For decades, airmen across Europe stood ready to launch their nuclear-armed fighters against Warsaw Pact targets.

Victor Alert

By Rebecca Grant

For decades in the Cold War, the North Atlantic Treaty Organization depended on fighters with tactical nuclear weapons. Navy carrier-based attack aircraft provided the first tactical nuclear forces. Then the US Air Force put nuclear-capable F-84s on alert in England in 1952. Over the decades, Quick Reaction Alert forces supported shifting concepts of NATO strategy from the forward strategy of the early 1950s to flexible response of the 1980s.

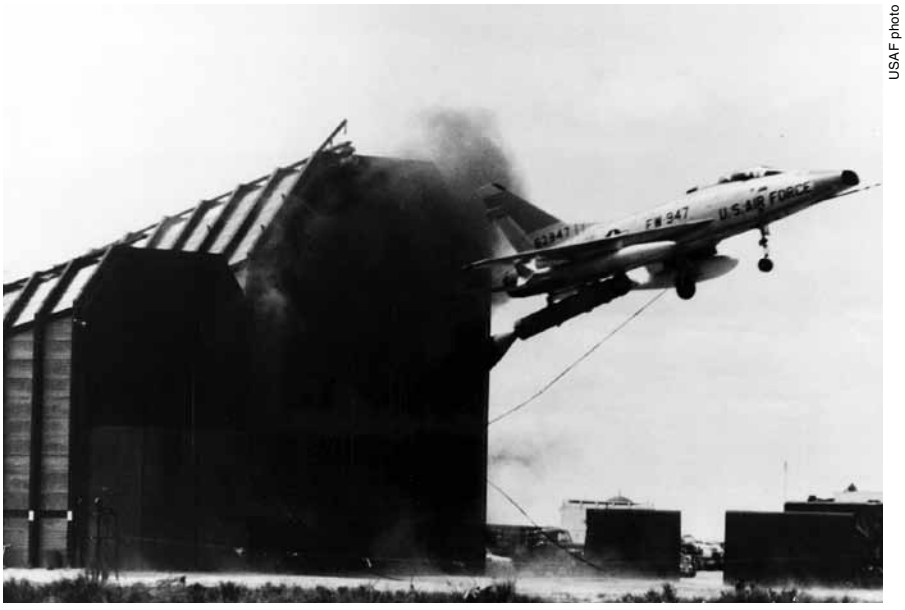
"Theater nuclear forces fill what would otherwise be a critical gap between strategic deterrent and conventional forces," noted USAF Col. David L. Nichols in a 1976 article for *Air University Review.* Keeping fighters with nuclear weapons ready to launch was not without its difficulties—or controversies. Over the years, thousands of pilots and a handful of very prominent aircraft from the F-84 to the F-15E would learn the rigors of a mission that became known as Victor Alert.

The main reason for arming short-range fighters with nuclear weapons was to provide more firepower for NATO.

The job of positioning nuclear weapons in quick reaction range fell first to B-29 detachments in England. But the Truman Administration was forced to change this strategy after Stalin's Soviet Union detonated its own atomic bomb in 1949. Nuclear weapons in Communist hands led to all-out preparation for a serious defense of Europe.

In the spring of 1950, a report from the Office of Secretary of the Army Gordon Gray argued for "a fundamental and immediate change in emphasis based on realization that strategic bombing will not hold Western Europe or defeat Russia." As a matter of urgency, the US must prepare to defend "on a line as far east as possible" and to push a counteroffensive to repel Soviet attack.

In Washington, the term was a "forward strategy" for NATO. With the Korean War under way, the North Atlantic Council approved the forward strategy for NATO in late September 1950. Tactical nuclear weapons were essential to the strategy.



USAF photo

A zero-length launch of an F-100D. Note the "special weapon shape" under the left wing. The F-100 took on the nuclear mission from the F-84.

Under questioning from Sen. J. William Fulbright in early 1951, NATO's first supreme allied commander, Europe, Gen. Dwight D. Eisenhower, dispelled any mystery about the willingness of American forces to use nuclear weapons.

