

MEMORANDUM FOR: Leonard J. Callan, Director APR 23 1993
Division of Radiation Safety and Safeguards, RIV

FROM: John E. Glenn, Chief
Medical, Academic, and Commercial
Use Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

SUBJECT: TECHNICAL ASSISTANCE REQUEST, DATED SEPTEMBER 28, 1992,
REGARDING JOHN L. MCCLELLAN MEMORIAL VETERAN'S HOSPITAL'S
AUTHORIZATION REQUEST TO DISPOSE OF IRON-59 AND SULFUR-35
AFTER FIVE HALF-LIVES

This Branch has reviewed your Technical Assistance Request (Enclosure 1), dated September 28, 1992, regarding John L. McClellan Memorial Veteran's Hospital's authorization request to dispose of Iron-59 (Fe-59) and sulfur-35 (S-35) after five half-lives.

If the licensee wishes to dispose of Fe-59 and S-35 by decay in storage after five half-lives, the licensee will have to apply for alternative disposal methods pursuant to 10 CFR 20.302. Approval of this application requires review and coordination with the Decommissioning and Regulatory Issues Branch (LLDR). In order to review this application, LLDR will require the necessary information required by NUREG-1101, Vol.1 (Enclosure 2).

It is also noted that the licensee proposes to incinerate the waste after five half-lives. If the licensee is not currently authorized for incineration, an amendment is required to permit incineration of radioactive material. The licensee should address the questions in Policy and Guidance Directive FC 84-21; Incineration by Material Licensees (Enclosure 3) if an amendment is required. Further, the licensee must include a consideration of the ash in the 10 CFR 20.302 request, unless the ash is being shipped as radioactive waste.

If you need further information concerning this matter, please contact James Smith of this staff at (301) 504-2613.

John E. Glenn, Chief
Medical, Academic, and Commercial
Use Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Enclosures: As stated

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DEC 5 1984

MEMORANDUM FOR: Regional Administrators

Branch Chiefs
Division of Fuel Cycle and Material Safety

FROM: Richard E. Cunningham, Director
Division of Fuel Cycle and Material Safety

SUBJECT: POLICY AND GUIDANCE DIRECTIVE FC 84-21; INCINERATION
BY MATERIAL LICENSEES

This directive provides updated guidance for licensing of incineration of radioactive waste. It supersedes Policy and Guidance Directive FC 84-3, dated June 13, 1984. The only change is addition of the discussion of temporary job sites. The enclosure is unchanged.

Guidelines applicable to both new incinerators and renewals are enclosed. The enclosure supersedes previous incineration guidelines dated January 8, 1981 and April 12, 1982. The new guidelines request the applicant to obtain input from state and local governments as was the case in the past. However, occasionally applicants may insist that this is not their responsibility. In such cases, the NRC staff may contact state and local officials directly. In either situation, the state and local officials should be allowed 60 days to comment.

In a few cases, local governments have requested NRC staff to attend public meetings and answer questions about license applications involving incinerators. We have made every effort to accommodate these requests. Also, note that 10 CFR Part 2 allows for public hearings on any licensing case if appropriate. Any public hearing should be coordinated with the legal staff.

Please note that 10 CFR Part 2 contains special requirements for commercial waste disposal operations, which would include commercial incinerators. Therefore, any commercial incineration application should be coordinated with Headquarters.

We occasionally receive questions regarding licensing of mobile incinerators for use at temporary job sites, although no applications have been received. Because of the unprecedented nature of this type of operation, any application involving incineration at temporary job sites should be coordinated with Headquarters.

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Multiple Addressees

- 2 -

Program Code 03235 should be entered as a secondary code for all licensing actions authorizing non-commercial incineration. The Licensing Management System (LMS) data base will allow for identification of incinerators. Such authorizations should be entered into the LMS when it becomes operational.

If you have questions concerning this directive, please contact Vandy Miller (FTS: 427-4002).

Original Signed by
D. R. Chapell

Richard E. Cunningham, Director
Division of Fuel Cycle and
Material Safety

Enclosure: Incineration Guidelines

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ENCLOSURE

JUN 13 1984

INCINERATION GUIDELINES FOR MATERIAL LICENSEES

Notes: These guidelines apply to non-commercial waste disposal, that is, incineration of a licensee's own waste. NRC may request additional information regarding proposed commercial incinerators as appropriate to assess adequately the potential impact on public health and safety and the environment.

You do not need specific NRC approval in order to incinerate certain categories of radioactive waste. For example, 10 CFR Section 20.306 provides that tritium and carbon-14 in low concentrations in liquid scintillation media and animal tissue may be disposed of without regard to radioactivity. After you have reviewed your program and confirmed that you have waste which requires specific NRC approval for incineration, please provide all of the information specified below.

1. Submit the characteristics of the incinerator and the site, including:
(a) height of stack, (b) rated airflow, (c) distance from incinerator to nearest air intake duct of adjacent building, and (d) location and distance to nearest unrestricted areas, residence, school, hospital, etc.
2. State specifically the isotopes and the maximum amount of each isotope that you wish to incinerate per burn. For the combination of isotopes listed, submit calculations to demonstrate that the following conditions will be met:
 - A. The gaseous effluent from the incinerator stack will not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20 when averaged over a 24 hour period.
 - B. In order to be in compliance with the ALARA philosophy stated in section 20.1(c), 10 CFR Part 20, the gaseous effluent from the incinerator stack should be a fraction (less than 10%) of the limits specified for air in Appendix B, Table II, 10 CFR Part 20, when averaged over a period of one year.

If more than one isotope is involved, your calculations must follow the "sum of ratios" method in the "Note" at the end of Appendix B, 10 CFR Part 20.

3. State how you will determine the concentration of radionuclides released, both as airborne effluents, and as any liquid effluents from scrubbers, condensers, or associated systems.
4. State the maximum number of burns to be performed in any one week and the maximum number of burns per year.

5. Describe your method for measuring or estimating the concentration of radioactive material remaining in the ash residue. Unless you present scientific evidence to the contrary, you must use the most conservative assumption.

Describe your procedures for collection, handling and disposal of the ash residue, including radiation safety precautions to be observed.

6. Describe procedures to be followed to minimize exposure to personnel during all phases of the operation, including instructions given to personnel handling the combustibles and the ash.
7.
 - A. Identify any state or local permits which are required to operate an incinerator, and submit evidence that such permits have been obtained.
 - B. State and local government agencies should be notified early of plans to incinerate radioactive waste, because they often must respond to inquiries from local citizens and organizations. It is preferable that the applicant make such notifications and obtain comments since the applicant is closer to the community. Indicate that such notifications have been made by including in your application copies of letters to state and local government agencies and their comments. If the applicant does not notify state and local governments, the NRC will do so directly.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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