

The ICBM force is being slimmed down, firmed up, and made ready for a long haul in uncertain times.

The Future Missile Force

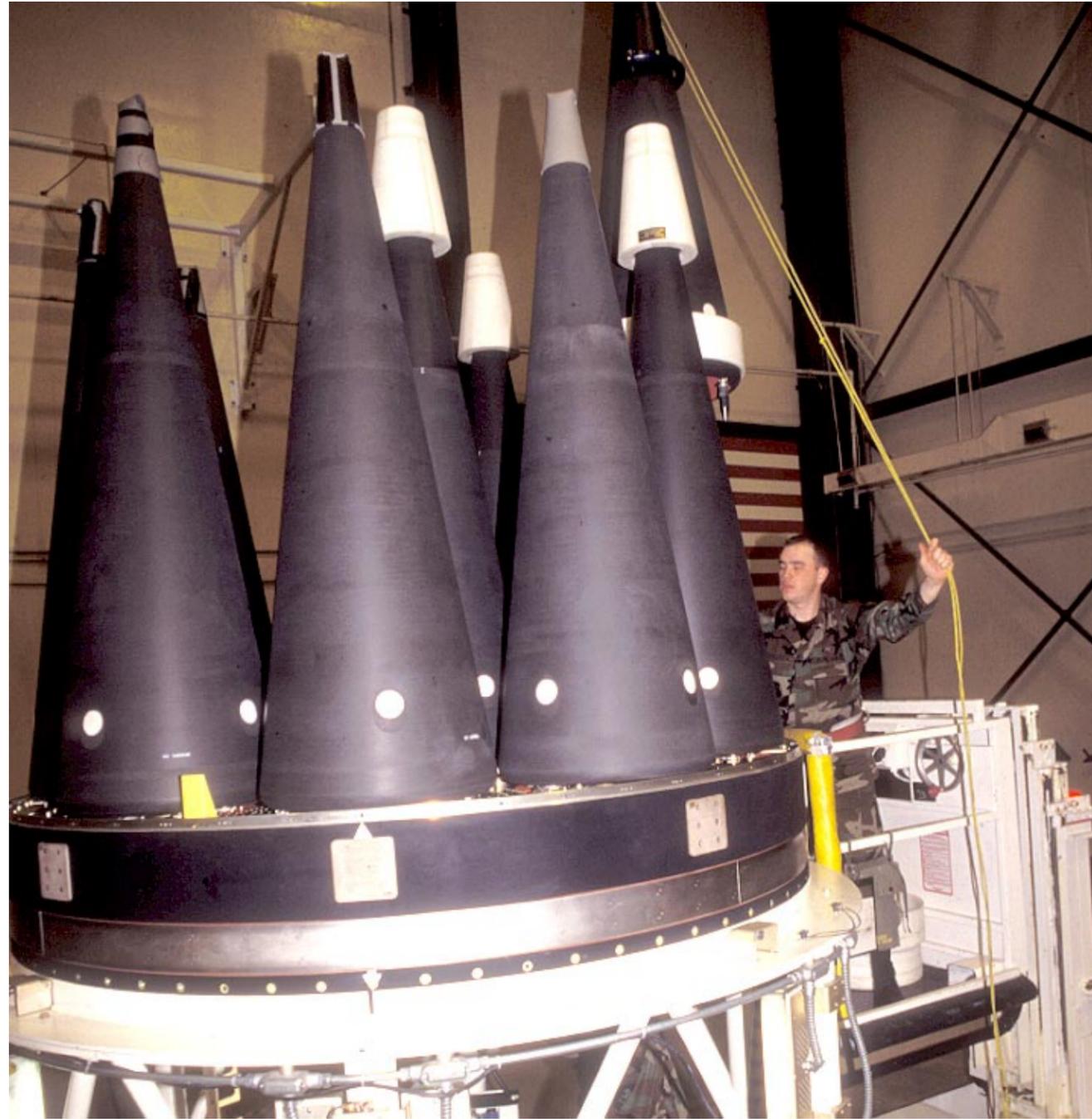
By Adam J. Hebert, Senior Editor

IN OCTOBER 2005, the Air Force will decommission the last of the 50 LGM-118 Peacekeeper missiles that entered service at the height of the Reagan Administration arms build-up. The nation's newest class of ICBM—each fitted with up to 10 independently targetable warheads—was a key bargaining chip as Washington negotiated nuclear weapons reductions with Moscow.

The Peacekeeper retirement will free resources to carry out modernization of 500 remaining ICBMs—the LGM-30 Minuteman IIIs. Some Peacekeeper components actually will be shifted to the Minuteman IIIs, which are in the midst of a top-to-bottom modernization program expected to keep them in service until roughly 2020. USAF expects to field, at that time, a new capability to replace them since, officials say, the strategic value of the nuclear missile has not changed.

