Document Number 107

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

March 26, 1992

OFFICE OF THE
INSPECTOR GENERAL

MEMORANDUM FOR: File 92-33I

FROM: [redacted]

SUBJECT: MEETING BETWEEN OIG AND NMSS TO DISCUSS DISPOSAL OF SPECIAL NUCLEAR MATERIAL (SNM)

On March 25, 1992, a meeting was held at NRC Headquarters Rockville, between representatives of Office of Inspector General (OIG) and Nuclear Material Safety and Safeguards (NMSS) staff. Present from OIG were [redacted]
Also present were the following:

Robert Bernero, Director, NMSS
[redacted] NMSS Fuel Cycle Safety Branch
[redacted] NMSS Fuel Cycle Safety Branch
[redacted] Office of General Counsel

It was noted that [redacted] routinely advised NMSS on licensing issues. The NRC staff were advised OIG is collaborating with DOE-IG on an investigation of the alleged disposal of SNM by an unlicensed company in Baton Rouge, LA. The company, Rollins Environmental Services (RES-LA), was recently fined by the Louisiana Department of Environmental Quality (DEQ) for violation of various state regulations. A copy of the DEQ report describing the violations was provided by OIG to Bernero.

In response to a series of questions posed by OIG, the staff provided the following information. NRC regulations, in particular 10 CFR 70.3, require each "person" in possession of SNM to have an NRC license regardless of the quantity of material. Bernero said there are no exemptions in this regulation allowing for possession of small quantities of SNM. However, he said the "rule of reason" applies to numerous situations in which possession of an insignificant amount of other radioactive materials would require no license. As examples, Bernero cited the use of other radioactive materials to manufacture certain wrist watches, smoke alarms, and other common household items, wherein possessors are not licensed due to the low amounts of radioactive materials in possession. He added

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that the public's safety is NRC's primary consideration in determining whether a "person" requires a license.

[redacted] stated that 10 CFR, Part 150.11 provides for NRC to delegate to Agreement States the licensing and regulation of persons possessing SNM in amounts smaller than 350 grams. He also noted this allowable quantity is based on "each occasion" a person is in possession of SNM, rather than cumulative possessions of SNM. [redacted] clarified this point in noting that Agreement States have final authority on decisions involving the handling/disposal of SNM as long as the amounts are lower than 350 grams "above ground at any one time." Under the Atomic Energy Act (AEA), Section 274 (J), however, the NRC may intercede to revoke the authority of an Agreement State, according to Fonner.

While Bernero agreed with [redacted] statement, he readily noted that NRC is obligated to intercede if SNM is not handled in a manner that guarantees the public's safety. He explained that as little as two or three grams of SNM in a highly-concentrated form can pose serious danger to a person. Therefore, weight measurement is not the only factor in determining whether an Agreement State will have final authority over possession of SNM. Bernero commented that NRC has only retaken authority from an Agreement State on two occasions, when some of the State of New Mexico's authority was retaken at the request of the Governor, and when the same occurred with the State of Idaho.

When asked to compare regulations and statutes involving the possession and disposal of SNM, [redacted] replied that various applicable regulations implement the Atomic Energy Act. He added that these regulations are consistent with the Act, but regulations cannot supersede a statute. Fonner cited 10 CFR Parts 70.3, 61, 150, and 30 among the regulations affecting the NRC's licensing process.

While OGC provides assistance to NMSS on a variety of legal issues, Fonner said his office always has a role in the licensing process. During licensing review, OGC examines environmental impact statements, prepares federal register notices, and represents the staff at hearings, according to [redacted]

NMSS was identified as the NRC component responsible for determining whether a person requires a license to possess SNM. It was explained that the various NMSS divisions provide input to the licensing process, and the time and expense associated with processing a license application is considerable. Without providing specific examples, [redacted] maintained an applicant may wait from several months to several years before receiving an NRC license to operate an SNM disposal facility and at a cost of "hundreds of thousands of dollars." [redacted] largely attributed this high cost to the extent of review and the NRC's billing rate of $120 per staff hour during the licensing review process. None

of the staff were able to estimate a general licensing cost or the time required to be licensed by a given Agreement State. It was recommended that this information be obtained from Carl Kammerer in the Agreement States Office.