"To my mind, the use of the atomic bomb would be on this basis: Does it advantage me, or does it not, when I get into a war? Now, ... if I thought the net was on my side, I would use it instantly," Eisenhower said. "The United States is not going to declare war or conduct an aggressive campaign. It is merely going to defend itself. ... I believe in using what we have in defending ourselves."

Eisenhower's war plans called for 50 divisions and plenty of nuclear-armed fighters to hold massed Soviet armies in what he called a "bottleneck" across Europe. With this posture, the US would be committed, but the Soviets would know NATO meant only to defend, not attack.

The job of tactical nuclear weapons was to provide targeting options in Eastern Europe and make it too risky for the Soviets to concentrate conventional forces and firepower, as low altitude airbursts of nuclear weapons could decimate them.

Top: An F-105 lands at Moron AB, Spain, in 1964. Right: An F-105 in an alert shelter. F-105s were purpose-built for the nuclear mission.

Fighters with nuclear weapons instantly became a hinge of credibility in NATO's ability to deter Soviet attack. Of course, the catch was aircraft carrying those tactical nuclear weapons had to be ready at a moment's notice. NATO could not rely on attack aircraft launched from carriers in the Mediterranean and Baltic regions.

USAF responded by pairing fighters and nuclear weapons in a mission known under many names. Quick Reaction Alert, or QRA, was favored by analysts.

To pilots and crews, the mission was Victor Alert.

F-84s were already a staple of USAF force structure when the decision to modify the F-84G for the nuclear mission came down in late 1950.

The job of preparing the first USAF tactical nuclear fighters in Europe fell to the 20th Fighter Wing. In November 1951, the wing moved to Langley AFB, Va., transitioning to F-84Gs, and in 1952, the wing was ready. The wing deployed aircraft to Great Britain, with crews trained for both nuclear and conventional missions.

The Mk 7 nuclear weapon was purpose-built for the new mission. The so-called "30-inch nuclear bomb" was a breakthrough in its own right. At just 1,680 pounds, it was far lighter than the 10,000-pound devices designed for bombers of the late 1940s.

Still, it was a tight fit aboard an F-84. Lacking ground clearance when hung under its fighter, the Mk 7 had a lower fin stowed in a retracted position on the ground, which extended once the fighter was airborne.

The Mk 7 had a yield of about one kiloton—considerably less than the 15-kiloton device detonated at Hiroshima. Low yields soothed doctrinal concerns in two ways. First, it was thought NATO ground forces would not be hampered by such low-yield bursts. In turn, the ability to maneuver ground and air forces on a battlefield after low-yield detonations increased the credibility of the arsenal.

Delivery techniques were another matter. This was no straight, level run borrowed from B-29s. In the days before digital cockpits, accuracy depended on the skills of pilots and some startling tactics.

Toss Bombing

F-84Gs equipped for the delivery of nuclear weapons used the Low-Altitude Bombing System, where the aircraft would approach its target at low altitude, pull up sharply, toss its nuclear bomb, then loop and fly back in the opposite direction to escape the nuclear blast. Regular practice was the only way to keep pilots up to speed on the maneuver.

After the F-84s, next to take on the mission was the F-100. "The F-100 was powerful enough to carry one of the recently miniaturized fission weapons," recalled onetime fighter pilot and astronaut Buzz Aldrin in his 1989 book *Men From Earth.* Aldrin remembered, too, "the tense monotony of sitting nuclear alert, with our planes fully fueled at the end of the ramp, each with a streamlined nuclear weapon slung beneath its left wing."

Another young pilot among those flying F-100s in Europe at the peak of the Cold War was Charles A. Horner, the future commander of the Desert Storm air campaign.

