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B61-12: The New Guided Standoff Nuclear Bomb

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Presentation to Side Event
The Future of the B61:
Perspectives From the United States and Europe

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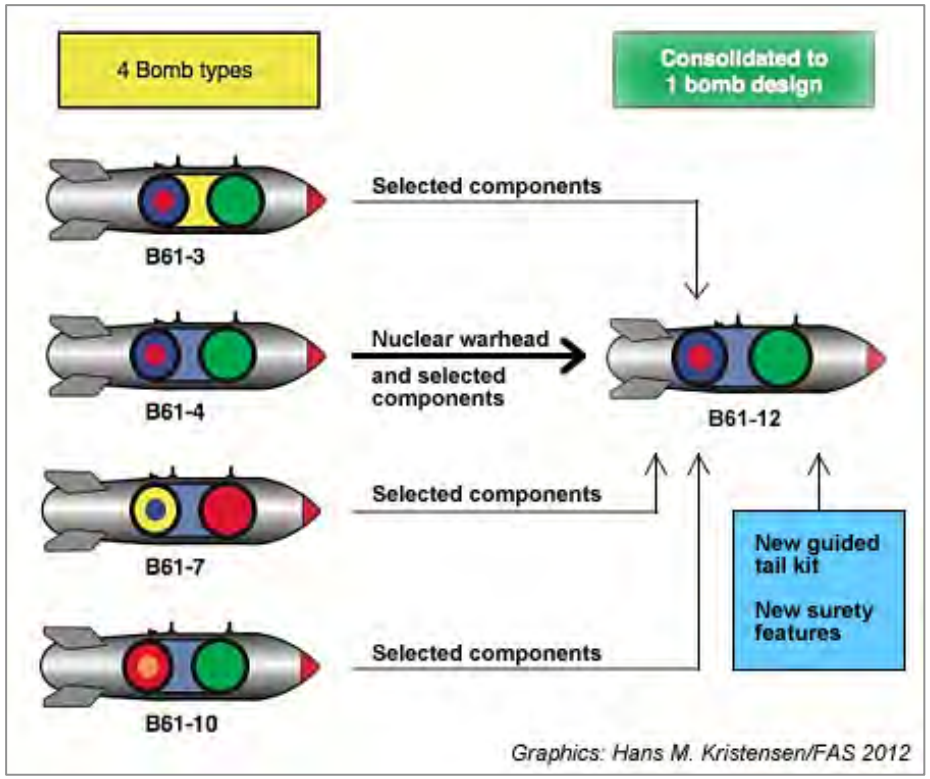
B61-12: The Concept



- Consolidate four existing B61 versions (B61-3, -4, -7, 10) into one type
- The B61-11 will also be retired, a hint that B61-12 might have some capability against underground targets
- Retain nuclear bombs for U.S. strategic bombers in the United States, U.S. fighter-bombers deployed in Europe, and NATO fighter-bombers
- Add new safety and security features (although only modest improvement on B61-12)
- Use smallest B61 warhead (B61-4 with 0.3-50 kilotons) to reduce HEU available to theft
- Reduce total stockpile (gravity bomb inventory would decline by 53 percent)
- Save money

