

Nukes for NATO

“Extended deterrence” will go on, and the F-35 fighter will take up the burden.

By Rebecca Grant



For more than 60 years, nuclear-armed fighters have been a key part of the US deterrence calculus, particularly in Europe. Indeed, providing the umbrella of “extended deterrence” to NATO nations has been a mission performed by generations of USAF air crews, maintainers, and security forces.

It now appears that, before long, the iconic nuclear fighter role, performed in recent years by the F-15E and F-16, will pass to a new heavyweight—the F-35 Lightning II.

As the Obama Administration sees it, nuclear weapons delivered by fighters will continue to play an important role in the nation’s international affairs. The 2010 Nuclear Posture Review, released in April, reaffirmed the requirement for tactical nuclear weapons in US defense strategy.

The United States, it said, will “retain the capability to forward deploy US nuclear weapons on tactical fighter-bombers ... and proceed with full scope life extension for the B61 bomb, including enhancing safety, security, and use control.”

The Air Force, the NPR made clear, will “retain a dual-capable fighter ... as it replaces F-16s with the F-35.” The

NPR also announced final retirement of the nuclear-capable Tomahawk cruise missile (TLAM-N), a theater-range nuke. The Army long ago eliminated its theater nuclear missiles. Thus, USAF will do all of Washington’s heavy lifting for extended tactical deterrence.

Several NATO countries have the technical capability to deliver US nuclear warheads with nuclear-certified fighters. Each munitions storage

Lightning II fighters complete a test flight. The F-35 will inherit the nuclear deterrence mission.

site—some were completed as recently as 1998—can securely house a score or more of warheads in NATO’s central and southern regions.

NATO members Germany, Belgium, Luxembourg, the Netherlands, and Norway formally requested that the alliance discuss potential withdrawal

USAF photo by ATC Perry Aston



An F-15E takes off from RAF Lakenheath, Britain. In recent years, the nuclear fighter burden has fallen on F-16 and F-15E aircraft, but they’re getting old.

of US weapons from the continent as the alliance reviews its strategic concept. Other nations, including several formerly under Soviet domination, disagree. They say such weapons are critical symbols of the US military commitment to Europe.

Secretary of State Hillary Clinton rebuffed the call. “First,” she said, “we should recognize that, as long as nuclear weapons exist, NATO will remain a nuclear alliance.”

In short, the policy of extended deterrence is alive and well, but meeting the NPR’s guidance over the long run will hinge on success with the F-35 and the B61 bomb refurbishment.

The Air Force has a long and successful track record with extended deterrence. In fact, fighters carrying tactical nuclear weapons have been around nearly as long as NATO itself.

In the late 1940s, war plans for a confrontation with the Soviet Union in Europe first depended on B-36 intercontinental bombers attacking Soviet targets. But planners conceded that the strategic bombing would not prevent the battle-hardened Red Army from trampling much of Europe if Stalin chose to invade. With Europe demobilized, atomic weapons were seen as vital to the ground force engagement.

A new forward defense war plan code-named Ironbark incorporated a limited form of tactical atomic weaponry for NATO from 1950 onward. At first, when plans anticipated that much of Europe would be overrun, it was mainly a mission for Navy attack aircraft. Up to 16 aircraft carriers on NATO’s flanks would use nuclear weapons against invading Soviet forces.

In February 1951, the US Sixth Fleet, operating on permanent assignment in the Mediterranean, received AJ-1 Savage attack aircraft capable of carrying atomic bombs from the fleet’s aircraft carriers. “We certainly need their atomic capabilities,” declared five-star Gen. Dwight D. Eisenhower, who was NATO’s first Supreme Allied Commander Europe.

Meanwhile, Tactical Air Command was training the first cadre of F-84 pilots for nuclear alert in Europe. When atomic artillery in the form of the 280 mm howitzer arrived in Europe in the fall of 1952, Eisenhower’s staff put the guns in their plans.

As a NATO strategy paper recounted: “To deter major war in Europe, nuclear weapons were integrated into the whole

DOD photo



Two F-111 aircraft over RAF Upper Heyford, Britain. Under some 1970s nuclear war plans, F-111 wings were tasked to quickly launch up to 60 aircraft.

of NATO’s force structure, and the alliance maintained a variety of targeting plans which could be executed at short notice.”

