

**PROPOSED RULE**  
**EXPORT/IMPORT OF HIGH-RISK RADIOACTIVE MATERIAL**  
**REGULATORY ANALYSIS**

NRC regulations provide regulatory control over the export of strategic nuclear material from a national security (nonproliferation) standpoint, but they have traditionally provided much less control over non-strategic materials, such as high-risk radioactive material (primarily “Byproduct Material” as defined in the Atomic Energy Act (AEA)). Such material has been called “Dirty Bomb” material by the News media. Many radioactive material imports and exports currently qualify for general licenses without specific review or approval by the NRC. Domestic regulations in the United States (U.S.) and abroad, and international transportation regulations, have provided the primary regulatory controls for health and safety, security, and environmental protection purposes. However, in recent years national and worldwide concerns about “high-risk” radioactive material have brought attention to the limited focus of the NRC's import and export regulations and the fact that most radioactive materials subject to NRC's authority may be imported or exported without specific authorization by the NRC and without NRC's knowledge.

The International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources (“The Code of Conduct”), which was approved by the IAEA General Conference in September 2003 with strong U.S.

Government support, provides, inter alia, that international shipments of high-risk radioactive material should take place only with the prior notification by the exporting country and, as appropriate, consent by the importing country. The Code of Conduct establishes three categories of radioactive sources and provides that no receiving country should permit the receipt of radioactive sources in Category 1 or 2 (“high-risk” material) unless it has the administrative and technical capacity and regulatory structure to manage and dispose of such material in a manner consistent with international safety and security standards. This proposed rule is intended to conform U.S. Government export/import regulations with these international guidelines. Although the Code of Conduct covers sealed radioactive sources, as generally used in international commerce, for completeness the Commission’s proposed rule also covers the export and import of bulk material. The proposed rule amends the Part 110 general license provisions applicable to the export and import of certain high-risk radioactive materials to state specifically that general licenses do not provide authority to import or export radioactive material of the types and amounts specified in a new Appendix P to Part 110. Instead, persons desiring to import or export high-risk radioactive material may do so only upon issuance of a specific license by the NRC. The rule is to provide appropriate controls on the import and export of high-risk material and is necessary to satisfy the U.S. Government’s commitment to the Code of Conduct. There are no alternatives other than rulemaking for achieving the stated objective.

The requirements in the proposed rule for advance notification to NRC of individual export and import shipments are intended to parallel related requirements affecting domestic shipments of comparable high-risk material. These domestic requirements have been implemented by Commission orders.

Based on data collected through a voluntary survey of export/import shipments by U.S. companies during calendar year 2003, the proposed rule change will have the largest impact on those companies involved in the export of four radionuclides: Americium-241, Cobalt-60, Iridium-192 and Cesium-137. In 2003, there were approximately 740 export shipments of these four isotopes, and of these approximately 700, or over 95%, involved Category 2 amounts of Iridium-192 by two U.S. companies. These shipments of Iridium-192 were made to approximately 30 different countries, with about 500 shipments made to five countries: South Korea, Malaysia, Canada, Mexico and Singapore. The only export shipments in the Category 1 range involved Cobalt-60. There were 10 such shipments of Cobalt-60, all to Canada, by seven different companies with amounts ranging from 1 to 999 kilo-curies. For Americium-241, there were approximately 20 export shipments of Category 2 amounts by three companies. Finally, there was only one export of Cesium-137, 40 curies to Singapore.

The largest impact will be on exports because of the need to assess the adequacy of the importing country's regulatory structure to appropriately control

the material upon receipt and confirm that the recipient is authorized to receive the material. The changes made by this rule will not significantly affect companies interested in importing high-risk radioactive material from other countries because the NRC has already implemented new domestic regulatory measures which meet Code of Conduct guidance for controlling imports and the U.S. Government already has a program in place for licensing domestic possession and use of radioactive materials. Note that the purpose of the proposed amendment to §110.43, which sets forth import licensing criteria, is to assure that all imports of high-risk radioactive material are to recipients in the U.S. already authorized by domestic regulations to possess such material.

The NRC has considered the resource implications for the agency in developing this proposed rule, and based on analogous NRC experience under Part 110, it is estimated that a typical high-risk material export licensing case resulting from this proposed rule will require 5 to 50 NRC staff hours for review and processing, with the higher number applying to a small number of cases requiring Commission and/or Executive Branch review due to exceptional circumstances.

The total annual cost to the NRC is expected to be approximately \$750,000, which would be offset by the collection of application fees. The Commission anticipates that the principal impact on NRC staff costs will be required by §110.42(e), namely in evaluating “whether the recipient country has the

appropriate technical and administrative capability, resources and regulatory structure to manage the material in a secure manner.” Additional staff time will be required in obtaining the consent of the importing country to proposed Category 1 exports from the U.S. NRC will consult as needed with the Executive Branch in obtaining such consents. The overall burden is expected to decline over time as the Commission, the license applicants and foreign recipients gain additional experience in processing cases and importing countries make further progress in enhancing the regulatory infrastructure necessary to meet the Code of Conduct recommendations. Ultimately, the Commission anticipates issuing broad specific export licenses that may cover both multiple shipments and multiple end-users in one or more countries. It is estimated that the cost associated with such review and processing will, on the average, be \$5,000 to \$10,000 per case, with cases involving exceptional circumstances at the high end.

The impact on applicants for import and export licenses includes the time to complete the application, the time spent providing prior notice of shipments, and the payment of the fee for processing the application.

For the reasons stated earlier, the resource implications for processing import license applications is expected to be far less, and, consequently, lower fees, probably \$5,000 or less per application. (Fees for licensing services rendered by

the NRC pursuant to 10 CFR Part 110 are covered in 10 CFR Part 170.) We do not expect that an annual fee will be assessed because we do not foresee that any significant NRC inspection or enforcement activities will result from this proposed rule.

The proposed rule focuses greater attention on shipments of radioactive material from or into the U. S. This is consistent with the intent of the recommendations of the Code of Conduct. Overall, the NRC believes that requiring specific export and import licensing of high-risk radioactive material coming into the U.S. is a sound regulatory approach to help ensure that such shipments are handled in a safe and secure manner, and are subject to U.S. Government approval and the consent of other involved parties.