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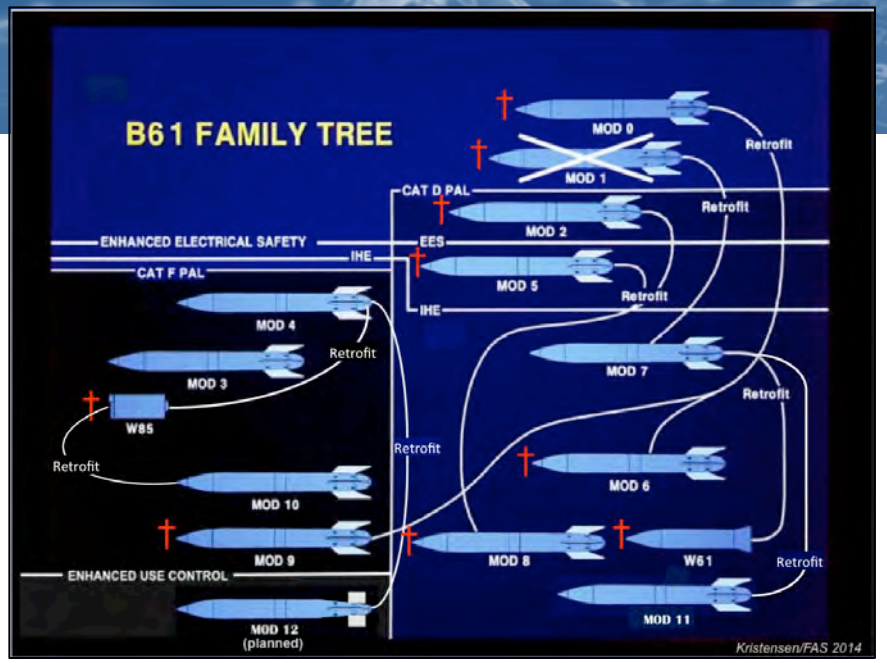
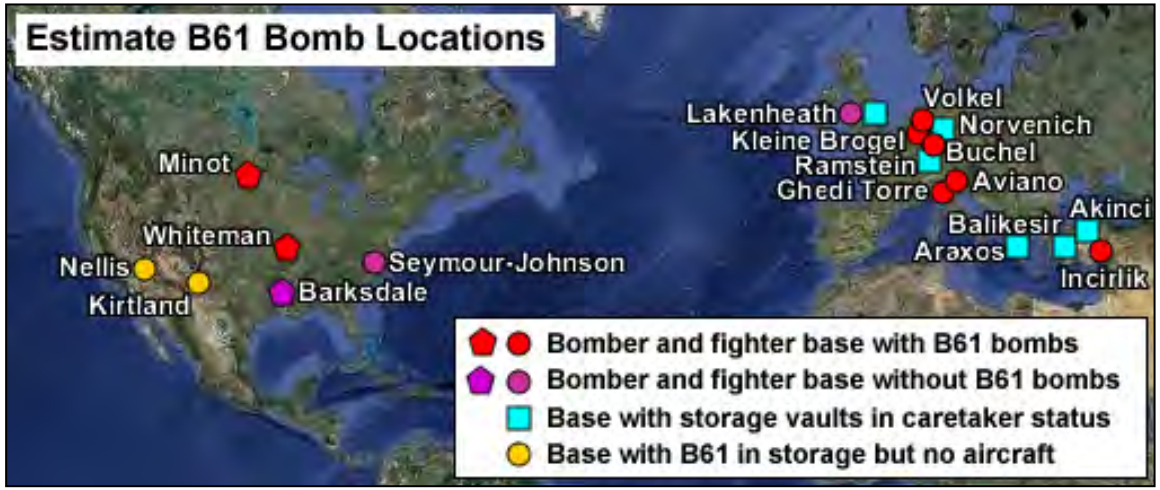
B61 Types and Numbers

- Nearly 3,000 built since 1963; an estimated 825 remain today
- 15 different versions of original design
- 6 initial original versions were later modified into 9 retrofits with different and improved military capabilities
- 2 retrofits were reentry vehicles
- 1 current version is nuclear earth-penetrator
- Yields range from 0.3 to 400 kilotons
- Of 825 remaining B61s, roughly 370 are active
- 645 stored in continental United States; 180 in Europe
- B61s are some of the safest warheads in the stockpile



Estimated B61 Bomb Inventory and Capabilities, 2014				
Type	**Mission**	**Yields**	**Status**	**Inventory**
B61-3	Tactical bomb	0.3, 1.5, 60, 170	Active/Inactive	200
B61-4	Tactical bomb	0.3, 1.5, 10, 50	Active/Inactive	200
B61-7	Strategic bomb	10-360	Active/Inactive	290
B61-10	Tactical bomb	0.3, 5, 10, 80	Inactive	100
B61-11	Volkel	400	Active/Inactive	35
(B61-12)	Strategic and tactical bomb	0.3, 1.5, 10, 50	Planned	(480)
Total				**825**