In fact, one official said, the ICBM mission may be more important today than ever. Col. Jack Weinstein, the 90th Space Wing's operations group commander, F.E. Warren AFB, Wyo., noted that the missile forces

Staff photo by Guy Aceto



A technician places a Peacekeeper re-entry vehicle into the nosecone of the missile. Plans call for the Air Force to pull the last of its 50 Peacekeepers from service in 2005. Until then, any missiles still in the ground will be fully maintained and on alert.

can quickly “go anywhere,” unencumbered by basing or access concerns. An ICBM can reach a target anywhere in the world within 35 minutes—something a potential enemy must consider when planning hostile acts against the US or its allies.

The land-based segment of the nation's strategic nuclear triad remains as ready as it ever was. Company grade officers still sit in hardened, blast-resistant capsules buried deep underground. Maintenance on the missiles is continuing. The Minuteman IIIs and Peacekeepers remain on alert, posting a 99.5 percent readiness rate.

On the Great Plains

Approximately 1,150 company grade officers serve on missile combat crews, each spending roughly 177 days a year in the underground launch control facilities on the Great Plains. Many of the Air Force's new space operations officers begin their careers there. And, despite the coming reductions in the Peacekeeper force, officials said, the career field remains a promising one. It is one of the few places (other than on the flight line) in which lieutenants and captains can gain operational experience—and have command responsibility.

In some ways, the mission is the same as in the Cold War. Missile crews serve 24-hour shifts underground in their blast-resistant command modules, connected electronically to the National Command Authority.

Capt. Angela Sharber, a missile combat crew commander, noted the responsibility the crews have: Each two-person team is directly responsible for monitoring 10 ICBMs and is interconnected with the other four missile alert crews—also monitoring 10 ICBMs each—in their squadron.

During a four-year initial tour, missileers progress from trainee, to deputy on a missile crew, to missile combat crew commander. In addition to ensuring the capsule is running correctly, Sharber said one of the main responsibilities of an MCCC is to help train a deputy to take over as a commander—which can happen in as little as two years.

If a launch order were to come down, both members in the pri

mary capsule would have to verify the order before turning their keys. The same process must also be followed at another launch control center.

For each alert, the missile officers actually spend about 30 hours on duty, counting their mission briefing and driving up to 300 miles round-trip to and from the alert facility. Traveling to and from the facilities, which are located in sparsely populated areas, frequently takes airmen off the major highways and onto unpaved roads for much of the time. There is so much distance to be covered by the missile teams, including combat, maintenance, and security crews, that team members stopping at the handful of fast-food restaurants along the major roads typically meet up with other in-transit crews.

While ICBM teams “deploy in place,” said Maj. Gen. Frank G. Klotz, commander of 20th Air Force and of US Strategic Command’s Task Force 214, which oversees the nation’s ICBM force, they face many of the same inconveniences—such as irregular, inflexible schedules—that USAF forces deployed overseas face.

The missile force overall has seen its operational tempo rise over the past two years. Col. John Faulkner, commander of the 90th Space Wing maintenance group, called July 2003 “the busiest month in the busiest year in ICBM history.” Peacekeeper

deactivations, Minuteman III modernization and sustainment programs, and increased security demands since the 9/11 terror attacks are all being handled by a workforce that Faulkner said was sized with a lower optempo in mind.

Deactivating Peacekeeper

In October 2002, USAF removed the first Peacekeeper from service. That marked the beginning of a three-year campaign in which USAF will decommission 17 missiles in each of the first two years and the remaining 16 in year three. Deactivation of a missile takes 15 days from the time a prep team arrives at the launch facility

The Air Force essentially is “parting out” Peacekeeper components. Some are being destroyed, some stored for future use, and some made available for commercial space launch vehicles.

According to Adm. James O. Ellis Jr., commander of STRATCOM, the retirement of Peacekeeper does not signify any reduction in the importance of the strategic triad of land-based missiles, submarine-based missiles, and long-range bombers. Ellis told *Air Force Magazine* that each leg of the nuclear triad, including ICBMs, continues to give the United States unique and valuable capabilities.

The ICBM force provides “responsiveness,” said Ellis, while the strategic submarine fleet offers “surviv-

ability,” and the bomber force gives planners “recall and flexibility.” Those are still very essential characteristics,” he added, noting that proposals to change the makeup of the nuclear triad need to be examined “very carefully.”

Ellis said that the plan to keep the Minuteman III in service is robust and fully funded. Under terms of the Administration’s 2002 Nuclear Posture Review, however, the number of deployed ICBM warheads will continue to decline.

The review, completed after President Bush’s November 2001 meetings with Russian President Vladimir Putin, calls for cutting the US nuclear stockpile from nearly 6,000 warheads to 2,200 or fewer deployed warheads by 2012. Bush said in 2001 that the US will retain the minimum number of nuclear weapons “consistent with our national security needs” and obligations to allies.

