

**RULEMAKING ISSUE**  
(Notation Vote)

October 21, 2004

SECY-04-0194

FOR: The Commissioners

FROM: Luis A. Reyes  
Executive Director for Operations /RA/

SUBJECT: DENIAL OF PETITION FOR RULEMAKING (PRM-40-28) - DONALD A.  
BARBOUR, PHILOTECHNICS

PURPOSE:

To obtain Commission approval to deny PRM-40-28.

BACKGROUND:

By letter dated August 30, 1999, Mr. Donald A. Barbour, Philotechnics, submitted a petition for rulemaking (PRM-40-28) requesting the U. S. Nuclear Regulatory Commission (NRC) to amend its regulations governing the use of uranium counterweights under the exemption in 10 CFR 40.13(c)(5). The petitioner requested that NRC amend its regulations to clarify a number of issues associated with the effective control of these counterweights.

A notice of receipt of the petition was published in the Federal Register on January 21, 2000 (65 FR 3394), with the comment period ending April 5, 2000. Two comments were submitted in response to the petition during the comment period, both of which supported the petition. One of these comments was from the petitioner, providing additional information. The other comment, from a member of the public, provided an example of the potential cost associated with mishandling the counterweights and suggested that distribution requirements be added to the regulation. Additionally, Mr. Barbour provided a supplement to his petition on February 14, 2001, in which he suggested additional details to be included in the rulemaking to: (1) specify

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NOTE: TO BE MADE PUBLICLY AVAILABLE 5 BUSINESS DAYS AFTER THE LETTER TO PETITIONER IS DISPATCHED.

that only counterweights manufactured from depleted uranium, and not natural uranium, are covered under the exemption; and (2) clarify the scope of activities allowed to repair or restore counterweight platings or coverings under 10 CFR 40.13(c)(5)(iv). Mr. Barbour's petition and supplements to the petition are provided as Attachments 1-3.

In April 2001, the staff submitted a rulemaking plan to the Commission in SECY-01-0072, "Draft Rulemaking Plan: Distribution of Source Material to Exempt Persons and to General Licensees and Revision of 10 CFR 40.22 General License," which provided an analysis of options for revising requirements in 10 CFR Part 40 related to general licenses and exemptions. Among the many broad regulatory issues addressed in SECY-01-0072, the rulemaking plan included options for addressing PRM-40-28. At the time, the staff believed it would be more efficient to resolve the petition as part of the other broader, related actions discussed in the rulemaking plan.

The only detailed discussion of the staff's proposed approach for dealing with PRM-40-28 in SECY-01-0072 is found as part of an option (Option 2 in the rule plan), which states: "... the staff would provide clarification regarding the exemption for depleted uranium aircraft counterweights in §40.13(c)(5) to require specific licensing for long-term storage and uses other than those indicated in the exemption, and identify requirements for disposal options in approved facilities." The staff's recommendations were based upon a review of the petitioner's documents and the staff's preliminary review of the issue. The staff planned to expend the resources on the more in-depth analysis required to support a rulemaking for this and the broader issues addressed in SECY-01-0072 after the Commission directed the staff to move forward. On June 5, 2003, the Commission directed the staff, through a Staff Requirements Memorandum (SRM), to make no changes to 10 CFR Part 40 at that time; however, the Commission directed the staff to grant PRM-40-28 "that raises concerns about the disposition of depleted uranium in aircraft counterweights."

Following the issuance of the Commission's SRM to SECY-01-0072, the staff evaluated PRM-40-28 as a separate rulemaking. During the more detailed analysis required to support the rulemaking, the staff concluded that the existing regulations sufficiently address the underlying bases for the petition. Therefore, for the reasons set forth in the following discussion and in a draft *Federal Register* notice addressing the petitioner's requested actions (Attachment 4), the staff requests that the Commission review its original direction in the SRM to SECY-01-0072 in consideration of the additional information provided in this Commission paper, and re-direct the staff to deny the petition. Although Mr. Barbour's 2001 supplement was not addressed during the development of SECY-01-0072, the issues raised in the supplement are also addressed in the draft *Federal Register* notice supporting the denial of PRM-40-28 (Attachment 4).

