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7 November 1989  
Version 3

REPORT ON PLANS FOR MODERNIZING A SUBSTANTIALLY REDUCED  
BINARY STOCKPILE

I. (U) Purpose.

~~(S)~~ In National Security Directive 24 (NSD 24), President Bush asked for a report on plans for modernizing the binary chemical weapons stockpile at significantly reduced levels. Additionally, the President directed that this report address ways to substantially increase the percentage of the stockpile devoted to filled munitions and ensure that air-delivered weapons are included.

II. (U) Background.

~~(S)~~ The U.S. maintains a chemical retaliatory capability to deter the use of chemical weapons against U.S. or allied forces. Should deterrence fail, the US reserves the right to respond in kind to an enemy's use of chemical weapons. The published retaliatory guidance for U.S. chemical weapons use is to respond as soon as possible, impose equal or greater operational restrictions on enemy forces, and be of sufficient scope to halt chemical warfare as quickly as possible. Until publication of NSD 24, the objective had been to stockpile sufficient U.S. forces-only chemical weapons for 30-days of global conflict.

~~(S)~~ The United States has committed itself to very substantial reductions in its chemical weapons stockpile. The objective is to reduce to a 500 agent ton level within eight years after entry into force of a multilateral chemical weapons convention provided the Soviet Union is one of the parties. In the interim, the United States will reduce its CW stockpile to 20% (e.g. 5,000 agent tons) provided the Soviet Union agrees to reduce its CW stockpile to the same level. Our ultimate goal is to eliminate chemical weapons.

III. (U) Stockpile Requirements.

~~(S)~~ A residual stockpile of binary chemical weapons at reduced levels should provide for the following:

- (U) An effective retaliatory capability
- (U) Technical expertise and an industrial base

~~(S)~~ An effective retaliatory capability provides sufficient weapons and agents to deter enemy use. The stockpile should, provide a mixture of weapons and agents to offset any advantages

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an enemy could accrue and provide U.S. commanders with a flexible capability to respond. Our weapons and agents should complicate his CW defensive regimes. Air-delivered weapons are deemed essential for global deterrence, especially in regions without continuous U.S. presence. Studies and analysis support three systems to optimize operational capability: cannon artillery, medium range rockets, and air-delivered weapons.

(U) In addition to weapons, an effective retaliatory capability includes the operational aspects to use the weapons. The critical aspects include employment procedures, weaponizing data, delivery systems, qualified and certified personnel, command and control systems, and training regimes which exercise CW retaliatory operations. A sufficient logistical system must be available to store, maintain, transport, and secure CW weapons during both peacetime and crisis. The CW retaliatory capability should include a viable doctrinal base with procedures and techniques integrated into current military art. Training and combat development regimes are required to keep pace with changing requirements.

(U) An on-going weapons program ensures a technical and industrial base consisting of research, development, and testing capabilities with laboratories, test/proving grounds, and the technical expertise needed to provide both retaliatory and defensive products. Production facilities are required which provide the industrial aspect. The production of weapons requires a wholesale logistics apparatus to store, maintain, and transport.

IV. (U) Current Binary Program.

(b)(1) ~~(S)~~ The Joint Chiefs of Staff established a requirement for binary chemical weapons in October 1985. Based on a global war scenario, the required 30-day, US-only chemical weapons stockpile was quantified as [redacted] agent tons (Appendix A). This stockpile level was derived from analysis of CW operations in European, Korean, and Southwest Asia scenarios and supported by unified command requirements.

(b)(1) ~~(S)~~ The programmed binary production schedule delivers [redacted] agent tons by the year 2000 and [redacted] tons by 2005 (b)(1)  
(Appendix B). By 2000, the delivery schedule provides for [redacted] 155mm artillery projectiles, [redacted] binary chemical (b)(1)  
(b)(1) warheads for the multiple-launched rocket system, and [redacted] (b)(1)  
binary chemical bombs.

(U) Only one system is currently in production--the 155mm artillery projectile. This system is a non-persistent nerve agent weapon designed for short range, tactical retaliation. Production facilities for this system are fully operational.

(U) The Multiple Launched Rocket System is a combination non-persistent and semi-persistent agent weapon designed for medium range, tactical retaliation. The warhead is currently in full-scale engineering development with a scheduled production decision in 1992, production contract in 1992, and delivery in 1994. At this time, it is deemed impractical to accelerate this program. Critical developmental testing is to be conducted in 1990 and 1991. Production facilities at Pine Bluff Arsenal, Arkansas, are under construction and scheduled for completion in 1991.

