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Secretary, U.S. Nuclear Regulatory Commission
ATTN: Rulemakings and Adjudications Staff
Washington, D.C. 20555

REFERENCE: Docket No. PRM-40-27
SUBJECT: Comments on Proposed Rulemaking

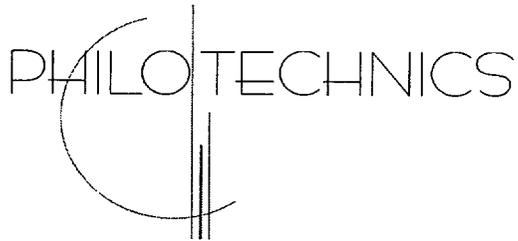
Dear Sirs,

I hope you will find it practical to consider these comments even though they were not submitted prior to September 20, 1999. I am also providing them to the Generic Actions Program Committee since they relate to a matter recently referred to them. If they are not considered in conjunction with PRM-40-27, they can be resubmitted as a separate petition for rulemaking.

I believe that the petition for a rulemaking (PRM-40-27) is well considered and should be approved. The Commission should be aware, however, that effecting this proposed rulemaking, as presented, will aggravate certain anomalies and inconsistencies in the regulation of source material that already exist in its regulations. The origin of these is Section 40.13 (c) (5), which exempts properly marked depleted uranium aircraft counterweights from licensing while they are installed on an aircraft or being stored or handled incident to installation or removal. The difficulties arise for two reasons. The first is that, unlike the exemptions for other "unimportant quantities of source material" specified in Section 40.13, the exemption for depleted uranium in counterweights is conditional upon the use of the material and terminates when the counterweights are withdrawn from use on an aircraft. The second is that the quantities of the counterweights accumulated in the aviation industry by aircraft operators, parts suppliers, tear-down operations, long-term storage facilities and salvage activities, are typically measured in thousands of pounds, which far exceed the possession limits for depleted uranium under a general license and render their description as "unimportant quantities" questionable. Although it is sometimes difficult to pinpoint the exact time that the exemption ceases to apply, it is clear that at some point every counterweight ever made will cease to be exempt. If a counterweight weighed less than fifteen pounds, its user would become a general licensee when it was taken out of service and would be susceptible to appropriate controls under Section 40.22. While a few counterweights do fall under the fifteen pound threshold (for example, a 1524834-101 counterweight from an L-1011 weighs about eleven pounds), most weigh more.

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An AMC-7226 counterweight from a DC-10, in contrast, weighs approximately 191 pounds. Another factor causing counterweight holdings to exceed the threshold is that they are very rarely limited to a single counterweight. A "ship set" of depleted uranium counterweights for a commercial wide-body aircraft can comprise dozens of individual weights totaling over a thousand pounds for some models, and spare parts inventories held by operators and dealers often exceed a ton. When these parts do lose their exemption from licensing, the user cannot be regulated as a general licensee because the fifteen pound possession limit will invariably be exceeded. Many aviation industry users do not have a special license (presumably the rationale behind creating the exemption). The result is licensable quantities of source material (often large) that are unregulated. The user automatically becomes the unauthorized possessor of source material in excess of the general license limit. NRC regulations and enforcement provisions are formulated to govern the actions of licensees. It is not clear what form enforcement actions against unlicensed organizations possessing licensable quantities of source material would take or what the statutory basis for such an enforcement action might be.

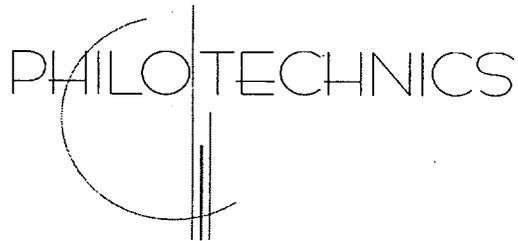
One simple solution that suggests itself would be to allow depleted uranium counterweights that lose their exempt status to come, for a limited period, under the authorization of a general license. By this means, the user would come under NRC jurisdiction and be afforded a reasonable time to bring the material under license controls, either by applying for a special license or by transferring the material to an appropriate special licensee. Some time limit is necessary to preclude the alternative of indefinite storage (without the appropriate controls that a special license would impose) as a means of avoiding disposal costs. These improvements in regulatory consistency and controls can be achieved by a simple modification of Section 40.22.

Section 40.22 should be re-titled and paragraph (a) amended to read as follows:

40.22 Small and previously exempt quantities of source material.

- (a) A general license is hereby issued authorizing commercial and industrial firms, research, educational and medical institutions and Federal, State and local government agencies to use and transfer not more than fifteen (15) pounds of source material at any one time for research, development, educational, commercial or operational purposes. A person authorized to use or transfer source material, pursuant to this general license, may not receive more than a total of 150 pounds of source material in any one calendar year. The fifteen pound limit on use and transfer and the 150 pound annual limit on receipt do not apply to depleted uranium contained in counterweights formerly installed in aircraft, rockets, projectiles, and missiles, or stored or handled in connection with installation or removal of such counterweights, which were therefor exempt from regulation in this part and from the requirements for a license set forth in section 62 of the Act, according to the provisions of Section 40.13 (c) (5), for a period of one year after the conditions of such exemption cease to apply.