B61 Locations and Users



- B61 bombs estimated at 10 locations in Europe and United States:
  - 6 bases in 5 NATO countries
  - 4 bases in United States
- 8 other facilities have no B61s present but nuclear-capable aircraft or storage vaults in caretaker status

Strategic Bomber Bases

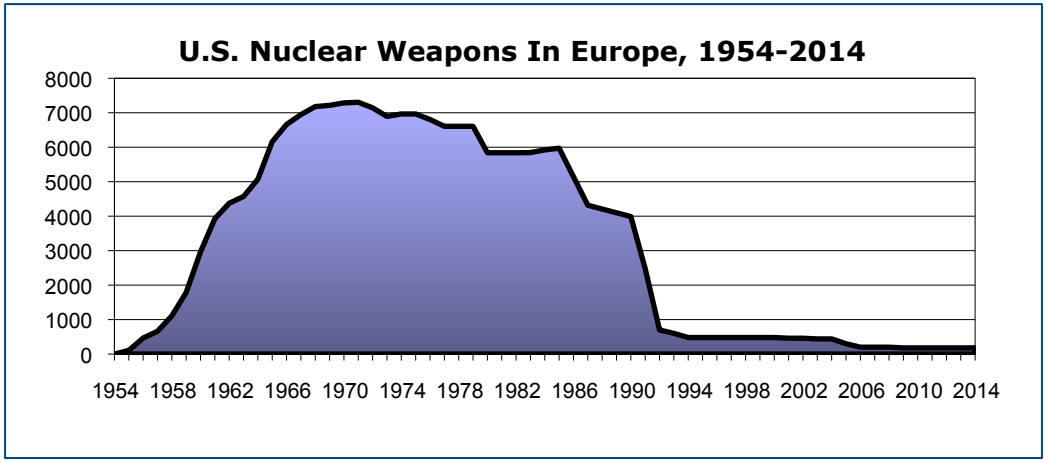
- Minot AFB (ND): B-52H and B61-7
- Whiteman AFB (MO): B-2A and B61-7/B61-11
- Barksdale AFB (LA): B-52H

Tactical Fighter Bases

- Volkel AB: B61s for Dutch F-16s
- Kleine Brogel AB: B61s for Belgian F-16s
- Buchel AB: B61s for German Tornados
- Ghedi Torre AB: B61s for Italian Tornados
- Aviano AB: B61s for US F-16s
- Incirlik AB: B61s for US and Turkish F-16s (no aircraft on base)
- Lakenheath AB: US F-15Es (no bombs on base)
- Seymour-Johnson AFB: F-15Es (no bombs on base)

B61s in Europe

- 180 B61 bombs in Europe
- Cold War deployment (all types of weapons) peaked at 7,300 in 1971
- Post-Cold War deployment reduced by more than half since 2004 – unilaterally



US Nuclear Weapons In Europe 2014			
Country	**Base**	**Vaults**	**B61s**
Belgium	Kleine Brogel	11	20
Germany	Buchel	11	20
Italy	Aviano	18	50
	Ghedi Torre	11	20
Netherlands	Volkel	11	20
Turkey	Incirlik	25	50
Total		**87**	**180**

- Current B61 deployment at six bases in five countries
- 4 national bases for delivery by national aircraft; 2 US bases for delivery by US aircraft
- 87 underground storage vaults (348 capacity); additional vaults at other bases in caretaker status
- Despite reduced readiness compared with Cold War, weapons are stored near delivery aircraft
- Additional weapons stored in the United States

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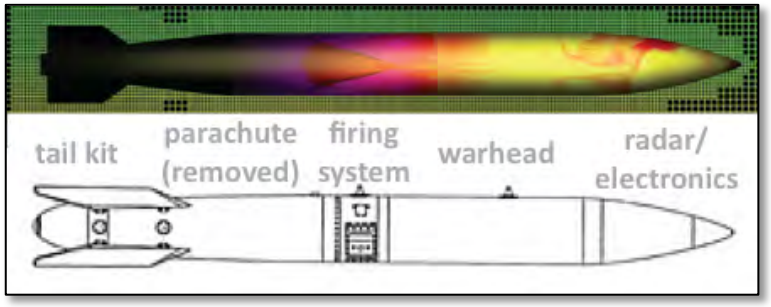
B61-12: Claims