~~(S)~~ The Binary Chemical Bomb (BIGEYE) is the one of the most desired retaliatory systems. The bomb has a persistent nerve agent fill, provides a deep strike capability and is compatible with fielded and planned aircraft. Based on its employment flexibility and lethality, the BIGEYE is considered by unified commanders as the key binary system in global CW deterrence. Currently, the BIGEYE program has congressional opposition. DoD has recommended on two occasions to move the program from operational testing into low-rate initial production. In both instances, Congress denied funding and mandated additional testing. Operational testing (OT-IIC) is planned May-November 1990. Production contracting is planned for June 1991 with initial deliveries in 1992.

V. (U) Additional Considerations.

(U) Binary weapons data:

Cost per round (approximate):

155mm artillery projectile	\$852/round
Binary chemical warhead for the Multiple Launched Rocket System	\$21,000/rocket
Binary chemical bomb (BIGEYE)	\$65,000/bomb

Future program costs of three weapons:

Fiscal Year (\$'s in Millions)

	FY 90	FY 91	FY 92	FY 93	FY 94-FY 00
155MM	47.0	71.4	35.0	--	--
MLRS	31.4*	6.4*	36.8	107.6	883.
BIGEYE	6.9*	67.6	71.7	71.0	1,350.
Total Future Cost:					\$2,741.

\* = RDT&E funds (All others are procurement funds)

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### Delivery systems:

155MM Howitzer is widely available in U.S. and allied forces to include NATO and South Korea

MLRS is currently a US-only system with plans for NATO and South Korean production of US specification launchers and rockets

BIGEYE bomb is compatible with F-16, F-111, A-8, and most other state-of-the-art air to ground capable fighter aircraft.

### Accelerated Production of the BIGEYE Bomb

~~(S)~~ To meet the President's goal of fielding air-delivered munitions, BIGEYE production should be accelerated. Low-rate initial production (LRIP) could commence in lieu of test weapons production. The Administration could request congressional approval to enter LRIP, convert the OT-IIC to a normal Follow-on Test and Evaluation, and full scale production after successful testing. Sufficient binary precursors are available to fill 800 weapons. Chemical production facilities at Pine Bluff Arsenal, Arkansas, will be on-line by December 1990 to support full rate production.

### Alternative Air-Delivered Systems

~~(S)~~ NSD 24 directed that air-delivered weapons be included in the planned binary program. Currently no alternative system is in development for near term fielding. The Air Force and Navy had programs that were potential candidates for a CW delivery system, but these were halted due to budgetary considerations in FY 89. The Joint Staff has a draft requirements document for a Standoff Chemical Weapon System. Such a weapon would require seven to ten years of RDT&E before production. The only system that can provide this capability is the BIGEYE.

### Augmentation with Unitary Munitions

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~~(S)~~ While not a desirable option, the binary weapons stockpile could be augmented with unitary munitions designated for retention until adequate binary weapons are available. Currently, approximately [redacted] agent tons of unitary weapons are considered useful. Air-delivered unitary weapons are approaching obsolescence due to airframe incompatibility. Retention of unitary munitions will impact on the chemical destruction program schedule.

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VI. (U) Production Schemes for Reducing the Stockpile.

~~(S)~~ The following schemes are available for fielding a reduced binary stockpile:

- ~~(S)~~ Production of all three planned binary systems.
- ~~(S)~~ Production of two systems.
- ~~(S)~~ Production of a single system.

VII. (U) Discussion of Production Schemes.

Three System Scheme

~~(S)~~ The current program provides all three systems to an aggregate of approximately 6,600 agent tons by 2000. While the resultant stockpile would be slightly larger than that proposed by NSD-24 (e.g. 6,600 versus 5,000 agent tons), it is still significantly reduced from the current JCS desired deterrent stockpile size of 8,238 agent tons (a decrement of 20%). This option still allows for reviews and corrections in the overall program during each budget submission, yet allows for continued fielding of all three binary systems which in turn reduces military risk should all aspects of proposed CW agreements not come to fruition. The combination of all three weapon systems in the deterrent stockpile provides the most effective retaliatory capability. A proportional subsequent reduction to a stockpile level of 500 agent tons would result in a mix of approximately 38,000 155MM projectiles, 2,400 MLRS binary chemical warhead rockets, and 2,500 bombs.

Two System Scheme

~~(S)~~ A two system combination, while reducing overall tactical flexibility, could still provide sufficient versatility to meet the President's guidance of enhancing the percentage of filled munitions and providing air-delivered weapons. By continuing the planned production of 155MM and accelerating the bomb program, the resulting stockpile by the year 2000 would be 6,338 agent tons (a decrement of 23% from current objectives). Such a stockpile mix would also necessitate completion of the MLRS warhead through development of a technical data package and equipping of a production facility. Thus production could be initiated rapidly if required. A subsequent proportional reduction to 500 agent tons would result in a stockpile mix of approximately 49,000 155MM projectiles and 3,200 bombs.