Bernero stated that NRC regulations withhold certain regulatory authority from Agreement States as required by the AEA. For example, Agreement States are restricted from licensing the import or export of SNM and other specified radioactive materials into/from the United States. While the scope of each Agreement may vary, NRC's authority remains standard, according to Bernero.

The staff was asked whether NRC ever interceded with or deliberated in a licensing issue involving a commercial entity performing work for a DOE contractor. They responded with numerous examples,.... NFS-Erwin, B&W Lynchburg, UNC- Montville, and others. They were also asked if regulations allowed NRC to intercede when the DOE, a Department component, a contractor, or a subcontractor failed to follow AEA requirements. [redacted] said the foregoing should be divided into separate categories: 1) DOE and its Government-Owned, Contractor-Operated (GOCO) facilities, and 2) subcontractors and others. In the first instance, DOE is always exempt from NRC oversight as stipulated in the Atomic Energy Act, and GOCOs can also be exempt under 10 CFR, Part 70, according to [redacted] He added that, in practice, the NRC has never intervened with DOE's GOCOs. [redacted] said exemptions will not apply to the second category, and he was certain no exemptions had ever been granted to "subs and others" by the NRC. In the 1960's, certain discretionary exemptions were granted by the Atomic Energy Commission to contractors at a GOCO site, according to [redacted]

The staff agreed that RES-LA, as a private, commercial entity, qualified as a "person" under the AEA. They noted that RES-LA never requested an exemption as a DOE contractor under 10 CFR, Parts 70.3 and 61 to possess SNM or dispose it in a landfill. They also stated that NRC does not recognize RES-LA as either a DOE-regulated contractor or a non-regulated contractor to DOE. Bernero explained, "From what we've seen so far,...Rollins would not be a candidate for an exemption." He again referred to the authority of Louisiana as an Agreement State to deal with RES-LA, based on the assumption that RES-LA did not exceed the possession limit of 350 grams of SNM above ground at any one time.

When asked if a potential licensee is responsible for requesting a license from the NRC, Bernero replied, "we view it as their responsibility, but it depends on their awareness." He explained that a person may be in violation of NRC regulations without knowing it. Bernero said if the NRC learns of a potential violation, the violator is "made aware" of the need to apply to the NRC for a license review.

The staff remarked that it is DOE's responsibility under the AEA to recover any amounts of SNM in possession of a "person" determined to require a license. Furthermore, any abandoned SNM posing a danger to the public must be recovered by DOE.

The staff said there were no recognizable needs for RES-LA to have an NRC license, since there appeared to have been insufficient SNM in the company's possession to require one. One disadvantage to an NRC license would be RES-LA's requirement to operate under NRC control and under NRC inspection, according to the staff. It was noted that NRC inspectors' activities are billed to licensees at the rate of $120/hour.

The staff was asked if residual activity limits were a viable issue in the argument against licensing RES-LA. They replied affirmatively, noting that DOE was making this a reasonable factor. Jerry Swift referred to Regulatory Guide 1.86 as an example of the accepted guidance which NRC licensees use for releasing certain contaminated wastes, not to include SNM.

It was noted that a DOE Type B Investigative Report of the RES-LA incident cited a "Federal dose standard" regarding the exposure of the public to SNM. Bernero commented there is no such standard. However, he said 10 CFR Part 20 establishes a maximum acceptable rate of 100 millirem/yr for the public's exposure to radioactive releases and other exposures. There needs to be a substantially lower standard for acceptance of "radioactive residues," according to Bernero.