Official Explanation:

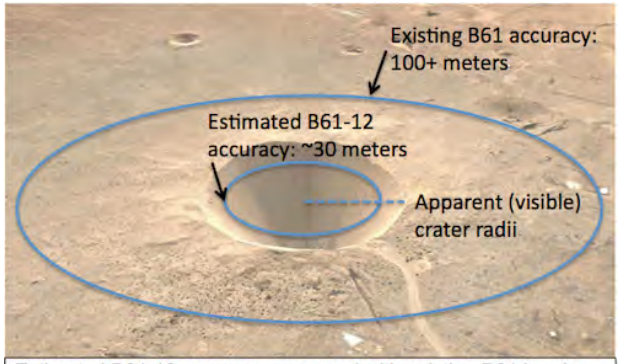
- Not a new nuclear bomb but simply a life-extension of an existing version
- No new military capabilities
- Will result in cost savings
- Will result in reduction of stockpile
- Needed to improve nuclear surety
- Full LEP urgently needed



But in Reality:

- It is a new "new" nuclear bomb type that is not currently in the nuclear stockpile
- It has improved military capabilities
- It is the most expensive nuclear bomb project ever; many costs are still unknown
- Yes it will reduce stockpile some, but those reductions could be made anyway
- It is already one of the most secure warheads in the stockpile
- A simpler LEP can fix urgent aging issues at a lower cost: extend B61-7 and B61-4

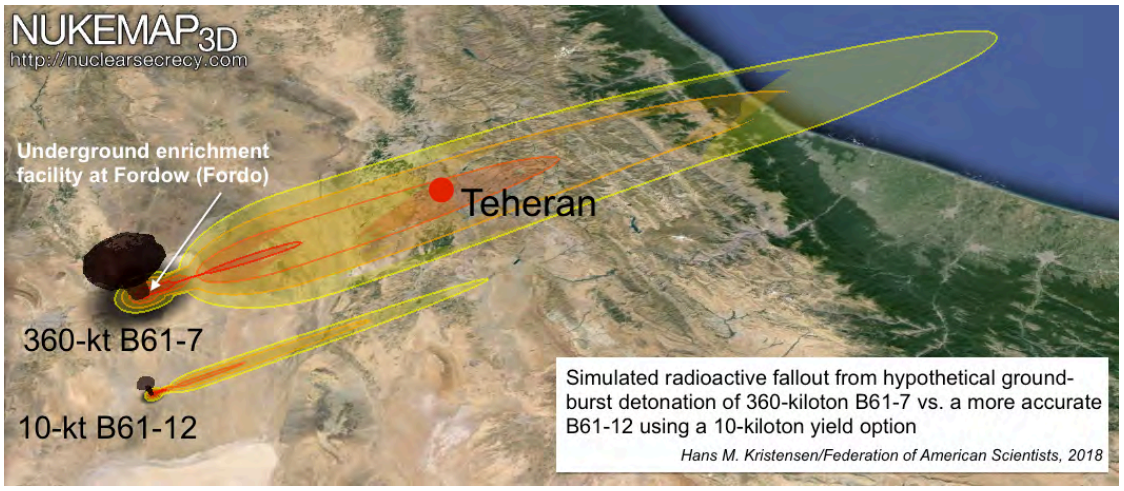
B61-12: Increased Accuracy



Estimated B61-12 accuracy compared with existing B61 bombs, superimposed on Sedan test crater (not to scale). Severe damage to an underground target requires it to be within 1.25 apparent crater radii of point of detonation.

