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LICENSING REQUIREMENTS WITH RESPECT TO PROPERTY SLIGHTLY CONTAMINATED WITH SOURCE OR SPECIAL NUCLEAR MATERIAL

By memoranda dated August 21 and September 23, 1958, to E. J. Bloch, S. E. Zapirie requested approval of a procedure which would exclude from the licensing requirements quantities of source or special nuclear material in the form and concentration of contaminants, which under AEC 5170 or 5182 would not prevent the sale of equipment or scrap material.

Under the proposed amendment to Part 40, it is contemplated that persons would be exempted from the licensing regulations with respect to their use and possession of small quantities of source material. In particular, the proposed Part 40 would exempt persons from the regulations to the extent that they receive and possess no more than 15 pounds of contained uranium or thorium, or any combination thereof, at any one time. This exemption is limited to the extent that such persons may not receive or possess a total of more than 150 pounds of contained uranium or thorium, or any combination thereof, in any one year. It is my understanding that this exemption would adequately cover Mr. Zapirie's request with respect to equipment slightly contaminated with source material only.

As you know, neither the statute nor the regulations provide for the exemption of special nuclear material in any amount from the licensing requirements. Early Commission actions, however, involving economically unrecoverable amounts of enriched uranium, which amounts were found to be "negligible" or "so negligible and trifling in amount as to be of no security significance", imply that de minimis quantities of plutonium or enriched uranium would not be considered fissionable material within the meaning of the Atomic Energy Act of 1946 (See staff papers AEC 43/353, dated February 16, 1951, and AEC 43/539, dated May 15, 1952).

Based on a memo from E. J. Bloch to L. K. Olson, dated December 16, 1958, it appears that the special nuclear material contained in contaminated equipment which could be sold under AEC 5170 or 5182

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would not be economically recoverable and would be so insignificant in amount that no accountability significance would be involved. Furthermore, in a memorandum to Lyall Johnson, dated December 4, 1958, Lester Rogers stated that provided that the fixed radioactivity contained in each piece of the contaminated equipment does not exceed 200 microcuries and the surface activity is not greater than 2,000 disintegrations per minute per 100 cm^2 of alpha, personnel working with or using such contaminated equipment would receive exposures considerably less than the limits permitted under Part 20 for non-radiation workers.

On the basis of the above information, you may conclude that the quantity of special nuclear material involved in the proposed transfer of contaminated cascade equipment is de minimis, and is without health or accountability significance. In these respects the contaminants would not be considered special nuclear material within the meaning of the Atomic Energy Act of 1954, as amended, and thus no licensing would be required.

It is suggested that the procedures proposed by Mr. Sapirie in his memoranda, of above dates, be approved, provided that the transfer meets the requirements of AEC 5170 or 5170P and the noncurechale activity on the surface does not exceed 2,000 disintegrations per minute per 100 cm^2 of alpha, and that no single piece of equipment contains more than 200 microcuries of material.

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