One System Scheme

~~(S)~~ At the 5,000 agent ton stockpile level, a single system stockpile is military ineffective and should not be considered

as an deterrence option. The 155MM munition currently in production would not provide sufficient deterrent capability on a global scale, although the 155mm binary round serves as an effective tactical system. At the 500 agent ton level, the bomb provides a commander with the most flexibility in employment, and would be the most likely weapon of choice. Adoption of a single weapon system strategy upon reduction to 500 agent tons would necessitate destruction of some binary stocks.

VIII. (U) Options for Fielding a Reduced Stockpile.

Option 1

6,600 Agent Ton Stockpile Objective

~~(S)~~ Field a 6,600 agent ton stockpile as planned in the current binary modernization program. The composition is:

155MM  
MLRS  
BIGEYE

(b)(1)

~~(S)~~ Reduce this to 500 agent tons at the same percentage levels to provide a three system stockpile.

155MM  
MLRS  
BIGEYE

(b)(1)

Option 2

5,000 Agent Ton Stockpile Objective

~~(S)~~ Field the funded portion of the binary modernization program as follows:

155MM  
MLRS  
BIGEYE

(b)(1)

~~(S)~~ Reduce this to 500 agent tons at the same percentage levels to provide a three system stockpile.

155MM  
MLRS  
BIGEYE

(b)(1)

Option 3

6,600 Agent Ton Stockpile Objective

~~(S)~~ Field a two system scheme which includes the programmed 155MM and the BIGEYE bomb. The composition is:

155MM (b)(1)  
BIGEYE\*

~~(S)~~ Reduce this to 500 agent tons at the same percentage levels:

155MM (b)(1)  
BIGEYE

\* Accelerate production of the BIGEYE into Low Rate Initial Production by November 1990 and change the operational test to a follow-on test and evaluation. Procure 299 agent tons of bombs not later than October 1992.

~~(S)~~ The MLRS system should complete RDT&E and facilities completed at Pine Bluff Arsenal.

Option 4

6,600 Agent Ton Stockpile Objective

~~(S)~~ Field a two system scheme which includes the funded portion of the 155MM program and the BIGEYE bomb. The composition is:

155MM (b)(1)  
BIGEYE\*

~~(S)~~ Reduce this to 500 agent tons at the same percentage levels:

155MM (b)(1)  
BIGEYE

~~(S)~~ Accelerate production of the BIGEYE into Low Rate Initial Production by November 1990 and change the operational test to a follow-on test and evaluation. Procure [redacted] agent tons (b)(1) of bombs not later than October 1992.

~~(S)~~ The MLRS system should complete RDT&E and facilities completed at Pine Bluff Arsenal.

Option 5

5,000 Agent Ton Stockpile Objective

~~(S)~~ Field a two system scheme which does request procurement funding for the 155MM program after FY 90 and completes prior year obligations. The BIGEYE bomb is included in this option. The composition is:

155MM  
BIGEYE\* (b)(1)

~~(S)~~ Reduce this to 500 agent tons at the same percentage levels:

155MM  
BIGEYE (b)(1)

~~(S)~~ Accelerate production of the BIGEYE into Low Rate Initial Production by November 1990 and change the operational test to a follow-on test and evaluation. Procure 384 agent tons of bombs not later than October 1992.

~~(S)~~ The MLRS system should complete RDT&E and facilities completed at Pine Bluff Arsenal.

Option 6

Less than 5,000 Agent Ton Stockpile Objective

~~(S)~~ Field a two system scheme which does not request procurement funding for the 155MM program after FY 90 and completes prior year obligations. The BIGEYE bomb is included in this option. The composition is:

155MM  
BIGEYE\* (b)(1)

~~(S)~~ Reduce this to 500 agent tons by demilitarizing 155MM binary munitions only:

155MM  
BIGEYE (b)(1)



~~(S)~~ Accelerate production of the BIGEYE into Low Rate Initial Production by November 1990 and change the operational test to a follow-on test and evaluation. Procure [REDACTED] agent tons (b)(1) of bombs not later than October 1992.

~~(S)~~ The MLRS system should complete RDT&E and facilities completed at Pine Bluff Arsenal.

IX. (U) Conclusions.

~~(S)~~ A three system binary stockpile is the most desirable from the operational aspects.

~~(S)~~ A two system binary stockpile with bombs meets the President's directive.

~~(S)~~ Alternatives of less than 5,000 agent ton stockpiles are possible with augmentation with current unitary weapons. While meeting the requirement, retention of unitary munitions is not a desirable option due to weapon system aging and incompatibility and the resulting changes to the destruction schedule.

~~(S)~~ Due to congressional opposition, the critical issue is can we procure an air-delivered weapon system--the key component of a CW deterrent stockpile?