Hans M. Kristensen, Federation of American Scientists, 2014

- Tail kit will increase accuracy, provide a modest standoff capability
- Accuracy secret but estimated to be around 30 meters CEP
- Existing bombs have CEP of 110-170 meters (360-557 feet)
- Reduction in radioactive fallout can be significant (see below)



Simulated radioactive fallout from hypothetical ground-burst detonation of 360-kiloton B61-7 vs. a more accurate B61-12 using a 10-kiloton yield option

Hans M. Kristensen/Federation of American Scientists, 2018

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Question: Will improved accuracy and lower yield affect the way the military thinks about the use of the B61 bomb?

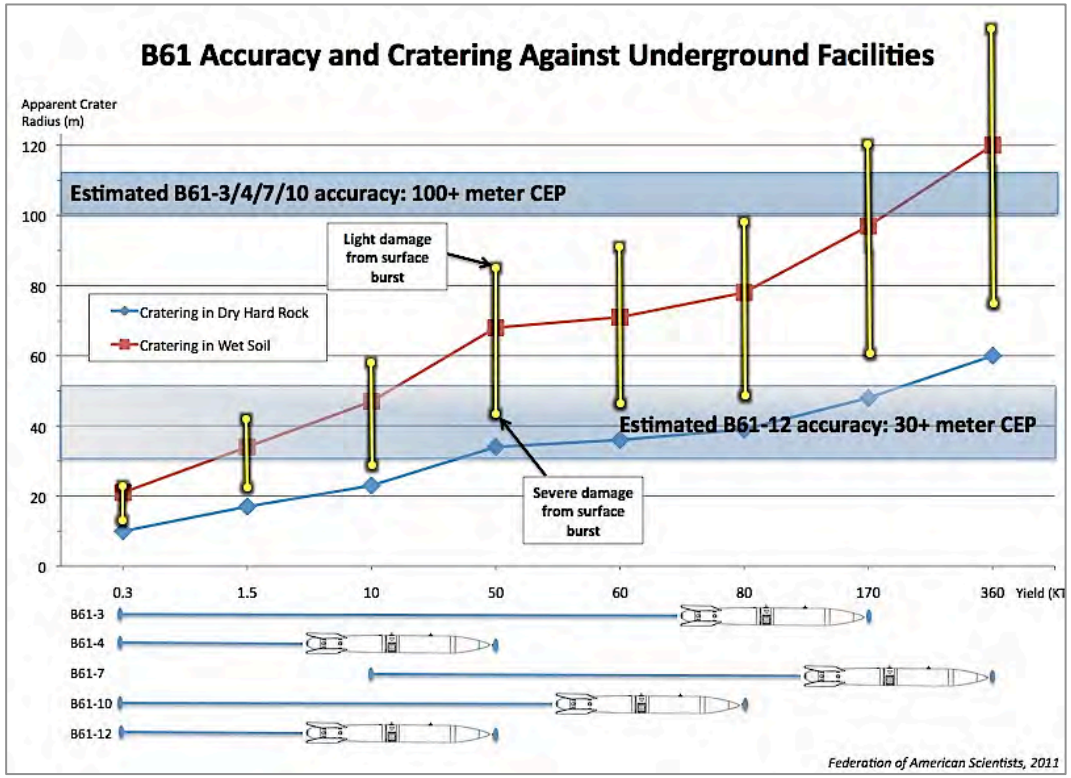
Answer: Without a doubt. Improved accuracy and lower yield is a desired military capability.

Question: Will that result in a different target set or just make the existing weapon better?

Answer: It would have both effects.

General Norton Schwartz, USAF (Ret.), 16 Jan. 2014

B61-12: Improved Military Capabilities

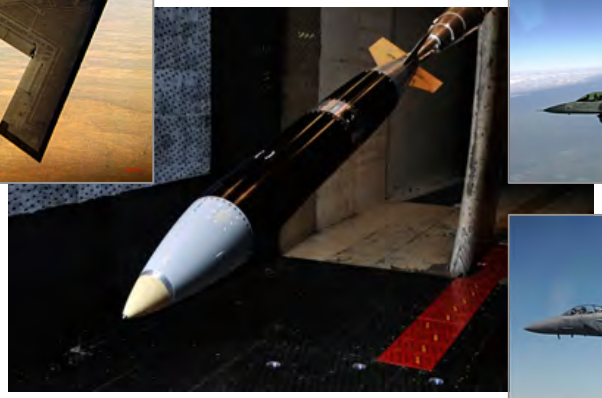


- B61-12 will be more accurate and capable than the B61s currently deployed in Europe
- First guided standoff nuclear bomb
- New guided tail kit "will provide a modest standoff capability, for safe aircraft escape, and sufficient delivery accuracy so that the lower yield of the B61-12 can achieve the same military effect as the original B61."
- Lower yield options can be used against targets that today require higher yield
- Lower yield means less radioactive fallout and more "useable" weapon

