State and corrective actions requested of the State will receive NRC follow-ups. If a situation should develop where we believe the State is not effectively discharging its responsibilities to protect the public health and safety in a manner that also ensures proper disposal of SNM, the NRC will independently conduct a review to judge the acceptability of those aspects of disposal facility operations and take appropriate action with respect to the SNM aspect, as well as any required follow-up with respect to the State Program.

In order to implement this approach, the staff will omit from the SNM license specific and detailed conditions relating to those areas where State regulation has been deferred to. The NRC special nuclear material license will be conditioned to require that, unless otherwise specifically authorized by the NRC license, special nuclear material LLW will only be received and disposed of in accordance with design, construction and operating procedures approved by the State. The procedures will be incorporated by reference into the NRC license so as to allow for NRC enforcement, if necessary.

Given the shared responsibility of the NRC and State for disposal facility regulation, periodic inspections of disposal facility activities can be jointly conducted. Enforcement of requirements relating to overall disposal facility design, construction, and operations shall be taken by the State with coordination, as necessary, with NRC staff. Enforcement of requirements relating specifically to SNM will be taken by the NRC. In conjunction with the Office of Governmental and Public Affairs, the LLWM staff will explore the utility of an agreement, under Section 274i of the Atomic Energy Act, to cover inspections of SNM disposal at State licensed disposal facilities.



Malcolm R. Knapp, Director
Division of Low-Level Waste Management
and Decommissioning

Enclosure:
As stated

ENCLOSURE 1

Subject

NRC Regulatory Activity

Staff
Qualification
and Training

NRC must assure that licensee staff are trained and qualified to comply with SNM criticality requirements and security provisions.

Waste Form
and
Classification

NRC direct review will be limited to ensuring that criticality criteria of the waste form and package are met.

Site Operations

The NRC must ensure that receipt, transportation, storage, and disposal of SNM does not result in criticality or reduce the level of physical security.

Physical
Security

The NRC must ensure that physical security is appropriate to prevent misuse of SNM through diversion or sabotage.

Performance
Assessment

The NRC will review this subject to assure that post-closure migration of SNM nuclides are covered and to determine whether any requirements specific to SNM are needed.

Environmental
Impacts

The NRC will evaluate incremental environmental impacts of SNM receipt and disposal per 10 CFR Part 51.

Radiation Protection

The NRC must ensure that the licensee's radiation protection program is adequate to afford worker protection with regard to SNM insofar as incremental protection over and above that which is required by the State for source and byproduct material is necessary.

In the following areas, the NRC will rely on the Agreement State's regulatory program: