Congressman Bill Foster (IL-11)
Energy and Water Appropriations Testimony
April 19, 2018

- Good morning, and thank you Chairman Simpson and Ranking Member Kaptur for holding this Members' Day hearing and to the members of the Subcommittee for allowing me to testify.

- Today, I am asking the committee to support funding for the continued research and development of an advanced naval nuclear fuel system based on low-enriched uranium or -L-E-U.

- In a letter addressed to the attendees of the 2016 Nuclear Security Summit, a group of 35 Nobel laurates urged world leaders to transition away from the use of highly-enriched uranium or H-E-U.

- HEU is one of the most dangerous substances known to man because it can be used to make a simple, gun-type design nuclear bomb with a multi-kiloton yield.

- In contrast, LEU is relatively useless to terrorist groups who would not possess the enrichment capabilities of a nuclear capable nation.

- The detection of even minute amounts of HEU can be clear evidence of a weapons program in a nation that has formally committed to only peaceful uses of atomic energy based on LEU.

- Which is why the elimination of globally held stockpiles has been a long-standing U.S. policy objective.

- The proliferation concerns, along with the dangers of nuclear terrorism, have led us to believe that the minimization of using HEU outside of nuclear weapons would make the United States and the world a safer place.

- And significant progress has been made.

- The Megatons to Megawatts Program, for instance, eliminated more than 25 percent of the planet's nuclear bomb fuel.

- But more remains to be done.

- Today, the largest remaining non-weapons use of HEU is as fuel for naval propulsion reactors.

- Of which, the United States holds the largest declared reserve, approximately 140 metric tons.

- Public estimates assess that U.S. naval reactors use more than two tons of weapons-grade HEU annually, equivalent to hundreds of nuclear weapons.

- Unless a transition to LEU fuel is made, the United States may have to resume the production of HEU for the first time since 1992, further undermining our nonproliferation efforts.

- There is also a concern that the Navy's use of weapons-grade fuel could establish a backdoor for other countries to acquire nuclear weapons.

- Under the Nuclear Non-Proliferation Treaty, international inspectors are blocked from examining nuclear material designated for naval fuel.

- As such, a country could produce HEU for naval purposes, then remove it to illicitly build a nuclear weapon.

- In 2016, two more countries – Iran and South Korea – announced programs to develop naval nuclear propulsion reactors, and Iran already has claimed its program would require HEU.

- Negotiating the end of dangerous HEU programs would be immeasurably easier if the United States establishes the technical feasibility of using LEU for all non-weapons purposes.

- Secretary Perry and Secretary Spencer recently suggested that the use of LEU fuel would necessitate refueling, requiring the need for a larger submarine force and significant new shipyard infrastructure.

- However, the main goal of research and development is to determine whether an LEU life-of-the-ship core is possible in a newly designed next-generation vessel.

- Or to determine if LEU would be a viable option in aircraft carrier reactors, which are not size-constrained and use about half of the HEU for naval propulsion.

- Continued research and development would also energize the next generation of nuclear engineers.

- As the U.S. Office of Naval Reactors warned in a 2014 report to Congress: “Development of an advanced fuel system would help maintain the unique naval nuclear technology base… If these essential capabilities are lost, then development of an advanced fuel system will become impractical.

- During, FY2016 and FY2017, Congress authorized and appropriated $5 million for initial research and development.

- It is now more important than ever for the United States to lead by example and continue exploring the feasibility of converting our naval nuclear propulsion to LEU fuel.

- I look forward to working with you on this matter.

- Thank you again, and I yield back the balance of my time.