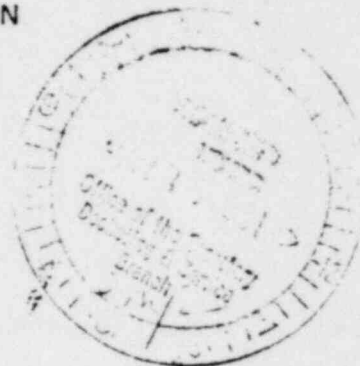




UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 19 1981



DOE FILED
ENCLOSED ENCL (40 IN 70074)
SMELTED ALLOYS

3425

The Honorable Alan Cranston
United States Senate
Washington, D.C. 20510

Dear Senator Cranston:

Thank you for your letter dated March 5, 1981 concerning a notice published in the Federal Register on October 27, 1980, that the Nuclear Regulatory Commission is considering amending its regulations to exempt from licensing and regulatory requirements technetium-99 and low-enriched uranium as residual contamination in any smelted alloy.

The rulemaking in question was originally undertaken by the Commission at the request of the Department of Energy and pursuant to a 1974 amendment (P.L. 93-377) to the Atomic Energy Act (AEA) of 1954. The rulemaking would permit the recycling of scrap metal from discarded equipment at DOE's uranium enrichment plants. This scrap metal is sometimes contaminated with small amounts of byproduct or special nuclear material resulting from the enrichment process. This contamination cannot practically be removed but is considered too insignificant to constitute a radiation health or safety problem.

Until Congress amended the AEA in 1974, it was necessary for the Commission to issue a specific license for the possession of this type of radioactive material, no matter how small the quantity. In amending the Act, Congress gave the Commission the authority to exempt minute quantities of special nuclear material from its licensing requirements if it finds that a licensing exemption "will not constitute an unreasonable risk to the common defense and security and to the health and safety of the public."

We would like to emphasize that under the proposed amendments persons who smelt scrap contaminated with technetium-99 or low-enriched uranium or who are the first transferors of such smelted alloy would not be exempt from licensing requirements. Such persons would be under license and would be required to submit a description of the decontamination and smelting procedures and sampling and analytical procedures to be used. This would assure that the smelted alloys subsequently to be used under the exemption meet the proposed maximum contamination limits.

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It is also should be noted that the scope of the exemption is narrow permitting only the technetium-99 and low-enriched uranium as the contaminants. Contaminants such as plutonium, high-enriched uranium or other transuranics are not included in the exemption. The Tc-99 and low-enriched uranium would be minor constituents (less than 5 parts per million (ppm) and 17.5 ppm, respectively) of representative samples of smelted alloys.

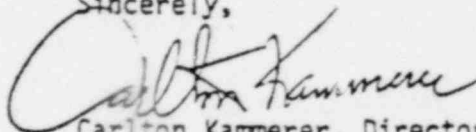
The resulting levels of contamination would be at or below those of many products commonly in use which contain traces of unenriched uranium. For example, most building materials contain some traces of uranium (granite, 4.7 ppm; cement, 3.4 ppm; by-product gypsum, 13.7 ppm). Dental porcelain, used in making false teeth, has been found to contain from 10 to 990 ppm uranium. The U.S. NRC upper limit for unimportant quantities of unenriched uranium is 500 ppm. There is essentially no difference in the nature of the radioactivity emitted from this unenriched uranium and the low-enriched uranium being considered for exemption.

The NRC staff has prepared a Draft Environmental Impact Statement (EIS) in support of the proposed rule. Without the exemption, thousands of tons of government-owned nickel, copper, iron and steel scrap would have to be disposed of as radioactive waste at substantial cost to the taxpayers. If exempted, this metal could be smelted down and resold for in excess of \$40 million. Further, energy savings from recycle have been estimated at the equivalent of about 170,000 barrels of crude oil or 30,000 Mg of coal. By comparison with these benefits, the risk of cancer from release and unrestricted use of the entire inventory of smelted alloy is estimated to be considerably less than one. This means that it is highly unlikely that the recycled alloy would cause even one cancer in one person in the total U.S. population.

Notice of the proposed rule was made in the Federal Register and the press on October 27, 1980. The comment period expired December 11, 1980. Comments received after the expiration date will be considered if it is practical to do so. To date, over 3,000 public comments have been received. Comments will be reviewed and addressed in the Final EIS before any decision is made by the Commission on promulgation of a final rule. Enclosed for your information is a copy of the Draft Environmental Impact Statement.

Your interest in this matter is appreciated.

Sincerely,



Carlton Kammerer, Director
Office of Congressional Affairs

Enclosure:
As stated