

BOMBER OPTIONS FOR REPLACING B-52S

ISSUE BRIEF NUMBER IB81107

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DATE ORIGINATED 06/17/81  
DATE UPDATED 05/03/82

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0528

ISSUE DEFINITION

To deter a nuclear attack against this country and its allies, the United States maintains a strategic force of land-based missiles (ICBMs), submarine-based missiles (SLBMs), and bombers. The bomber leg of this "triad" primarily consists of about 343 B-52 bombers operated by the Strategic Air Command (SAC). Many believe that by 1990, the B-52's vulnerability to improving Soviet air defenses will imperil its effectiveness as a penetrating bomber. There is strong sentiment in Congress and in the Department of Defense to replace the B-52s before that time.

The FY81 Defense Authorization Act (P.L. 96-342) directed the Secretary of Defense to develop a "multi-role bomber" for initial deployment by 1987. Candidate aircraft were to include the B-1, a derivative of the B-1, the FB-111B/C, and an advanced technology aircraft, which would incorporate "Stealth." Months before the choice of aircraft was announced, the new Reagan Administration added \$2.4 billion to the FY82 defense budget, to initiate a bomber procurement and research and development program called Long Range Combat Aircraft (LRCA).

In a long-awaited announcement on Oct. 2, 1981, President Reagan designated a modified B-1 -- also known as the B-1B -- as the aircraft to be built for LRCA. This decision reverses the policy of the Carter Administration, which was to forego the B-1, initially in favor of Air-Launched Cruise Missiles (ALCM), and then, during the 1980 campaign, in favor of a "Stealth" bomber in the future.

The Congress had a specific role in approving or disapproving President Reagan's decision: the bill that authorized funding for LRCA (S. 815, the FY82 Defense Authorization bill) provided that money could not be obligated for the B-1 until Nov. 18, 1981. If both Houses had agreed to resolutions of disapproval before that date, LRCA funding would have been blocked.

Opposition to the B-1 centers around support for an Advanced Technology Bomber (ATB) incorporating "Stealth" technologies more completely than the modified B-1, and offering greater potential as a penetrating bomber over the long term. However, the Reagan decision includes continued development of an ATB "for the 1990s," leaving as primary issues the questions of affordability and the need for both elements of the "two-bomber" program. Even though the funding questions for 1982 specifically have been resolved, these issues will continue to underlie future debate over B-1 costs and its priority in successive defense budgets.

## EXPLANATION OF TERMS

The following distinctions in terminology used in this issue brief may be helpful:

Multi-Role Bomber (MRB) -- This term was used in P.L. 96-342. The Act authorized \$300 million for development of a multi-role bomber, and the resulting Air Force R&D program in FY81 bore the same title. That identification does not appear in the FY82 budget, however, having been replaced by LRCA.

Long-Range Combat Aircraft (LRCA) -- Conceptually, MRB and LRCA envision an aircraft to perform the same range of conventional and strategic missions. The Air Force prefers the latter term, and the Reagan Administration's FY82 budget request includes both procurement and R&D for the next bomber under this term. Rockwell International has used the term synonymously with their B-1, even before their candidate had definitely been chosen for the LRCA program.

B-1 -- Rockwell International's LRCA variant of the B-1 has basically the same design as the earlier aircraft whose production was halted in 1977. B-1 herein refers to an aircraft of that basic design in any configuration being considered today, recognizing that important questions may remain over what configuration to choose. While the House Armed Services Committee has recommended a design with minimal changes, any B-1 derivative that meets the criterion for timely deployment is authorized as a B-1, according to the House version of S. 815, the DOD Authorization bill.

Stealth -- Highly classified defense research projects have led to a technological advance formally announced on Aug. 22, 1980, called Stealth. Advances reportedly have application to aircraft design, materials and electronics, with the objective of drastically reducing the detectability of future aircraft, manned and unmanned. Accordingly, a "Stealth bomber" is a future bomber of unspecified design, but presumed to incorporate those advances collectively known as Stealth. Some Stealth-related innovations may be used in other aircraft before an all-new Stealth fighter or bomber is finally produced.

Advanced Technology Bomber (ATB) -- The Air Force uses this term to refer to an aircraft incorporating technological innovations that are not mature enough to be exploited in current production. So-called "Stealth" technologies would presumably constitute a large proportion of such innovations. Accordingly, "Stealth aircraft" and "ATB" are used interchangeably. An advanced technology bomber was one of the Multi-Role Bomber candidates specified by P.L. 96-342; yet the provision for an IOC by 1987 was widely perceived as effectively excluding an ATB as a serious candidate for MRB or, likewise, LRCA. Accordingly, ATB presently refers to a longer-term R&D program.

