

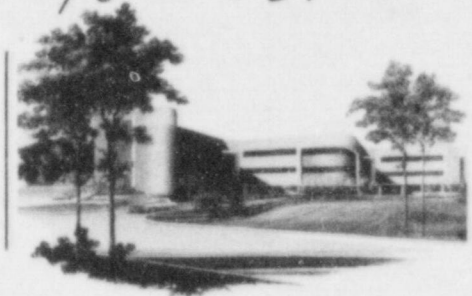
NLM 23663
40-08930

Kootenai Medical Center

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208-667-6441



November 26, 1986

Director, Division of Material Licensing
The Nuclear Regulatory Commission
Washington, DC 20545

Subject: Source Material License (Depleted Uranium)

Gentlemen:

Please accept this letter as our formal application for a radioactive materials license to cover the depleted uranium which is used as shielding material in the Varian Associates radiotherapy linear accelerator, Clinac 6/100.

The clinac 6/100 contains approximately 230 lbs of depleted uranium. This material is a bi-product of the gaseous diffusion process where fissionable U-235 is extracted from natural uranium. It consists of at least 99.7% U-238 and less than 0.3% U-235. Because the metal is highly reactive, each piece of depleted uranium is cadmium plated to prevent surface corrosion. Some accelerator shielding components are manufactured with a depleted uranium alloy containing 0.75% titanium, which can readily be indentified by its metallic green surface. The alloy is stable and does not require plating. Each piece of depleted uranium used in the Clinac 6/100 is steel stamped with the impression "Caution Radioactive Material- Depleted Uranium." Depleted uranium is only mildly radioactive (specific activity of 3.6×10^{-7} Ci/g) and as a shielding material presents no significant external radiation hazard. More that 500 such licenses have been granted by both state and Federal agencies for this application.

Please forward the radioactive material license to me as soon as possible.

Very truly yours

Don Soltman
Assistant Administrator

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