

North Bethesda Congress of Citizens' Associations, Inc.
c/o 9928 Brixton Lane
Bethesda, MD 20817
Phone: (301) 469-7790 ext 77

December 2, 1993

Docket No. 030-01786

Mr. James M. Taylor
Executive Director for Operations
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Request for Action Pursuant to 10 CFR § 2.206

Dear Mr. Taylor:

This letter transmits our request for action pursuant to Section 2.206 of Title 10 of the Code of Federal Regulations (10 CFR § 2.206). Specifically, we request that the U. S. Nuclear Regulatory Commission (NRC) suspend License Condition 24, of the National Institutes of Health (NIH) Materials License, No. 19-00296-10, pending resolution of two regulatory issues. License Condition 24 authorizes NIH to dispose of licensed materials by incineration.

The basis for our request is contained in the attachment to this letter. In brief, our concerns are (1) no environmental report or environmental assessment has been completed regarding the incineration of radioactive waste on NIH's Bethesda campus; and (2) there may be less than adequate monitoring to ensure that radioactive effluent releases are within regulatory limits.

Additionally, with respect to this docket, we request a copy of the NRC environmental assessments and/or safety evaluations that provide the bases for (1) an exception from 10 CFR § 20.303(d) limits regarding radioactive material discharges into sanitary sewer systems (License Condition 21); and (2) approval of the construction and operation of a low level radioactive waste storage facility at NIH's Poolesville campus (License Condition 28). We have been unable to identify these bases documents as they do not accompany the corresponding license amendments.

180607

YEO 3
11

EDO --- 009573

9401250084 931202
PDR ADOCK 03001786
C PDR

Mr. James M. Taylor
Page 2 of 2

We request that a copy of future correspondence between your agency and NIH regarding these matters be forwarded to our attention. In advance, thank you for your consideration of this request.

Sincerely,

A handwritten signature in black ink, appearing to read 'Arlene S. Allen', written in a cursive style.

Arlene S. Allen,
President

Attachment: as discussed

cc: Rep. C. Morella
(MD) Sen. H. Denis
S. Ficca, NIH
T. Martin, NRC Region I

Action Requested Under 10 CFR § 2.206

Pursuant to 10 CFR § 2.206, the North Bethesda Congress¹ requests that License Condition No. 24 to the materials license for the National Institutes of Health (NIH), License No. 19-00296-10, be suspended pending resolution of the issues discussed herein. License Condition 24 states, in part, that:

"Pursuant to Sections 20.106(b) and 20.302 of 10 CFR Part 20, the licensee is authorized to dispose of licensed material by incineration provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20."

Basis for the Request

1. Possible Noncompliance With Environmental Regulations

NIH, to our knowledge, has not completed and submitted to the U. S. Nuclear Regulatory Commission (NRC) an environmental report regarding the radiological releases from their incinerators at the Bethesda campus. Moreover, the NRC has not issued an environmental assessment or impact statement regarding the NIH radiological emissions, as far as we have been able to determine.

The National Environmental Policy Act (NEPA) of 1969, as amended, provides the legal basis for the requirement to perform environmental impact statements. This law is implemented by specific agency regulations such as 40 CFR Part 1500 for the Environmental Protection Agency (EPA) and 10 CFR Part 51 for NRC. Within the broad spectrum of NRC actions subject to Part 51, only those types of actions which have been determined by rule to be categorical exclusions [i.e., those discussed in 10 CFR § 51.22(c) and (d)] are excluded from the NEPA process. The remaining actions are subject to NEPA review, requiring either an environmental impact statement or an environmental assessment leading in turn to a finding of no significant impact or to a decision to prepare an environmental impact statement.²

-
1. The North Bethesda Congress is a neighborhood association that represents residents living in the Bethesda, Maryland area. The North Bethesda Congress serves as an umbrella organization with representatives from various other citizen's associations throughout the Bethesda area participating as members. Several weeks ago, it came to the group's attention that the three incinerators located on the NIH Bethesda campus were authorized to burn medical and radiological waste. Given the proximity of the incinerators to nearby neighborhoods, a research effort was initiated by the group to determine the licensing basis for the incinerators.
 2. Refer to Statements of Considerations for final rulemaking regarding NRC environmental regulations, 49 FR 9352.