B61-12: Integration


B-2A Spirit


F-35A Lightning II




F-16 Falcon


F-15E Strike Eagle


B-52H Stratofortress


PA-200 Tornado

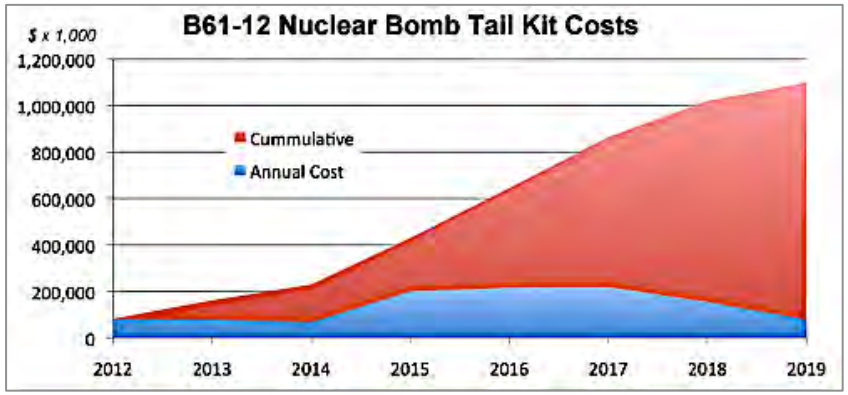
- Integration on six different platforms: B-2A, B-52H (?), F-15E, F-16, F-35A, Tornado
- From late-2020s, also integration on the next-generation bomber (LRS-B)
- F-35A will replace F-16 and Tornado in NATO nuclear mission
- Initially, B61-12 tail kit will be “locked” on NATO F-16 and Tornado
- Increased military capability will become available with transition to F-35

Why does NATO and the United States need to deliver a nuclear bomb from so many platforms?

B61-12: Cost

- NNSA B61 LEP cost estimate doubled between 2010 and 2012 from $4 billion to $8 billion
- DOD CAPE study in 2012 projected $10.4 billion
- Guided tail kit assembly estimated at $1.4 billion
- Plan for nearly 500 B61-12s makes this the most expensive bomb project ever: each bomb will cost more than its own weight in solid gold
- Add to that the cost of integrating the B61-12 on bombers and fighter-bombers; $350 million for F-35 alone
- European deployment: $100 million per year

Is this the best way for NATO and the United States to spend their defense money?



Conclusions

- B61-12 program will add new military capabilities to the B61 bomb by equipping it with a guided tail kit to increase the accuracy of the bomb
- Increased accuracy will allow selection of lower yields against targets that currently require higher yields, thus reducing radioactive fallout from a strike
- Improved military capabilities contradict Nuclear Posture Review promise not to add military capabilities during LEPs and DDPR conclusion that current posture already meets NATO needs
- Improved capabilities of B61-12 bomb and F-35 stealth fighter undercuts efforts to make Russia reduce its non-strategic nuclear weapons; signals that it is acceptable for Russia to modernize its non-strategic nuclear weapons as well
- Conditioning further NATO reductions on Russian reciprocity surrenders initiative to hardliners in the Kremlin; Russian non-strategic nuclear posture not determined by NATO's non-strategic nuclear posture but by Russia's inferior conventional forces
- European B61 deployment is fake reassurance: least likely to ever be used for Allies' security needs; stealing scarce resources from real-world non-nuclear capabilities
- Phase-out of deployment would realign NATO's nuclear posture with nuclear arms control policy