

Hot off the FAX...

12/4/90



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FROM:

ROBERT M. RYAN

DATE:

DECEMBER 4, 1990

NUMBER OF PAGES INCLUDING COVER SHEET: 3

SIGNATURE OF SENDER:

Robert M Ryan

MESSAGE

The enclosed fax replaces the fax of November 26, 1990. Please note Section IX calculation. It appears a decommissioning funding plan is not required (?).

Jimmy
Please check
A. Ryan
12/14

Bob Ryan

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Rensselaer

Department of Nuclear Engineering & Engineering Physics

DECOMMISSIONING FUNDING REPORT

November 1990

Rensselaer Polytechnic Institute Special Nuclear Material License

No. SNM 910

This report has been prepared for the U.S. Nuclear Regulatory Commission by Rensselaer Polytechnic Institute pursuant to 53 FR 24018, June 27, 1988 and 10 CFR 70.

I Cost Estimate for Decommissioning

In accordance with NRC's final rule published June 27, 1988 (53 FR 24018) addressing decommissioning planning needs and the assurance of the availability of decommissioning funds, the Office of Radiation and Nuclear Safety of Rensselaer Polytechnic Institute has conducted an Internal study of the licensed material under SNM - 910.

The cost of packaging, radiation surveillance and transporting to the final designated location (as yet undetermined) is estimated to be less than \$20,000. This figure also includes the writing of the necessary reports and termination of NRC License No. SNM 910.

II. Special Nuclear Material Involved.

The following is a listing of the SNM held under license SNM - 910 as of November 1, 1990.

U235	(Isotope weight)	314 grams
U233	(Isotope weight)	120 grams
Pu 239	(Element weight)	378 grams (encapsulated neutron sources)
→ Pu 238	(Element weight)	0.3 grams (encapsulated neutron source)
Pu 240	(Element weight)	24 grams (disk)

Depleted U
Thorium
Lithium

10 Kgs.
15 Kgs.
20 Kgs.

III. Special Nuclear Material Locations

Essentially all of the SNM is located at Rensselaer in the Gaertner Laboratory with the exception of three (3) plutonium beryllium neutron sources, two (2) of these sources are located in Rensselaer's Physics Department (Science Center) and one is located at Rensselaer's Sub Critical Facility in the Blaw Knox I Building. (See Rensselaer's Correspondence to U.S. NRC, May 11, 1987, Docket 70-920).

IV. 10 CFR 70.25 Calculation

70.25 (a) requires that a decommissioning funding plan is required for each license authorizing the possession and/or use of unsealed special nuclear material exceeding 10^5 times the applicable quantity set forth in Appendix C of 10CFR70. The only unsealed SNM in Rensselaer's inventory is, at present, 314 grams of U^{235} . The appendix C of 10CFR70 quantity is $0.01 \mu\text{Ci}$.

The U^{235} conversion factor for Ci grams to $2.14 \times 10^{-6} \text{ Ci/gram}$. This is equal to $2.14 \mu\text{Ci/gram}$. 10^5 times the appendix C, 10CFR70 quantity is $(10^5)(10^{-2} \mu\text{Ci})$ is $10^3 \mu\text{Ci}$. For Rensselaer's 314 grams of U^{235} unsealed source, the calculated value is $(3.14 \times 10^2 \text{ grams})(2.14 \mu\text{Ci/gram}) = 672 \mu\text{Ci}$ or less than $10^3 \mu\text{Ci}$ which is required for the decommission funding plan.

V. Comments

Rensselaer's Office of Radiation and Nuclear Safety has conducted routine surveillance of the buildings and laboratories where the SNM is used and stored and has never found radioactive contamination attributable to this material. It is therefore our determination that area or building decommissioning would not be involved.

Robert C. Block

Robert C. Block, Head
Department of Nuclear Engineering and
Engineering Physics

December 4, 1990

Telecon/Prof. Robert Ryan, Dec 14, 1990
1. I question conversion factor, 2. U^{238} exceeds licensed limits
3. He should reduce inventory, apply for amendment, 4. He will respond by 12/19.