#### DISCUSSION:

In his petition, Mr. Barbour requested that NRC amend its regulations to provide for additional provisions to define and clarify responsibilities for the effective control of depleted uranium aircraft counterweights. The petitioner believes that the amendment should clarify: (1) at what point and under what circumstances the licensing exemption for these uranium counterweights held under 10 CFR 40.13(c)(5) is no longer applicable to these devices; (2) the length of time counterweights, for which there is no demand or plans for further use, may be stored as exempt material; (3) the regulations that apply to aircraft that have been removed from service, but still

contain uranium counterweights; and (4) the need for radiological surveillance of long-term aircraft storage parks and facilities where aircraft with depleted uranium counterweights are regularly stored for protracted periods under unmonitored conditions. Additionally, the petitioner stated his belief that an immediate notification was necessary to advise those organizations that currently possess depleted uranium aircraft counterweights of their regulatory responsibilities.

The staff considered the petition and its supporting rationale. In response to the petitioner's request to immediately advise those organizations possessing depleted uranium aircraft counterweights of their regulatory responsibilities, the staff issued a regulatory issues summary (RIS-01-013) in July 2001. This RIS provides information regarding the proper disposal channels for uranium counterweights and reminds holders of counterweights of their responsibilities under the existing regulation.

To address the petitioner's other concerns, the staff considered: (1) the language in the current exemption in 10 CFR 40.13(c)(5); (2) the regulatory history of the exemption, including its safety basis; and (3) the current need for the exemption, i.e., the current use of depleted uranium in aircraft counterweights.

Based on its more detailed analysis of the issues discussed in PRM-40-28, the staff now concludes that additional rulemaking is not necessary. The staff has determined that the existing regulatory requirements in 10 CFR 40.13(c)(5) provide adequate protection in those areas for which the petitioner requested amendment of the regulation. Specifically, during the more detailed review of the petitioner's issues, the staff has determined:

- (1) *At what point and under what circumstances the exemption is no longer applicable:* The regulation in 10 CFR 40.13(c)(5) states that counterweights are exempt only to the extent that they are installed in an aircraft, or stored or handled in connection with the installation or removal of the counterweights. The staff's position is that the exemption also applies to the transfer and appropriate disposal of the counterweights using any of the alternatives discussed in RIS-01-013. Persons holding counterweights are no longer exempted under 10 CFR 40.13(c)(5) if: (a) the counterweights are stored for long periods with no clear intent to reuse the counterweights or (b) the counterweights are modified or processed in any way. This prohibition does not include restoration of the plating. In fact, during any period of storage, the counterweights are expected to continue to be maintained such that the plating or other covering remains intact and the labeling requirements continue to be met.
- (2) *Length of time the counterweights may be stored as exempt material:* Counterweights may only be stored incidental to the installation or removal from an aircraft. The staff's position is that the period of storage after removal of the counterweight from an aircraft includes a reasonable period of time (e.g., up to two years) to: (a) determine whether the counterweight will be reused, (b) if not, determine an appropriate method of disposal, and (c) accumulate a quantity of counterweights, within a reasonable time frame, to allow for a more economical

disposal. During the period of storage, the counterweights must be properly maintained.

- (3) *Applicable regulations for aircraft removed from service, but still containing uranium counterweights:* The staff's position is that the exemption applies only to counterweights installed in aircraft that continue to be maintained per Federal Aviation Administration (FAA) regulations. The exemption is not considered to apply to counterweights installed in aircraft for which there are no plans to continue to maintain or use it for flight (and therefore would no longer be deemed an "aircraft" under the FAA definitions in 14 CFR 1.1). If there is no clear intent to continue to fly the former aircraft in which counterweights are installed, the exemption for the counterweights would continue to apply only for a reasonable period to allow the holder to remove the counterweights for reuse or appropriate disposal using one of the alternatives discussed in RIS-01-013.
- (4) *Radiological surveillance during storage:* While the counterweights remain under the exemption, the radiological requirements, including monitoring, in 10 CFR Part 20 do not apply. It should be noted, however, that the exemption in 10 CFR 40.13(c)(5) does not exempt the holder from requirements of other government agencies (e.g., FAA or the Occupational Safety and Health Administration) that may require monitoring or other actions associated with the storage of the counterweights or their use in aircraft.

