

The Fate of the B83 Nuclear Gravity Bomb

With a yield of 1.2 megatons—roughly 80 times that of the bomb that killed more than 70,000 people in Hiroshima in 1945—the B83 gravity bomb is by far the most destructive weapon in the US nuclear arsenal. The Biden administration’s Nuclear Posture Review (NPR) resumes a decade-old plan to retire the B83 that was put on hold by the Trump administration. The Biden administration’s Fiscal Year 2023 budget request likewise drops previous language and funding meant to extend the life of the bomb.

The question now is, given Russia’s war in Ukraine and concerns about China, will Congress support this decision? The B83 has no utility in these situations, but some in Congress may still feel pressure to back it simply to demonstrate that they are “tough on defense.”

The B83 Is Unneeded

The B83 was developed in the late 1970s and first deployed in 1983. Its yield, or explosive force, is variable, from the low kiloton range to 1.2 megatons. (A kiloton is equivalent to 1,000 tons of the conventional explosive TNT; a megaton is 1,000 kilotons.) This massive yield is one major reason to retire the bomb, as it causes unnecessary overkill and is strategically undesirable.

In 2013 then-assistant secretary of defense for global strategic affairs Madelyn Creedon called the bomb a “relic of the Cold War,” and Air Force General Robert Kehler, at the time commander of US Strategic Command, cited its high yield as one of the B83’s “shortcomings.” Kehler argued that the B83’s high yield made it less flexible than the B61 and less able to match its yield to various targets. It therefore could not minimize so-called “collateral effects”—unintentional damage and casualties. In particular, the radioactive fallout from such an enormous explosion would be tremendous, especially if it were used to attack deeply buried targets, the role often proposed for the bomb. As this UCS simulation shows, up to three million people could be killed by dropping a single one-megaton bomb on a nuclear facility in Iran.

Changing Plans

In 2013, Energy Secretary Ernest Moniz and Defense Secretary Chuck Hagel wrote to Sen. Dianne Feinstein pledging to “pursue retirement” of the B83 once the B61-12 entered the stockpile. In 2016, the Nuclear Weapons Council—a joint Department of Defense and Department of Energy group that oversees the US nuclear weapons stockpile—sharply cut B83 surveillance programs, indicating that it did not plan to retain the bomb long-term. The FY2018 stockpile plan also confirmed the plan to retire the B83 once the B61-12 became available.

The Trump administration’s 2018 Nuclear Posture Review began to reverse course, saying the B83 would be retained “at least” until confidence was achieved in the B61-12, but also stating the megaton-yield bomb would be kept “until a suitable replacement is identified.” The

FY2019 nuclear stockpile plan was more definitive, dropping the tie to the B61-12 while repeating the “until a suitable replacement is identified” policy, implying a longer-term desire to keep the B83.

In 2019, acting NNSA administrator Charles Verdon said that maintenance measures could keep the B83 active for 5-7 years, but after that the bomb would require a life extension program that would extend its life by 20-30 years. In June 2020, the Nuclear Weapons Council reportedly decided to undertake such an extension, and in May 2021, the Biden administration requested nearly \$100 million in FY22 to begin it. This was more than triple the \$31 million in the FY21 budget.

The Administration vs. Congress

Congressional response to the administration’s FY22 increased funding request for the B83 was mixed. The FY22 House Energy and Water Development Act eliminated all funding for the B83 life extension, declaring it “premature” pending the outcome of the NPR. The House version of the FY22 National Defense Authorization Act (NDAA) did the same. The Senate version of the FY22 NDAA did not mention the B83, by implication providing the full \$98.8 million requested by the administration. The Senate Energy and Water Development Act also provided full funding but, showing concern about the plan to retain the bomb, required the Biden administration to “certify to the committees on appropriations that there are operational requirements justifying” extending its life. The final version of the FY22 Consolidated Appropriations Act overturned the House appropriators’ cut, including the full requested amount for the B83 life extension program; it also omitted the Senate Energy and Water appropriators’ proposed certification requirement.

For FY23, Congress is expected to return to debate on the B83. With the administration’s new support, plans to retire the warhead will likely succeed. However, the war in Ukraine may complicate the decision for some, despite the fact that the bomb’s huge yield and resulting “collateral effects” mean it would be unusable in such a scenario.

Drop the B83

The B83 is militarily unnecessary, and the enormous radioactive fallout that would result if it were used as a bunker buster should be more than enough reason to eliminate it immediately. This is true regardless of the status of the B61-12 or Russia’s war on Ukraine, and Congress should not use either of these as an excuse to keep this massively destructive bomb in the stockpile. The Biden administration has made the right decision to finally go through with its long-planned retirement. Congress should support this by eliminating all funding for the B83 now instead of wasting more money on an unnecessarily destructive weapon that is also strategically undesirable.

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