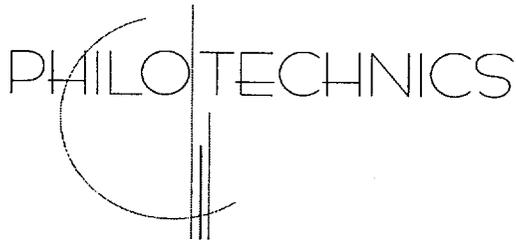
A limited duration general license for depleted uranium counterweights that have lost their exempt status from licensing would provide several benefits besides providing an orderly and compliant mechanism for bring licensable material under appropriate controls. If the



rulemaking proposed in Docket No. PRM-40-27 were approved, counterweight storage areas would require posting during the duration of the general license according to Section 20.1902. Depleted uranium is not separately listed in Appendix C to Part 20, but both natural uranium and uranium 238 are assigned a labeling threshold value of 100 microCuries. 100 microCuries of depleted uranium is about 0.6 pounds, so ten times the Appendix C value, which would require posting, is 6 pounds. Almost all counterweights weigh more than this. As a result, if the proposed rulemaking and this suggested modification of Section 40.22 (a) were both adopted, counterweights that had lost their exemption and came under the provisions of a limited duration general license would also be subject to the appropriate provisions of parts 19, 20, and 21. This would impose at least some consideration of radiation protection measures and worker notification. The recent incident at Robbins Air Force Base, NRC Event No. 35964, illustrates that there are credible hazards associated with depleted uranium counter-weights. On July 26, 1999 maintenance personnel removing a DU counter-weight from a C-141 aircraft contaminated the work area with radioactive debris, necessitating a radiological survey and cleanup. Several workers in the area are being medically evaluated for internal radiation exposure. The probability of such events occurring in the unlicensed commercial sector is great, but the likelihood that they would even be recognized, much less reported, is slight.

There are three broad categories of solutions to the problem of controlling depleted uranium aircraft counterweights that have lost their exemption from licensing. The first alternative is to take no action. The second approach would be to eliminate or restrict the unimportant quantity exemption for the counter-weights. The third option would be to bring counterweights which have lost their exemption under a general license.

The no-action alternative is inappropriate. Our studies indicate that as much as two million pounds of depleted uranium aircraft counterweights are in circulation in support of commercial and general aviation aircraft. These parts are now being withdrawn from service at an increasing rate and in quantities that cannot reasonably be deemed "unimportant." It is logically inconsistent to require general license control for a 15 pound quantity of a material, a special license for 16 pounds, and no license for a ton or more. Our informal survey of the aviation industry confirms that the lack of understanding of regulations and responsibilities noted during the NRC's study of general licensees applies with even greater force to the possessors of formerly exempt depleted uranium aircraft counterweights and that violations, exposures, and unauthorized modifications, transfers and disposals are commonplace. This situation is not surprising. As regulations are presently structured, a person or organization possessing counterweights that lose their exemption should apply for a general license, contract with a special licensee for radiation control support, or transfer the items to a special licensee for management or disposal. This is not happening. The NRC's admitted problems in communicating with general licensees indicate that it would take massive expenditures of resources to educate users to their responsibilities. It should be noted that the potential for inter-agency cooperation with the Federal Aviation Administration could facilitate communications by exploiting the FAA's excellent channels to members of the aviation industry. Once a regulatory requirement has been advertised, however, there must be an effective



mechanism for enforcement. The basis for enforcement, when dealing with companies that are not even general licensees, may not be satisfactory.

There are only three regulatory conditions that can apply to radioactive material: a special license, a general license or an exemption from licensing. Modifying or restricting the current exempt status of DU aircraft counterweights would be tantamount to requiring either a general or special license. Bringing the counterweights that have lost their exemption under a limited duration general license is the recommended alternative discussed above. Requiring all counterweight users to apply for special licenses (i.e. revoking the "unimportant quantity" exemption for counterweights) would re-establish regulatory consistency with the 15 pound general license limit for depleted uranium, would eliminate questions about enforcement authority, and would provide a basis for insuring the protection of aviation logistics workers and the proper disposal of the material. For the conditions to which the unimportant quantity exemption properly applies (well maintained counterweights mounted on an aircraft or being handled or stored incident to installation or removal) the controls associated with a special license may be excessive and would predictably encourage the aviation industry to discontinue the use of the depleted uranium counterweights which the exemption was designed to promote.

The recommended option of applying a limited duration general license to formerly exempt counterweights appears to be the more moderate and judicious choice. It would not perturb the existing exemption or precipitate an immediate withdrawal of legitimately exempt counterweights from service. It would eliminate an ambiguous discontinuity by which an (unlicensed) user who recognized that his counterweights had lost their exemption would be without a requisite license and, in some manner, out of compliance until he could apply for and receive one. It would insure a sound transitional basis for bringing the counterweights under the control of an appropriate special licensee and a clear basis for enforcement actions. It would promote a greater degree of consistency with the general license regulation of "small quantities" of the material. It would promote a greater understanding of the potential hazards of the material and more systematic and effective measures to provide workers with appropriate information.

Sincerely,

Donald A. Barbour
Project Manager, Depleted Uranium Programs