Plans call for making an interim reduction to about 3,800 warheads by 2007. Much of the initial reductions are coming from force structure decisions taken in the Clinton era.

The Peacekeeper, though newer than the Minuteman, represented a logical starting point for ICBM reductions, officials said. The primary reason: The Peacekeeper, which was capped at just 50 missiles in 1990 as the Cold War wound down, represents only about 10 percent of the total ICBM inventory, but it requires its own infrastructure, supplies, and specialized cadre of operators and maintainers.

Peacekeeper deactivation is “something the Air Force has wanted to do for some time,” said Klotz. “Because of the expectation that this weapon system would eventually go away, [the Air Force] had not planned for sustaining it for a long period of time,” he said.

In fact, USAF has been looking forward to the Peacekeeper deactivation since 1992, when the missiles were just six years old. Though fielded in limited numbers, Peacekeeper provided the threat that pressured the Soviet Union to negotiate away its monster SS-18 ICBM under START II. Since then, the US has wanted to get rid of Peacekeeper.

The Administration has not announced how it intends to handle

USAF photo by SrA. Stephen Schester



Two-person teams of company grade officers spend their 24-hour shifts monitoring ICBMs in hardened capsules roughly 65 feet underground. Each missile combat crew team oversees 10 missiles.

the second round of reductions that will take the nation's nuclear force down to the 2012 level of about 2,200 operationally deployed warheads. Officials do expect to remove additional warheads from the triple-warhead Minuteman III. In 2001, USAF "downloaded" the 150 Minuteman IIIs operated by units at Warren, from three warheads apiece to a single-warhead configuration. The remaining 350 missiles—operated by Malmstrom AFB, Mont., and Minot AFB, N.D.—still have the capability to carry up to three warheads each.

According to Maj. Gen. Robert L. Smolen, USAF's director of nuclear and counterproliferation operations at the Pentagon, not all the Minuteman ICBMs will go down to single-warhead configuration. Current plans call for maintaining a total of 800 warheads among the 500 ICBMs. For instance, 150 missiles could remain capable of deploying three re-entry vehicles each, leaving 350 limited to only one.

Retaining those 500 missiles is "the right number," said Col. Richard M. Patenaude, chief of deterrence and strike requirements for Air Force Space Command.

That view is shared by retired Gen. Larry D. Welch, a former Air Force Chief of Staff and now head of the Institute for Defense Analyses. He has said that as the US draws down the number of warheads it has in the field, it needs to retain enough



Staff photo by Guy Aceo

Nuclear missile alert facilities are scattered across the Great Plains. The facilities, such as this one for the Minuteman III, have a topside home for security and support personnel and a capsule down below.

delivery vehicles to ensure flexibility and survivability. For any given number of deployed warheads, a force of single-warhead ICBMs would exact a high cost from an enemy attempting to eliminate that deterrent.

The exact configuration of those missiles will be determined by STRATCOM. Ellis said warhead configurations "are driven by the target characteristics and are part of the overall concepts for [ICBM] employment." Flexibility and the range of options needed must be addressed. "It's inappropriate to say one size

fits all and one configuration fits all needs," said Ellis.

While the missiles are responsive, they are clearly not as flexible as the Air Force's nuclear bomber force—once ICBMs are launched, there is no calling them back. This fact is directly responsible for the system of multiple checks and safeguards used to prevent any accidental or unauthorized launch. It also resulted in the "default" targets for the missiles being changed from their Cold War targets to a destination over the ocean.

Though the Air Force does not reveal targeting information, Lt. Col. Tim Adam, commander of the 321st Missile Squadron at Warren, said each missile has a preplanned target, determined by STRATCOM, that can be entered before launch. This offers the President an "off-the-shelf war plan" that is "ready to go," Adam said.

What's Next

The Air Force has launched a series of programs to ensure the Minuteman remains reliable and effective until it fields a next-generation, land-based, long-range nuclear system.

Minuteman III's primary upgrades include:

- Propulsion Replacement Program—replaces propellants, EPA-restricted materials, and adds redesigned Stage 3 motors, among other

After Peacekeeper

The Peacekeeper ICBM—the system the Air Force terms the most powerful weapon ever created—"did its job," said Col. Thomas G. Shearer, former commander of the 90th Space Wing at F.E. Warren AFB, Wyo.

Until USAF decommissions the last Peacekeeper, its crews will continue to stand full alert and be available to US Strategic Command. The 604 personnel in the Peacekeeper squadron will remain with the unit until the end. After that, they likely will move to related fields, such as the Minuteman III or space operations.

The launch and missile alert facility infrastructure are considered "national assets" that the Air Force probably will mothball.