Just Across the Border

The result was a mission known as Victor Alert. Fine-tuned command and control of NATO’s extensive arsenal required continuous practice and exercises. Officers at US Air Forces in Europe became experts in the high-stakes task of moving nuclear weapons to aircraft to arm and get them airborne under tight time lines.

A 1987 list compiled by the *Bulletin of the Atomic Scientists* identified nearly a dozen aircraft types certified to drop nuclear bombs, not including strategic bombers. The F-100 pulled the mission for years. The F-104G Starfighter was nuclear-certified for the air forces of Italy, Greece, and Turkey.

For USAF, the main aircraft for nuclear operations were the F-4, F-111, F-16, and much later, the F-15E. The F-111 wings in England in the 1970s were tasked to quickly launch up to 60 aircraft under certain war plans. F-111s could carry multiple B61 warheads.

During the 1980s, F-16s in “triple doc” squadrons—those tasked with air-to-air, air-to-ground, and nuclear missions—sat Victor Alert at bases in Europe. Under NATO’s quick-response mandates, two aircraft from each squadron in a wing of three squadrons

might be on alert, with B61s loaded, at all times. The aircrews had to demonstrate they could take off within 15 minutes of an alert order.

NATO discontinued the rapid alerts as the Cold War receded. The alert culture once inculcated in thousands of Air Force officers and enlisted members went with it. Today’s dual-capable fighters still train to the mission, but on a scale anticipating a slower buildup of readiness over a period of weeks.

Part of the reason that nuclear fighters remain in NATO is because Russia still has thousands of nonstrategic nuclear warheads. For many of the new NATO members, that’s still just across the border.

The Air Force’s forward deployed presence “is a response to the volume of nonstrategic nuclear weapons Russia has in its arsenal,” said Maj. Gen. C. Donald Alston, assistant chief of staff for nuclear matters at Air Force headquarters.

Thus, the US remains firmly committed to extended deterrence. Maintaining its credibility depends on the stockpile, dual-capable aircraft, and crews trained to deliver nukes.

According to Amy F. Woolf of the Congressional Research Service, the US in 2010 keeps in Europe only “a few hundred” nuclear weapons for fighters. As to platforms, the burden for USAF falls on its F-16s and, in recent years, the F-15Es. They, however, are getting old.



An F-100C releases a dummy nuclear bomb.

It was a foregone conclusion that the F-35 would inherit the extended deterrence mantle. Early in the program, some questioned whether such nuclear capability was truly needed, but Pentagon officials held firm on that requirement.

Actually, most of the aircraft the F-35 is designed to replace had nuclear missions. For the Navy, the dual-capable antecedents lay in certified aircraft such as the A-6 and A-7, plus the F/A-18. The Marine Corps AV-8B was also nuclear certified.

For the British, in addition to the Harrier, there was the nuclear-certified Panavia Tornado GR1 with a low-level interdiction role. Britain armed its Tornados with the WE177, a low-yield tactical nuclear weapon ultimately retired from RAF service in 1998. (Though the WE177s were dismantled,

Britain retains D5 warheads for the Trident missile in its submarine fleet.)

NATO members Germany, Belgium, the Netherlands, and Italy did not develop indigenous nuclear weapons programs. Instead, they maintained dual-certified aircraft capable of uploading US B61s during a crisis.

Given this background, the requirement for nuclear weapons certification for F-35 was planned from the beginning.

A Strong Commitment

Air Force plans dating back to the 1980s called for the F-16's replacement to take over the tactical nuclear role, and due to the effort involved in full nuclear certification, the Air Force wanted only one nuclear fighter type in its future arsenal. A nuclear-capable F-16 replacement also needed to be an interoperable export fighter that NATO allies in particular could buy to maintain their extended deterrence role. Therefore, the F-22 was never intended to be a nuclear fighter, and was instead optimized for air-to-air operations and destruction of enemy air defenses.

"The NPR, ... in essence, reaffirms the alliance position to have nuclear weapons as part of the alliance force structure," said Alston. "Those dual-capable aircraft historically have been the F-16 and the F-15E, and they will continue to be those aircraft until such time as the F-35 is deployed."

