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Highlights

Highlights of [GAO-05-57](#), a report to the Chairman, Subcommittee on Emerging Threats and Capabilities, Committee on Armed Services, U.S. Senate

Why GAO Did This Study

Many foreign nuclear research reactors use highly enriched uranium (HEU) fuel. Because HEU can be used in nuclear weapons, the Department of Energy (DOE) has two programs to return HEU from foreign reactors to either the United States or Russia. The U.S. fuel acceptance program includes HEU exported by the United States to 34 countries, 11 of which have returned all of their HEU. The program also includes low enriched uranium (LEU) fuel, which would be very difficult to use in a nuclear weapon. DOE imposes a fee on high-income countries to partially offset the cost of disposing of HEU and LEU fuel in the United States. Under the Russian fuel return program, DOE assists in the return of Russian-origin HEU from 14 countries to Russia. GAO was asked to examine (1) the status of DOE efforts to recover remaining inventories of U.S.-origin HEU and the extent to which the fees imposed on high-income countries support these efforts, and (2) the cost and time frame for completing the Russian fuel return program.

What GAO Recommends

GAO recommends that DOE (1) consider offering incentives to foreign research reactors to return HEU to the United States, including lowering fees for accepting HEU from high-income countries; and (2) evaluate raising fees for returning LEU to the United States to offset as much of the disposal costs as possible. DOE concurred with our recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-05-57.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gene Aloise at (202) 512-3841 or aloisee@gao.gov.

NUCLEAR NONPROLIFERATION

DOE Needs to Consider Options to Accelerate the Return of Weapons-Usable Uranium from Other Countries to the United States and Russia

What GAO Found

For a number of reasons, including the cost of converting reactors from HEU to LEU fuel, DOE has not reached agreement with reactor operators in 11 of the 23 countries that still have U.S.-origin HEU to return all of the HEU to the United States. In contrast, reactor operators in 12 of the countries either have signed contracts with DOE to return all of their U.S.-origin HEU or are developing their own means of disposal. DOE is considering offering incentives to foreign research reactors to return their HEU to the United States but so far has not determined what incentives it will offer and to which countries. DOE has not revised the fees imposed on high-income countries since establishing the fuel acceptance program in 1996. However, DOE reserved the right to change the fees in response to changes in circumstances. While lowering the fees for returning HEU may encourage additional reactors to participate in the program, DOE could recover a greater portion of the disposal costs by raising the fees for accepting LEU.

DOE plans to complete the Russian fuel return program by 2009 and estimates the program could cost about \$100 million, but this estimate and time frame may not be reliable because of uncertainties associated with planning future shipments. The shipments to date have all consisted of fresh (unused) HEU fuel, which DOE considers the highest priority for returning to Russia because it is more vulnerable to theft. DOE is facing delays in returning spent HEU fuel, which has been used in a reactor, in part because Russia is planning to conduct an environmental assessment for each shipment. DOE has asked Russia to conduct a single environmental assessment for the spent HEU fuel in all of the countries participating in the program to expedite future shipments of spent fuel, but so far Russia has not agreed to this. DOE is considering ways to accelerate the program that could also increase the cost of the program by more than \$30 million.

Spent Research Reactor Fuel in Transport to a U.S. Disposal Facility



Source: DOE.