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Military's RRW Alternative Is Warhead Life Extension

By Elaine M. Grossman
Global Security Newswire

WASHINGTON — Convinced the time has come for an alternative to building a controversial new nuclear warhead, a key U.S. military command is laying the groundwork for Plan B: Dramatically extending the existing stockpile's service life, *Global Security Newswire* has learned (see *GSN*, Aug. 5).

Yet this approach might also prove contentious once the details are sorted out, critics are already asserting.

Officials at U.S. Strategic Command, which is responsible for nuclear combat operations, say they now want to expand "life-extension programs" under way for aging weapons in the arsenal. Under ongoing efforts, the Energy Department's National Nuclear Security Administration is infusing another 20 to 30 years into warheads already three to four decades old by refurbishing and replacing aging components.

Strategic Command chief Gen. Kevin Chilton had previously been among the most vocal advocates of the Reliable Replacement Warhead, and his aides said this week he continues to support it. Under the program, the Bush administration proposes to build a new series of new weapons aimed at offering increased safety against accidents, security against potential misuse, operational reliability, and maintainability to decrease annual costs.

Chilton has argued, as recently as this past spring, that design studies for the new warhead should be fully funded as a hedge against a potential discovery that the aging arsenal would not function as expected. Ongoing life-extension efforts might be insufficient to guarantee that the warheads would work, in the absence of explosive testing, in the future, according to past statements.

"We need to get on with this," Chilton said in February (see *GSN*, March 6).

However, political realities are setting in.

His command's about-face comes on the heels of congressional action to eliminate the Bush administration's requested RRW funds for the second year in a row (see *GSN*, July 10). Congress has demanded that the administration spell out how such a new weapon would figure into a comprehensive nuclear deterrence strategy before lawmakers would consider funding the program.

Detractors have argued that a new warhead would send the wrong message at a time when

the United States has led international efforts against known or suspected nuclear weapons programs in countries such as North Korea and Iran.

'You Do The Best You Can'

Under Strategic Command's new approach, some of the advanced technologies previously imagined for the Reliable Replacement Warhead might now be retrofitted into existing weapons as they undergo maintenance. The intent would be to meet as many RRW objectives as possible — principally increased safety and security — without a wholesale replacement of the warhead.

The fiscal 2010 budget request, which the Bush administration could hand off to the president-elect before the end of the year, is likely to include "an effort which just says, 'Let's look at [doing] as much as we can technologically, without actually doing 'RRW work,' which Congress didn't want to approve," a senior Strategic Command official said during an Aug. 21 interview.

Current LEP efforts are aimed at extending the service lives of the Air Force's B-61 bomb warhead and the W-76 warhead used on the Navy Trident D-5 missile. These initiatives focus on overhauling or replacing corroded metal parts and other aging weapons components.

The Energy Department's semiautonomous nuclear weapons arm in June 2006 delivered its first refurbished B-61 bomb to the stockpile. The agency expects to complete work on all the B-61 Mod 7 and Mod 11 versions undergoing this limited life-extension effort before the end of fiscal 2009, according to NNSA spokesman John Broehm.

Following deployed-warhead reductions in 2012, the United States would have roughly 420 B-61 Mod 7s and 35 B-61 Mod 11s, according to data compiled last year by Robert Norris of the Natural Resources Defense Council and Hans Kristensen of the Federation of American Scientists. An estimated 2,000 W-76 warheads would undergo life extension, Kristensen also reported last year.

Agency officials plan to complete the first limited overhaul of a W-76 warhead by January. That program is to wrap up in 2022, when the entire W-76 stockpile has been refurbished.

Strategic Command officials now hope to add RRW-like improvements to the menu of future LEP changes to these warheads.

"You do the best you can with the weapon systems that you've already got fielded," said the command official. "And so you try to go back and retrofit those instead of building a fresher weapon."

The official, who requested anonymity because of sensitivities surrounding the discussion of U.S. nuclear weapons policy, offered an analogy drawn from everyday life.

"It would be like adding a stereo to your car," he said. "OK, I can't buy a new car so I'll go buy me a stereo and put it in my car."

Similarly, "in many cases, now you can go update the avionics or the electronics that are in the weapons," the official said. "We had thought we were going to do this in an RRW program. So if we won't do it in that, then we'll do as much as possible [on] the LEP side of the house."