The staff's determination is based on the following: (1) the review of the regulatory history of the exemption indicates that the exemption was implemented in response to the same areas of concern raised in PRM-40-28, e.g., when and for how long the exemption is applicable to these devices, how long counterweights exempt from licensing can be stored, and what kind of restoration and repair is allowed under the exemption; (2) the health and safety basis provided in the regulatory history is representative of current practices; (3) a review of reported incidents, e.g., unauthorized alterations or shipments to recyclers, does not indicate a significant health and/or safety issue, with most events resulting in exposures under tens of microsieverts (a few millirem) to the impacted individuals; and (4) the number of aircraft counterweights being held under the exemption is decreasing as these devices are replaced by tungsten counterweights.

Additionally, the staff reviewed data included in NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Material," June 2001. Section 3.17 of NUREG-1717 provides background on the exemption in 10 CFR 40.13(c)(5) and updated estimates of exposures for a variety of scenarios related to the use of depleted uranium counterweights under the existing exemption. These scenarios include the use of counterweights under expected routine uses (including maintenance, flight operations, and storage) and accidents and misuse (including fires and loss of counterweights). The calculated range of exposures for routine operations ranged from a maximum of 0.9 millisievert per year (mSv/yr) (90 millirem per year [mrem/yr]) for maintenance workers to 0.01 mSv/yr (1 mrem/yr) or less for flight crew and warehouse workers (resulting from storage of the counterweights). Potential accident scenarios were calculated to result in exposures of 0.8 mSv/yr (80 mrem/yr) or less to individuals. These calculations are consistent with historical data used to originally support the exemption. Because these exposures are within the limits of 10 CFR Part 20 and are expected to impact a minimal number of individuals, NRC does not believe that the use of

uranium counterweights under the current exemption have, or will, result in a significant impact to public health and safety or the environment.

In conclusion, the staff finds that the current requirements in 10 CFR 40.13(c)(5) provide adequate protection of the public health and safety as well as the common defense and security. Although the staff believes that rulemaking is not needed, the staff believes that additional guidance would be useful to remind holders of counterweights of their obligations regarding long-term storage and restoration of counterweights. Therefore, the staff plans to issue a new RIS (Attachment 5) to provide additional guidance regarding the storage and repair or restoration of uranium counterweights. The staff believes that the new RIS, in conjunction with the RIS issued in 2001, will provide appropriate guidance regarding the proper use and disposal of uranium counterweights under the exemption in 10 CFR 40.13(c)(5), without increasing unnecessary burden on persons currently exempt from licensing.

For these reasons, the staff finds that the arguments presented in PRM-40-28 do not support a rulemaking to revise the regulations in 10 CFR 40.13(c)(5) regarding the use and storage of uranium counterweights, and the petition should be denied.

RECOMMENDATIONS:

That the Commission direct the staff to:

5. Approve the denial of the petition for rulemaking and publication of the *Federal Register* notice announcing the denial;
6. Inform appropriate Congressional committees; and
7. Inform the petitioner of the Commission's decision to deny the petition (Attachment 6).

COORDINATION:

The Office of the General Counsel has no legal objection to the denial of this petition.

*/RA by William F. Kane Acting For/*

Luis A. Reyes  
Executive Director  
for Operations

Attachments:

1. Mr. Donald A. Barbour Petition Dated August 30, 1999
2. Mr. Donald A. Barbour Supplement Dated April 4, 2000
3. Mr. Donald A. Barbour Supplement Dated February 14, 2001
4. Draft *Federal Register* Notice of Denial
5. Draft RIS on storage and repair or restoration of uranium counterweights
6. Draft Letter to the Petitioner

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\*see previous concurrence

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Commissioners' completed vote sheets/comments should be provided directly to the Office of the Secretary by c.o.b. Friday, November 5, 2004.

Commission staff office comments, if any, should be submitted to the Commissioners NLT Friday, October 29, 2004, with an information copy to SECY. If the paper is of such a nature that it requires additional review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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