It was mentioned by OIG the Type B Report noted that DOE has no approved policy for the incineration of SNM and its removal to land disposal (p.22-23). Furthermore, the report said DOE is required to adhere to NRC regulations in its handling of SNM. The staff was queried as to their involvement in resolving infractions of NRC regulations at Y-12 and DOE-Oak Ridge. They responded that NRC would have no involvement unless there was a change to the AEA which would make DOE subject to NRC regulation.

The staff was also asked if ash containing U-235 presented a danger due to its higher concentration, particularly when it was deposited in a landfill. [redacted] again replied that 10 CFR Part 150.11 would determine whether Louisiana, as an Agreement State, is the deciding authority on citing violations based on the 350 gram standard. Bernero reiterated NRC's responsibility to protect the public from unsafe concentrations of SNM, but he noted that appropriate amounts and concentrations of certain radioactive ash waste may be safely commingled with other wastes for deposit to a landfill under the Agreement States' authority.

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OFFICE OF THE INSPECTOR GENERAL
U.S. Nuclear Regulatory Commission

Report of Interview

Case No. 92-33I

On May 5, 1992 [redacted], Department of Energy (DOE), Oak Ridge, TN was interviewed by [redacted]

[redacted] has worked with Martin Marietta Energy Systems (MM) staff in an effort to identify and quantify shipments of hazardous waste sent from DOE facilities to disposal facilities which may have also contained small amounts of Uranium 235.

[redacted] explained the process of calculation necessary to arrive at a gram weight for each shipment of waste. She said that the amounts were based strictly on a computer estimate. For instance, the MM lab people at Y -12 would take several samples of waste oil from a shipment that might contain 40,000 to 50,000 gallons of waste oil. She said that the lab people would from these samples, test and calculate the amounts of many diffe ent metals and other contaminants in the projected load. She emphasized the amounts represented computed amounts not an actual weighing of the amount of 235 in each shipment. She opined that she laboratory staff which conducted the testing were among the most skilled in the United States when it came to detecting and quantifying amounts of Uranium. She stated that she had no doubts personally about the amounts and accuracy of the calculations for these shipments.

[redacted] added that if she were to criticize any part of the analysis process used by the MM people in estimating the contents of the loads of waste, that it might be the sampling methods versus the lab techniques. She stated that while the methods of sampling were adequate from a scientific point of view they could have been better. She stated that given that opinion she saw no deliberate attempt to deceive in the process.

Report of Interview drafted on May 11, 1992.

Interviewed by [redacted]

Interviewed by [redacted]

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

OFFICE OF THE
INSPECTOR GENERAL

MEMORANDUM FOR: File 92-31I

FROM: [redacted]

SUBJECT: HAZARDOUS WASTE DISPOSAL BY DOE CONTRACTOR

On May 4-7, 1992 [redacted] reviewed records in the possession of [redacted] Office of Inspector General, Department of Energy, Oak Ridge, TN. The records examined consisted of six xerox paper boxes containing shipping documents, purchase requests, contract documents and laboratory analysis sheets. The folders contained the files from both Martin Marietta Energy Systems (MM) and Rollins Environmental, Baton Rouge (REM) on hazardous waste shipped from DOEs Y-12 plant in Oak Ridge.

Also reviewed were all reports of interview conducted by DOE IG and any other documentation relating to the REM investigation that had been assembled by [redacted] Specifically, the shipping documents were compared with the tables prepared by y-12 personnel to verify the total amount of Special Nuclear Material (SNM), in this case U235, in each shipment to REM Baton Rouge, LA.

For those shipments for which a Laboratory Analysis existed, subsequent to 1986, the calculations were verified. No inconsistencies with the amounts of SNM represented in the Y-12 calculations were found. The total for which verifiable amount were available, for all years, 1986-1991, was 76.8 grams. For the years 1984 and 1985 no laboratory analysis is available and no estimate of how much SNM was contained in each shipment to REM is available or can be reconstructed. No information contained in reports of interview or other documentation contained information which would indicate any regulatory interest in MM or REM.

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