Full certification of the F-35 for the nuclear role will ultimately require an



A USAF F-104 lands at Morón AB, Spain, in March 1964. The F-104 was also nuclear-certified for the air forces of Italy, Greece, and Turkey.

additional \$339 million in funding. Key elements include special attention to internal wiring and avionics, with additional costs to cover the test and certification process. It will begin after early testing is complete, taking place as part of a stage called follow-on development.

Although F-35 costs are under scrutiny, the Pentagon's commitment is strong. "I have no lack of confidence in us absolutely following through" on F-35 nuclear certification plans, Alston said. "The Department of Defense has made it clear that we're committed to doing this, to making the F-35 dual-capable," he said.

Just as important is funding a B61 life extension on a schedule synchronized with F-35 development.

"It will matter that the B61 life extension program moves forward and that we can have a life-extended B61 to marry up to a nuclear-capable F-35," acknowledged Alston.

The B61 has seen so many variants that experts refer to it as the B61 family of weapons. Production took place from the 1960s through the 1980s. Some variants were converted to the B61 family after beginning design under other monikers. The most recent variant was the B61 developed for use with the B-2 bomber. Its ballistic shape—without nuclear material, of course—was tested in 1998.

"One of the things the life extension program would do would be to reduce the number of variants of the B61," said Alston. "We don't need that number of variants. There are some aging problems with the B61, and the life extension program will overcome those."

Stable funding is critical because pipeline capacity for warhead refurbishment is very limited. As Alston described it, the "life extension program drives infrastructure demands on the Department of Energy to build the production capacity. Their infrastructure is hurting. The Navy has the W76 system under way right now. We couldn't do [the B61] at the same time, that's how limiting [it] is."

Modernizing the B61 will take steady investment. "There's a considerable amount of infrastructure that has to come through for the Department of Energy to be able to move forward on the B61," Alston said.

At US Strategic Command, Gen. Kevin P. Chilton is adamant about the need for a B61 life extension—



A B61 nuclear bomb rests in a protective hangar next to an F-16. The B61 is receiving a full-scope life extension.

regardless of F-35 scheduling. "A lot of folks are linking 2017 to F-35. We need the B61 in first production in 2017 regardless of the F-35 because the B61 also is a weapon that is used by the B-2, by our strategic deterrent," he told the House Armed Services Committee on April 14.

Despite the Administration's support, shifting policy winds could derail B61 modernization and perhaps even final certification of the F-35. For example, Congressional committees have tossed around cuts to the B61 life extension program, although support for the W76 program for the Navy has been solid.

The Nuclear Umbrella

The longer-term risk comes from those who were not happy about what they saw as a free pass for tactical nukes. One school of thought regards tactical nuclear weapons as a skeleton in the closet forgotten by the Obama Administration's nuclear strategy review—and ready to haunt US foreign policy.

"So before anyone cracks open the champagne for Obama's vision of a nuclear-free world, don't take your eye off the little guys," warned David E. Hoffman in an article for *Foreign Policy* in April.

Yet as Hoffman noted, "Tactical nukes are going to be very, very hard to negotiate."

A large part of the reason for that is that DOD, the State Department, and NATO see continued utility for tactical nuclear weapons. Nuclear fighters provide extended deterrence beyond NATO's border. There is every possibility that, over the life of the F-35, Middle East states or Pacific region allies will confront regional nuclear threats.

According to the NPR, the "nuclear umbrella" of extended deterrence included the strategic triad, nonstrategic forward deployed forces, and US weapons that "could be deployed forward quickly to meet regional contingencies."

What is certain is that a dual-capable F-35 is moving to the center of extended deterrence plans. With its stealth and specialized sensors, the F-35 will soon be the only nuclear-capable fighter able to penetrate the most sophisticated enemy air defenses.

The F-35 could be thrust into the spotlight if the planners judge that the B-2 reaches a point where it is no longer able to penetrate enemy air defenses—especially in daytime. The B-2 does not carry standoff weapons, noted Alston. Threats that keep a B-2 from performing direct nuclear attacks could, in effect, hand that mission, too, to the F-35. ■

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