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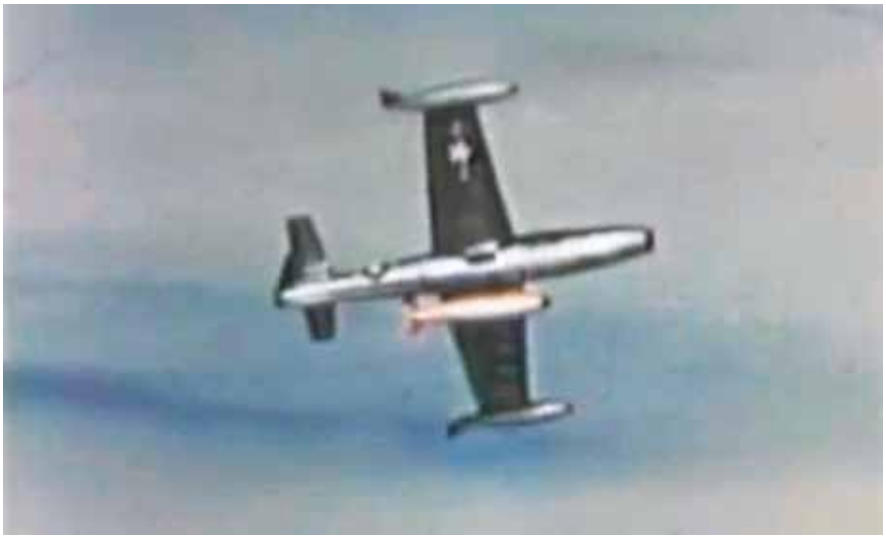


An F-84 carries a 30-inch nuclear weapon. The newly miniaturized nukes weighed just 1,680 pounds, far lighter than the weapons designed to be carried on bombers.

He recalled the rigors of the nuclear alert mission. To remain qualified for the nuclear alert, pilots had to drop a certain number of practice bombs every six months and certify on their target. They also had to describe to a board how the weapon worked, and talk through their mission and the command and control procedures. This included who could release them to go on the mission and what arming procedures had to be used.

The Super Sabre's speed made it a natural for an over-the-shoulder delivery technique where the bomb was released with the aircraft's nose pointing up. The dummy nuclear weapon separated from the fighter, soared upward, until its weight turned it, nose down, to plunge toward the target.

Even in the 1950s, tactical nuclear aircraft were not without controversy. In 1959, France demanded all US nuclear weapons and delivery aircraft vacate French soil. The 49th Tactical Fighter Wing moved its nuclear alert F-100s to Spangdahlem Air Base in West Germany. However, the concept was so vital NATO allies also invested in forces for Quick Reaction Alert.

However, while France went its own way, other NATO air forces adopted tactical nuclear capability to supplement the Alliance's firepower. "The West German Luftwaffe and other NATO air forces are building up a huge fleet of F-104G Starfighters, and the American tactical air forces in Europe are heavily committed to the F-100 and F-105," noted Leonard Beaton in an article for the *New Scientist* in May 1962. "Such aircraft are probably the main tactical nuclear weapon carriers of the day, but being an old-fashioned arm, they attract less attention," Beaton surmised.

By the 1960s, the nuclear mission was standard and pilots were flying an aircraft purpose-built for it, the F-105 Thunderchief.

The "Thud" gained glory in its exploits in combat over Vietnam. However, when Republic Aviation started its program for the F-105 nuclear fighter-bomber in 1951, the idea was to replace the F-84 with a faster fighter specifically designed to be a tactical nuclear workhorse. The first prototype of the F-105 flew in 1955 and USAF took deliveries of production aircraft beginning in 1958.

Key to the design of the F-105 was the 15-foot-long internal weapons bay for a nuclear bomb. Its Pratt and Whit-

ney J75 engine gave it an impressive 26,500 pounds of thrust.

Speed was a Thud virtue. In 1959, an F-105B flown by Lt. Gen. Joseph Moore set a world speed record and claimed the prestigious Bendix Trophy. "Nothing in the world could outrun her at low altitude," praised F-105 pilot Don Henry.