As it stands, the existing LEP effort involves some amount of modernizing old parts, the official explained. Under the revised approach, "when I do this enhancement or depot

modification and maintenance, I'd [also] like to enhance security and reliability," the official said.

However, the NNSA spokesman said his organization is already doing everything possible to update nuclear warheads that undergo life extension, short of building a new weapon.

"With every LEP that we do, we are always enhancing the safety and security of the weapons," Broehm told *GSM* this week. "We just won't be able to do it [in life extension] on the scale that we were hoping to with an RRW."

Under the emerging Strategic Command concept, the lines typically drawn between congressionally mandated life extension for existing warheads and a congressionally prohibited warhead-replacement program might become more blurry, nuclear arms expert Jeffrey Lewis said last week.

As the LEP effort evolves into something more ambitious, it might trigger alarms as to whether the refurbishments entail so much change as to effectively create the very sort of "new" nuclear weapon Congress has sought to block.

Reliable Replacement Warhead advocates in the administration "keep pushing that envelope just a little bit more," said Lewis, who directs the Nuclear Strategy and Nonproliferation Initiative at the New America Foundation. "And they're going to keep getting their hands slapped."

Putting More Warheads Into Life Extension

Strategic Command officials are also seeking life-extension programs for additional warheads in the arsenal, ones that would have simply been replaced by the Reliable Replacement Warhead if it had it gone forward.

The prior "strategy was to not do LEP [for some warheads] because we were assuming we would do RRW instead," the command official said. "So, absent RRW, then we'll continue to do maintenance on the existing weapon stockpile."

The official would not specify which additional warheads would immediately follow the B-61 and W-76 in life extension, saying those judgments would be left to NNSA scientists and policy officials.

However, in the Air Force, next up would likely be the Minuteman 3 ICBM's W-78 warhead, a senior service official said in an interview Wednesday. Significant life-extension design work for the W-78, though, would not begin until around 2020, the official said.

"All of them will eventually be done," the Strategic Command official said last month, referring to the entire nuclear arsenal.

Under the 2002 Moscow Treaty, the United States is moving to a deployed stockpile of no more than 2,200 warheads by December 2012. Schedules and cost estimates for the overhaul concept are in the works, officials said.

Even without the new warhead on the drawing boards, "the intent is going to be the same," explained the senior official. "It's just not going to be accomplished to the same degree that it would have been with RRW, if I go down a pure LEP path."

The NNSA spokesman said his agency still has not given up on the idea that the Reliable Replacement Warhead remains necessary and should go forward during a new U.S. administration.

"I would still argue for RRW," Broehm said. "It would allow us to make the enhancements to a much greater degree."

'Little Chemistry Experiments'

Chilton has depicted the nuclear arsenal as nearing the edge of a precipice, in which U.S. officials could discover that one or more types of aging warheads have ceased to function as expected.

Nuclear warheads "sitting on the shelf" are "actually little chemistry experiments that are cooking away," the general told a Capitol Hill breakfast audience in July. With the gradual degradation, "I sense there's a cliff out there someplace, and I don't know how close I am to the edge of that cliff," he said (see *GSN*, July 22).

Others have voiced more confidence in the ability of an LEP effort to forestall indefinitely any serious nuclear weapons degradation.

"I don't agree with the generally stated assumption that confidence and the reliability of our existing nuclear weapons will inevitably decline with time as the weapons age," physicist and former weapons designer Richard Garwin said in March 2007 congressional testimony.

He said the science-based Stockpile Stewardship Program — an NNSA initiative that encompasses the life-extension program — has resulted in greater confidence in the viability of weapons cores, or "pits," over time.

So, too, "with the passage of time and the improvement in computing tools, I believe that confidence in the reliability of the existing legacy weapons will increase rather than diminish," Garwin told lawmakers last year.

Chilton's command now envisions a life-extension effort for the entire arsenal simply "because they didn't get to do Plan A," said nuclear arms analyst Lewis, referring to the RRW program. From the start, though, life extension "probably ought to have been Plan A," he said.

Strategic Command is expected to convey to the Energy Department's nuclear weapons branch in the coming weeks its ideas for expanded life extension, according to the official interviewed last month.

For its part, at least one of the national laboratories involved in both the RRW and LEP efforts has said it would remain agnostic.

"We will pursue the course of action decided by the administration, Congress and the DOD," the Los Alamos National Laboratory is cited as saying in a Congressional Research Service report issued last year. "If they wish to pursue LEPs, then we're fully committed to that path and will provide our best advice and service."

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