Maj. Gen. Frank G. Klotz, commander of 20th Air Force and of STRATCOM's Task Force 214, which oversees the nation's ICBM force, opposes destruction of the Peacekeeper silos, as has happened with other ICBM silos. "It doesn't make sense," he said. "For one thing, it costs money to implode them."

Retaining the Peacekeeper infrastructure also leaves open a wider range of possible future moves. Maj. Gen. Robert L. Smolen, USAF's director of nuclear and counterproliferation operations at the Pentagon, explained that it would not cost much to "keep the infrastructure warm" almost indefinitely. It would cost far less—perhaps \$15 million a year—to maintain the existing infrastructure than it would to build a single new silo if one were needed at a future date, he said.

"It's prudent government policy to not throw these away, since the maintenance costs are so low, until we're convinced there isn't some valid military use that might be served by keeping them," said Smolen.



ICBM maintenance is continuous, so components are replaced before they have a chance to age out. Above, a maintainer checks the fit as two Peacekeeper sections are brought together.

improvements. Completion: Fiscal 2008.

- **Guidance Replacement Program**—improves the maintainability and on-alert reliability of the guidance systems. Completion: Fiscal 2010.

- **Safety Enhanced Re-entry Vehicle Program**—replaces Mk 12 warheads with Peacekeeper's newer, safer Mk 21 warheads. Number to be replaced undecided, but transfers begin in Fiscal 2006. Completion: 2011.

Patenaude said the service is considering, in addition to these upgrades, a "Minuteman Elite" system—a modified Minuteman III offering improved accuracy. Modifying a limited number of existing Minuteman re-entry vehicles could create an "enhanced arsenal," he noted. Minuteman Elite is neither funded nor approved for production, but is envisioned as a possible solution to emerging STRATCOM requirements.

Patenaude maintained that, although Peacekeeper-like accuracy is "very desirable," the most efficient approach to achieving that level of accuracy is to field a next generation system, not by making upgrades to existing missiles.

The Air Force expects that, by 2020, it will be replacing the Minuteman III. Service officials recoil from referring to the next generation as "Minuteman IV," because USAF wants the widest possible range of ideas brought forward. Labeling the new

system Minuteman IV might lead some to prejudge the outcome of an upcoming analysis of alternatives.

Patenaude said the Pentagon has validated the need for a next generation land-based strategic deterrent, and, this fall, the Air Force plans to send out formal requests for information from industry. The service wants to retain the best features of the existing systems while seeing major improvements.

Among the anticipated improvements are a new command and control approach and smaller manpower footprint, to enhance logistics and security.

Currently the service has 55 dispersed missile alert facilities that provide command and control for 535 ICBMs. Advances in technology and a desire to reduce manpower could force a shift to a smaller number of control centers. The correct number of MAFs is perhaps less than 50, the number dedicated to the Minuteman III fleet, Patenaude said.

The service also wants to field a system that would require fewer maintenance personnel. And, like other elements within the Air Force, the ICBM force has been hit hard by the need for increased security since the 9/11 terror attacks. At F.E. Warren, a major ICBM base, 208 people deploy daily to locations up to 150 miles away to support ICBM operations. Many of those personnel, especially support personnel at the MAFs and security forces securing launch silos, deploy for several days at a time.

The Air Force's Cold War system, while still effective, is not necessarily best for the future security environment, said Patenaude.

A Conventional ICBM?

Also attracting attention is the concept of a non-nuclear ICBM, which could enhance STRATCOM's global strike mission. Such a weapon would offer the ability to destroy a target anywhere in the world, within 30 to 35 minutes, with no forward basing requirements.

However, Klotz said, there are numerous questions to be answered before developing such a weapon. He defined the bottom line this way: "For the number of dollars expended, do you achieve [enough] additional interesting capabilities and effects?"

The issue is a complex one, for several reasons.

There are numerous other ways to strike targets, many of which are more accurate than an intercontinental ballistic missile, said Ellis. ICBMs offer "very rapid response, long-range capability, [but] they don't have as much precision associated with them as our current, tactically delivered precision guided munitions," he said. The utility of a conventional ICBM must be weighed against the capabilities and costs of a broad range of other options, Ellis added. Finally, intercontinental boosters are expensive, and there are overflight issues to consider when weighing a conventional ICBM against other strike options.

Moreover, a conventional ICBM launch could easily be mistaken for a nuclear attack. According to Wade Boese, research director for the Arms Control Association, the US would have to come up with measures to reassure Russia that it was not in the crosshairs. Russia would need to know that a conventional ICBM launch is not nuclear—and not aimed at it. Otherwise, Russia might counterattack with nuclear weapons.

Smolen said that the ability to strike quickly, anywhere in the world, without having to worry about moving forces into position is intriguing, but the Pentagon has "a long way to go" before making a final determination on a conventional ICBM.

Despite reservations, though, Ellis believes that it is a concept "certainly worth exploring." ■