Bases like Osan in South Korea and on Okinawa in Japan also became prime sites for F-105s on nuclear alert. Rotating squadrons of F-105s provided quick reaction at Osan. Their targets included locations in North Korea, China, and the Soviet Union. "My target was a North Korean airfield. I studied that same target for three years," recalled former USAF Capt. Charles G. Hofelich in an October 2010 interview with the *Charlotte Sun* newspaper of Port Charlotte, Fla. Time on alert was called "the pad" and pilots grew accustomed to the 72-hour alert cycles. Hofelich, who was stationed on Okinawa, had few qualms about it. "I'd rather be in the air delivering a nuclear bomb than receiving one," he said.

American pilots and NATO allies were not the only ones mastering tactical nuclear procedures. Beginning with the Su-7, the Soviet Union equipped its Frontal Aviation (tactical air force) fighters with nuclear bombs, too.

As both East and West piled up nuclear arsenals, the tension between the Quick Reaction Alert forces ratcheted up. By the late 1970s, the US had 1,000 aircraft—not including USAF B-52s—capable of carrying tactical nuclear weapons. As many as 324 F-4s and 156 F-111s were in Western Europe, while two Navy carriers added nuclear-capable A-6s and A-7s on the flanks.

A 1977 report from the Congressional Budget Office elaborated on the new pressures. "NATO must be seen to have the capability and determination to use these forces if necessary," said the CBO. Enough NATO theater nuclear weapons must be able to survive a Soviet attack, and be able to threaten an appropriate response, CBO added.

Secretary of Defense Harold Brown left no doubt the nuclear fighter bases in the West were targets for Soviet attack. "We would expect them to try, at the outset of an attack, to hit targets such as command centers, nuclear storage sites, airfields supporting nuclear delivery aircraft," Brown testified in 1979.

This meant NATO's nuclear fighters—now primarily the F-111 and F-4—had to get off their airfields fast.

McPeak's Life on Victor Alert

In 1962, Capt. Tony McPeak was pulling Victor Alert in the F-100 at RAF Station Woodbridge in England.

"My first Victor Alert (VA) target is the airfield at Peenemünde, on the Baltic—the site of Germany's rocket-development effort during World War II and, at the moment, home station for an East German fighter regiment," Merrill A. McPeak, who went on to become Air Force Chief of Staff, writes in *The Aerial View,* a forthcoming book.

"We keep a bulky target folder, which includes all these details, locked in a safe at the VA facility. In the event of a launch order, we'll grab this folder and take it with us as we run to the aircraft. But at night or in bad weather, an F-100 pilot would find it quite impossible to give much attention to maps, target photographs, checklists, and the like. Incapable of sustaining anything longer than momentary hands-off flight, the plane requires constant attention. In theory, if you memorized every detail of the planned flight, you could concentrate on flying the aircraft and just might find the target. At least, that's the premise.

"The target folder also contains a Moshe Dayan–style eye patch. As we strap in and crank up the airplane, we're supposed to put the patch on under our crash helmet, covering one eye. It's tough enough navigating with two eyes but, inbound to the target, nuclear bombs will be going off all around us, with a real risk of flash blindness. Using the patch, we'll protect one eye, giving us two shots at getting there. ...

"All aircrews must participate in the so-called Human Reliability Program, a documentation nightmare with enough tricky paperwork to guarantee technical noncompliance. It's supposed to ensure the mental and psychological fitness of anyone with access to nuclear weapons. ...

"We all drink too much and many are uncivilized to the point of clinical certifiability," McPeak continues.

"None of this is disqualifying under the HRP. Paradoxically, were we to admit any (quite sensible) reservations about the benefits of launching an F-100 into the night and gloom to make one-eyed vertical delivery maneuvers over a designated ground zero, we'd be debarred and removed from the rolls."

The F-111 wings in England in the 1970s were tasked with quickly launching up to 60 aircraft under certain war plans. F-111s could carry multiple B61 warheads.

The B61 was an external weapon designed in the 1960s to withstand the stress of fighter maneuvers such as supersonic flight, low-level ingress, and pop-ups prior to weapons release. During exercises, as many as three squadrons of F-111s had to be started from carts at once. Black clouds of smoke rose over the airfield as the F-111s taxied at 15-second launch intervals.

