

Submarine Nuclear Reactors: A Worsening Proliferation Challenge

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ACA Threat Assessment Brief
THE ARMS CONTROL ASSOCIATION *Analysis on Effective Policy Responses to Weapons-Related Security Threats*

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Submarine Nuclear Reactors: A Worsening Proliferation Challenge

A long submerged flaw in the nuclear Non-Proliferation Treaty (NPT) surfaced conspicuously in June when Iran announced its intent to build a nuclear-powered submarine. The treaty does not ban a non-nuclear weapons state's production of weapons-grade uranium if it is to be used to power a naval reactor. What many now consider a proliferation loophole in the NPT was first seen as theoretical because only nuclear weapons states had nuclear-powered submarines when the treaty was negotiated. Now, as more and more countries initiate or announce intentions to initiate nuclear-powered submarine programs, this excuse for enriching uranium to levels beyond the needs of civilian power reactors intensifies the challenge of achieving U.S. nonproliferation goals.

HIGHLIGHTS

- With Iran's June announcement that "preliminary steps in making an atomic submarine have started," suspicions were raised that Tehran will use the need for naval nuclear reactor fuel as an excuse for producing highly enriched uranium (HEU).
- That the NPT allows non-nuclear-weapon-state members to produce and stockpile HEU for submarine reactors is an increasingly problematic "loophole" in the treaty as more and more countries announce intentions to develop nuclear-powered submarines.
- That the United States and the United Kingdom use weapons-grade uranium in their naval nuclear propulsion systems will further handicap efforts to limit the nuclear weapons capability of Iran and others and inhibit efforts to shrink HEU stockpiles worldwide.
- The United States Government last analyzed the issue of using naval reactors fueled by low enriched uranium (LEU) in 1995 when it decided to endorse current practices.
- Given the increased importance of combating nuclear proliferation and enhancing nuclear security, and in the light of the capabilities demonstrated by France's LEU-fueled submarines, it is time for the United States to take another look at the issue before it finalizes the design for the Ohio-class SSBN follow-on.
- The House Armed Services Committee has called for such an analysis in its report on the Defense Authorization Bill. The Senate and the administration should enthusiastically support this initiative and work to tighten NPT allowances for submarine reactor fuel.

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The United States should adjust its policy by: 1) choosing a reactor for the Ohio-class SSBN follow-on that does not require weapons-grade fuel and 2) pushing for multilateral action to close or at least narrow the NPT loophole that allows for non-nuclear weapons states to produce highly enriched uranium for naval reactors.

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