The criteria for categorical exclusion as defined in the NRC's regulations, while including issuance and amendment of material licenses for certain activities [10 CFR § 51.22(c)(14)], does not include the disposal of radioactive waste by incineration. Disposal via this mechanism requires specific and separate approval by the NRC under 10 CFR § 20.302, and constitutes a licensing action that is not within the scope of a routine Part 35 license.³ This type of action is, therefore, subject to the NEPA process.

10 CFR § 51.60(b)(2), requires a materials licensee to prepare an environmental report for amendments to its license that would "authorize or result in...(ii) a significant change in the types of effluents [or], (iii) a significant increase in the amounts of effluents..." License Condition 24 authorizes NIH to incinerate its radioactive waste and release up to several curies per year of various radioactive effluents (refer to Table 1) as a direct result of this incineration.⁴ We have been unable to identify an environmental report for this activity (i.e., a report containing the information required by 10 CFR § 51.45) in any license amendment request including the most recent license renewal application. Furthermore, no NRC safety evaluation or environmental assessment, the latter of which we believe is required by 10 CFR § 51.21, have been identified for this activity. Prior to NRC approval of License Condition 24, NIH was not permitted to incinerate radioactive material onsite and, therefore, this action constituted a "significant change" in the type and "significant increase" in the amount of radioactive effluents being released to the environment.

As discussed in NRC inspection report No. 030-01786/88-001, Attachment 8, radiological releases from the incinerators are capable of exceeding regulatory limits and we believe that the total radiological emissions from NIH (including those from Building 21 hoods) are sufficient to warrant environmental analysis.

-
3. In the Statement of Considerations accompanying the newly revised 10 CFR Part 20, the NRC stated (56 FR 2338) that "The requirement for prior NRC approval of incineration remains in the amendments to Part 20 in this final rule because the acceptability of incineration as a disposal option, except for exempted quantities of radioactive materials, must be determined on a site specific basis considering: (1) incinerator design, (2) the variable isotopic composition and activity of the material to be burned, and (3) potential human exposure to effluents, which may require special calculational methods because of complex meteorologic conditions and other factors." In making this statement, the NRC rejected the notion that disposal of radioactive waste by incineration is simply just another form of general effluent release.
 4. These activity limits were derived using the maximum airflow capacity of all three incinerators and may be increased as incinerators with larger airflows are used to burn the waste. It should be noted also that NIH has stated in correspondence to the NRC that normally only two incinerators are operating at any one time and there are no restrictions placed on NIH to prohibit burning all the waste in one incinerator. Thus, with only one or two incinerators operating, the annual limits listed in Table 1 are not valid since they would result in actual concentrations exceeding required levels.

Furthermore, we believe that the volume of radiological waste incinerated will increase over the next few years up to the limits imposed by the license as new incinerators are built⁵ and other low level radioactive waste disposal methods cease to be available.

We view the generation of an environmental report and corresponding assessment as an important decision-making process as it would, in part, evaluate the total impact of NIH radiological emissions on the surrounding neighborhoods as well as consider reasonable alternatives to certain activities such as incineration, as required by NEPA.

We conclude, therefore, that continued burning of radioactive and potentially contaminated medical/pathological waste in the NIH incinerators without a complete environmental report and accompanying assessment may be in noncompliance with NRC's environmental regulations.

2. Questionable Methodology for Determining Radioactive Effluent Releases

To date, as far as we are able to determine, no continuous stack monitoring for radioactive airborne effluents exists at the NIH incinerator stacks.

In 1986, NIH was cited for its failure to adequately monitor radioactive effluents from its incinerator stacks. Problems in this area continued through the end of 1988, as documented in an NRC inspection report (No. 030-01786/88-001).⁶ The problems apparently resulted from two main factors: (1) the lack of direct stack monitoring instrumentation; and (2) the failure to intercept contaminated medical waste prior to it being fed into the incinerator. In January 1989, a Management Meeting was held between NRC staff and NIH officials to discuss the issues and proposed corrective actions. At the conclusion of the meeting, it was agreed that the resolution of the problem would encompass three corrective actions: (refer NRC meeting summary dated January 24, 1989):

- (1) Restrict the incinerator influent and sample/survey packages going to the incinerators, using a statistical model, to demonstrate compliance;
- (2) Sample the stack effluent with a composite air sampler/conditioner; and
- (3) Validate the location of environmental sampling stations using existing technology, EPA dispersion models and available meteorological data.

