

# Nuclear Proliferation Prevention Project

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FOR IMMEDIATE RELEASE  
WEDNESDAY, JANUARY 18, 2012

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## PUBLIC HEALTH AND NUCLEAR EXPERTS WARN AGAINST IMPORTING RUSSIAN MEDICAL ISOTOPES

A broad coalition of U.S. public health, medical, and nuclear nonproliferation experts today urged Congress to restrict the use of imported Russian medical isotopes produced with bomb-grade uranium and to block them completely within about five years. American patients receive about 16 million medical diagnostic procedures annually using the type of isotope in question, derived from Molybdenum-99.

Writing to key legislators, the experts criticized Russia for rapidly expanding its use of “highly enriched” – or nuclear weapons-grade – uranium to produce medical isotopes so that it can dominate this sector of the U.S. health-care market. If successful, the Russian initiative would undermine Washington’s efforts to promote domestic production of medical isotopes without bomb-grade uranium and to phase-out global commerce in such uranium. According to the letter, Russia’s plan threatens to render the domestic “supply of these vital isotopes vulnerable to air-traffic interruptions, such as from recent volcanic eruptions,” while also “escalating risks of nuclear terrorism.”

The experts urged Congress to amend a bill recently passed by the Senate, “The American Medical Isotopes Production Act,” to require “preferential procurement” of medical isotopes produced without bomb-grade uranium.

Such an amendment, the experts wrote, is essential to “promote a reliable domestic supply of vital medical isotopes, while minimizing [bomb-grade uranium] commerce.”

[The letter is attached.]

NPPP

January 17, 2012

The Honorable Jeff Fortenberry  
The Honorable Fred Upton  
The Honorable Ed Markey  
U.S. House of Representatives  
Washington, DC 20515

Dear Reps. Fortenberry, Upton, and Markey,

We write to urge you to amend S. 99, the American Medical Isotopes Production Act of 2011, which was passed by the U.S. Senate on 17 November 2011. The amendment is necessary to achieve the bill's two stated objectives: (1) minimizing global commerce in bomb-grade, highly enriched uranium (HEU) to reduce risks of nuclear terrorism and nuclear proliferation; and (2) ensuring a reliable supply of medical radio-isotopes derived from Molybdenum-99 (Mo-99) – which account for 80 percent of our country's 20-million nuclear diagnostic procedures annually – by fostering domestic production without HEU.

The pending legislation employs a two-prong strategy. First, it encourages domestic production without HEU by authorizing the U.S. government to engage in limited cost-sharing with prospective U.S. producers of such isotopes and to accept waste at reasonable cost. Second, it phases out U.S. exports of HEU to foreign isotope producers, to encourage them to convert to non-HEU production methods.

The loophole in the pending legislation was identified eloquently in a letter from Reps. Fortenberry and Markey to President Obama on 6 May 2011. The letter noted that Russia is rapidly expanding production of such medical isotopes by irradiating HEU targets in reactors using HEU fuel. The Russian isotope producer also has signed a contract with the Canadian company that traditionally has been the main supplier to the United States, aiming to replace production that is slated to cease at an aging Ontario reactor by 2016. This would undermine both elements of the pending legislation, as follows: (1) Russia's subsidized, HEU-based production of medical isotopes would make it difficult for prospective U.S. producers to compete, and would also undermine responsible foreign producers who have complied with U.S. requests to invest in non-HEU-based production; and (2) Because Russia has its own supply of HEU, it would be unaffected by the bill's HEU export restrictions.

As the letter from Reps. Fortenberry and Markey explained, the Russian "plan poses a direct economic threat to nascent domestic efforts to develop a stable source of medical isotopes" and hinders international efforts to phase out HEU for production of such isotopes. Despite lip-service by Russian officials to the possibility of eventual conversion, Russia continues to expand its production of these isotopes using both HEU targets and HEU fuel, at subsidized, artificially low prices that undercut any U.S. or foreign producer who avoids HEU and abides by the principle of full-cost recovery.

Without an amendment to S. 99 to address this loophole, the outcome might well be worse than the current situation. Past and future spending on domestic production would be wasted because U.S. companies could not compete with subsidized, Russian, HEU-based production. The United States would switch its import dependence from Canada to Russia, making our supply of these vital isotopes vulnerable to air-traffic interruptions, such as from recent volcanic eruptions. Other foreign producers might abandon plans to convert to non-HEU production methods. Worldwide HEU commerce for isotope production could increase, thereby escalating risks of nuclear terrorism.

Fortunately, the legislative solution is straightforward. It is known as “preferential procurement.” S. 99 should be amended to require that the United States preferentially procure the non-HEU-based versions of these medical isotopes as soon as possible. This could be accomplished in several ways. One option, given that domestic producers will avoid HEU, would be to legislate that the United States must halt the import of HEU-based versions of these isotopes when a sufficient supply of the alternatives is available. Another option would be to require U.S. health authorities to terminate authorization for use of HEU-based versions when a sufficient supply of the alternatives is available. A third option would be to impose a tax on HEU-based versions of these isotopes, channeling any resulting revenue to support production without HEU.

Any of these options could be implemented in one of two ways. The amendment could require implementation by a firm deadline – the year 2017, for example, when the U.S. Department of Energy says a sufficient supply of the non-HEU-based isotopes is expected to be available – and provide a waiver in the event that this supply proves inadequate. Alternatively, the amendment could require that the U.S. government itself commence implementation when it determines that a sufficient supply of the non-HEU-based isotopes is available.

All of the above approaches would promote a reliable domestic supply of vital medical isotopes, while minimizing HEU commerce.

We are gratified that the Obama Administration has expressed support for this concept, in the reply to Reps. Fortenberry and Markey, dated 28 September 2011, from Thomas P. D’Agostino, Administrator of the National Nuclear Security Administration. As he wrote, “legislative constraints on HEU-based Mo-99 imports will encourage our international partners to transition Mo-99 production away from HEU and will help U.S. companies pursue non-HEU-based Mo-99 production. . . . We need to work together to develop industry-wide incentives for the medical community to preferentially procure non-HEU-based Mo-99 as it becomes available. Such demand would further assist in achieving both our nuclear nonproliferation objectives and ensure the long-term reliability of a non-HEU-based supply.”

The NNSA Administrator further explained that “any new or expanded use of HEU in Mo-99 production is counter to nuclear nonproliferation objectives. Additionally, the acceptance of subsidized HEU-based medical isotopes into the U.S. market undermines the non-HEU-based processes under development in the United States. . . . I share your serious concern with Russia’s plans to produce Mo-99 using HEU.” As he concluded, “We must increasingly support the procurement of non-HEU-based Mo-99 by industry . . . [and] must also counter the existing foreign subsidies for HEU-based production.”

We greatly appreciate your leadership on this vital national security and public health issue. The letter from Reps. Fortenberry and Markey to the President successfully spurred the U.S. Department of Energy to embrace the principle of preferential procurement. Now it is essential that this approach be codified into U.S. law by amending S. 99.

We thank you for your consideration and stand ready to provide further information upon request.

Sincerely,

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