A Changing Strategic Context

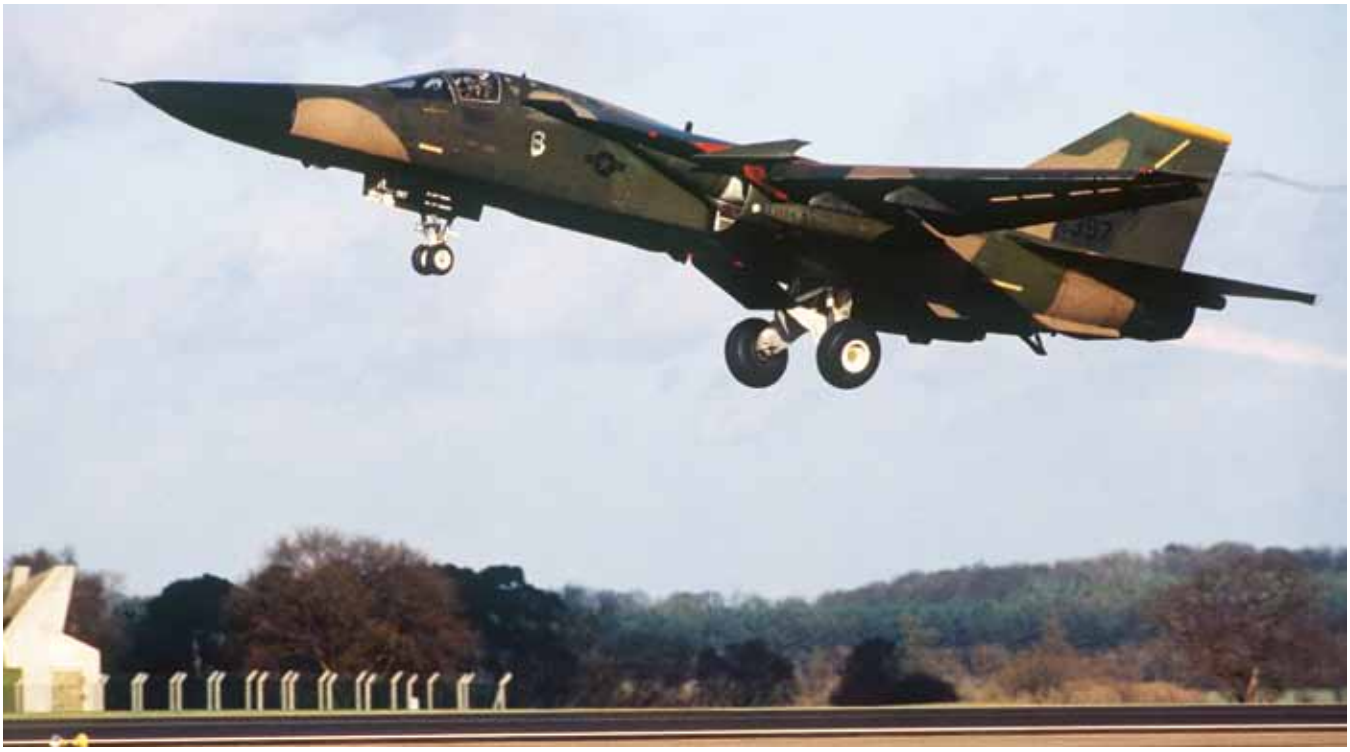
Of course, fighters weren't the only nuclear platforms. By the 1970s, NATO bristled with a vast array of tactical nuclear weapons. Systems included the Nike Hercules air defense missile, Honest John surface-to-surface missile, 155 mm and eight-inch nuclear howitzer shells, anti-submarine warfare weapons, plus nuclear land mines and dual-capable aircraft gravity bombs. It all added up to what NATO strategists called "flexible response."