5. Refer to a letter from W. Walker, NIH to the NRC, Region I, dated February 24, 1992.

6. It was in this inspection report that the NRC documented (in Attachment 8) its conclusion that NIH exceeded its yearly radioactive effluent release limit to unrestricted areas for 1987.

In follow-up letters to the NRC, it appeared that NIH committed to install instrumentation that would continuously monitor incineration effluents. However, as described in the NRC's most recent inspection report of the incinerators (dated September 16, 1992) NIH had still not installed this direct effluent monitoring instrumentation at the incinerator stack.

In an effort to prevent contaminated medical waste from entering the incinerator, NIH has installed a box monitoring system. According to NIH and NRC records, this monitoring system is sensitive enough to detect a 1 mCi Cs-137 source. Boxes that contain sources with higher levels of radioactive contamination will presumably set off an alarm and the box can be prevented from entering the incinerator. It remains unclear (1) how these detectors identify boxes that contain low energy gamma and beta emitters (such as iodine-125 and tritium) and (2) what assumptions are used when determining the total radioactive effluents released from the incinerators to account for the contribution from the medical waste boxes that are burned in the incinerator which could have radioactive contamination up to the detection threshold of 1 mCi.

Small amounts of iodine continue to be identified in the incinerator ash (according to the 1992 NRC inspection report) indicating that contaminated medical waste is still getting into the incinerators. This is of concern because after considering a reasonable partition factor, even small amounts of activity in the ashes when compounded by the large volume of waste burned can translate into effluent releases that, when combined with other known releases, approach or exceed effluent release limits to unrestricted areas. Additionally, radionuclide releases from other sources, such as Building 21, do not appear to be routinely considered in conjunction with incinerator radionuclide releases when computing the overall facility release totals to unrestricted areas.

NRC Regulatory Guide 8.37, "ALARA Levels for Effluents from Materials Facilities," states, in part, that (page 8.37-4):

"Licensees must perform surveys and monitoring...that may be necessary to determine whether radioactive levels and effluents meet the licensee's established ALARA goals."

"When practicable, release of airborne radioactive effluents should be from monitored release points to ensure that the magnitude of such effluents is known with a sufficient degree of confidence to estimate public exposure."

"Effluent monitoring systems should be designed in accordance with ANSI N13.1 (1969), Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities."

10 CFR § 20.106, specifies that the concentration limits in Appendix B, Table II (of Part 20) apply where the material leaves the stack and enters the unrestricted area. Given

the inaccurate methods used to detect contaminated medical waste at the inlet to incinerators, and with no provisions for continuous stack monitoring as specified in ANSI N13.1, it is unclear how compliance with Part 20 limits can be assured. We recognize that NIH has implemented an environmental monitoring program. However, as discussed in ANSI N13.1, the interpretation of atmospheric samples is subject to large uncertainties due to meteorological variables. This approach may only be useful in reinforcing the validity of effluent monitoring, but not useful in providing the primary method of compliance verification.

In conclusion, it is unclear how the methods currently used by NIH to assess radioactive effluent releases at the incinerators satisfy regulatory requirements and provide adequate accuracy and assurance that release limits are being met.

Table 1

Activity Limits for Radioactive Effluents from NIH Incinerators

<u>Nuclide</u>	<u>Annual Limit (mCi)</u>
H-3	5,540
C-14	2,770
P-32	55.4
S-35	249.3
Ca-45	27.7
Cr-51	2,216
Mn-54	27.2
Zn-65	55.4
Se-75	110.8
Y-90	83.1
Tc-99 ^m	13,850
I-125	2.2
I-131	2.8
Tl-201	831

Note: Information in the table was obtained from a letter from W. Walker, NIH to NRC dated August 11, 1992, as part of a license amendment request (for Amendment No. 68).