Yet by the 1970s, new questions emerged about the tactics of nuclear fighters. The sheer number of fighters on Quick Reaction Alert made analysts and diplomats nervous. A 1974 Brookings Institution book advocated terminating Quick Reaction Alert, "which many analysts believe increases the possibility of a nuclear exchange because systems kept on QRA constitute a standing invitation to pre-emption."

The reaction from the Warsaw Pact proved Victor Alert must have been working: Soviet negotiators expressed great interest in limiting nuclear-capable tactical aircraft as arms control talks got under way in the 1970s.

With new Ground Launched Cruise Missiles in development, strategists, too, debated the continuing role for Quick Reaction Alert. Ultimately, NATO would not back away from the flexibility offered by QRA.

"A strong argument can be made that the USAF merits a 'well done' for this mission, particularly if one bases that evaluation on the ambiguous metric of deterred enemy attacks," wrote Lt. Col. Richard L. Hodgkinson in a 1981 article



An F-111 takes off for a mission over West Germany. The F-111s could carry multiple B61 tactical nuclear bombs.

for *Air University Review.* Hodgkinson cited the new questions about Quick Reaction Alert.

The strategic context for NATO was changing.

Tactics, doctrine, and equipment put the emphasis on strengthening conventional forces in the 1980s. High-level talk ran to the possibility of fighting a war without use of nuclear weapons.

In the end, the high-level debate on theater forces in nuclear strategy had little impact on USAF airmen. They were still entrusted with the alert mission. From 1982 onward, the new F-16 picked up additional duties as a nuclear fighter-bomber. F-16 squadrons with a nuclear mission were known as "triple doc" squadrons since they also maintained proficiency in air-to-air and conventional air-to-ground missions. These F-16s sat Victor Alert at bases including Ramstein Air Base in Germany.

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.

The fighter wings also trained for air defense and conventional attack roles. Aircrews preferred the weekend alert missions—so as not to miss regular flying during the week. The rules allowed alert aircrew to move about on base and even dine at the officers club, as long as they could get back to the aircraft and airborne in less than 15 minutes.

The F-16s on Victor Alert exercised the capability in two ways. First was the scramble, under firm rules. Pilots scrambled into the cockpit, powered up the aircraft, and copied down the targeting message sent from headquarters.

The firm rule was never to taxi with the nuclear weapons loaded. Usually a security forces member or vehicle blocked the jet aircraft in its shelter just to be sure. Everything about a Victor Alert scramble was intense, from the security forces with sidearms to the live ammunition on the F-16s. A single mistake could cause the entire fighter wing to be decertified.

As Long as There Are Nukes

After the scramble, there was still a mission profile to fly. Weapons loaders removed the nuclear weapons and security forces returned them to storage. Once the weapons were secured, pilots would return to fly the nuclear mission profile—without the weapons loaded.

One refinement was the tasking of selective response aircraft.

Under the selective response mission, fighters would have retaliatory targets to hit after a Soviet attack. These small, selective nuclear strikes were envisioned in hopes of deterring escalation to all-out nuclear exchange.

As the Cold War entered its last decade, the alert culture was still deeply embedded in the tactical forces providing extended deterrence. Even a minor failure led to the immediate firing of the wing commander.

The mission continued. In 1988, USAF began work on new software to certify the F-15E to carry nuclear weapons. Ultimately, nuclear-capable F-15Es joined the 48th Wing at RAF Lakenheath in England.

Tactical nuclear weapons for premier fighters remain a source of military strength even in the changed and expanded NATO of the 21st century. US Air Forces in Europe pilots no longer sit Victor Alert. However, F-16s and F-15Es do retain the ability to move back to an alert posture and arm up with nuclear weapons if necessary.

In time, the F-35 will take over the role. As Secretary of State Hillary Rodham Clinton said in April last year, "We should recognize that as long as nuclear weapons exist, NATO will remain a nuclear alliance." ■

Rebecca Grant is president of IRIS Independent Research. She has written extensively on airpower and serves as director, Mitchell Institute, for AFA. Her most recent article for Air Force *Magazine, "The Evolution of Airpower Under Gates," appeared in the February issue.*