BACKGROUND AND POLICY ANALYSIS

## BOMBER ROLES

SAC now operates 343 B-52 long range strategic bombers, (along with 66 medium-range FB-111A bombers). Of that number, 168 "G" models and 96 "H" models are used in the alert force for strategic retaliation. Models G and H are the most modern B-52s produced, having entered service between 1958 and 1962. Another 79 "D" models are considered available primarily for non-strategic missions; D models are somewhat older.

Penetration Role

The United States nuclear deterrent force began with intercontinental range bombers, and they have remained a prime delivery system. Today, alongside the other "legs" of the U.S. strategic triad (ICBMs and SLBMs), bombers are allocated a share of nuclear weapons that accounts for about half the destructive power (in megatonnage) of the total U.S. inventory.

Although some question the continued viability of manned aircraft in high-threat environments of the future, others believe that penetrating bombers will continue to offer unique attributes of value for strategic deterrence:

- (1) Bombers may be withheld from an initial nuclear exchange without added risk to their survival, permitting their selective use to influence enemy and allied actions in the post-strike environment.
- (2) Bombers can be recalled after dispatch, contributing to strategic flexibility and crisis stability.
- (3) Bombers can engage mobile targets and destroy them even if hardened.
- (4) Several other claims made for bombers seem valid only under certain conditions:
  - Crews can conduct reliable and immediate damage assessment (doubtful with nuclear weapons).
  - Bombers can attack a series of targets or engage targets of opportunity (doubtful in heavily defended areas).

These attributes alone may not justify the requirement for bombers, but the capability of U.S. bombers to penetrate Soviet defenses remains a strategic requirement in current U.S. defense policy.

### Cruise Missile Role

Beginning in 1982, B-52s will assume a second, less demanding, strategic role as cruise missile launchers. All G models gradually will be withdrawn as "penetrating bombers" so that they will constitute strictly a stand-off force by 1990. Currently, G models entering scheduled overhaul are being equipped with internal and external carriage assemblies and new offensive avionics systems to command the 12 or 20 ALCMs that will be carried on each aircraft. H models are being equipped with the same offensive avionics systems, but the necessary structural changes for carrying ALCMs await a future decision over whether or when to withdraw H models from service as penetrators.

Current plans call for deploying about 3000 ALCMs by 1990. If the B-52s carry nothing but ALCMs (at the maximum of 20 each), about 150 aircraft would suffice. By choosing to use the entire inventory of G models and perhaps H models, however, the Air Force can achieve the ALCM force objective while permitting ALCMs to be loaded in combination with bombs and Short-Range Attack Missiles (SRAM). On that basis, the Air Force will be able to use converted B-52s in a "shoot and penetrate" role during the 1980's transition period to an "all stand-off" role.

### General-Purpose Role

A third role for B-52s is conventional bombing, most recently exemplified in operations during the Vietnam war. SAC's 79 D model B-52s are outfitted for a maximum payload of non-nuclear gravity bombs (108, compared with 27 for other models), and are considered available primarily for general-purpose use, such as "counter-intervention" to defend U.S. interests against armed aggression in Southwest Asia or Europe, for example.

Other possible missions for bombers add to the B-52s' general-purpose rationale. They may be used in support of naval operations; mine-laying has been an accepted mission for B-52s in the past, as in the closing of Haiphong Harbor. Bomber advocates note several additional maritime roles that B-52s or their successors should be able to perform in conventional warfare, e.g., attacking hostile surface ships and contributing to U.S. fleet air defense against Backfire bombers.

### Need for Bombers in Non-Strategic Roles

The need for bombers in conventional wartime roles follows from certain assumptions about U.S. and Soviet strategies and force structures to be used in meeting possible contingencies. In the case of a NATO contingency, tactical air forces constitute the primary strike force for blunting a Warsaw Pact advance, and U.S. forward-based systems such as F-111s pose the threat of deeper interdiction and tactical nuclear strikes as an added deterrent to Soviet aggression. The contribution of conventionally-armed bombers within NATO's "flexible response" doctrine may be open to question. If justification for bombers in this role is in terms of "supplementing" the tactical strike force, Congress might ask why supplements are needed, and how responsibility for carrying out those missions is being shared, if both SAC and other commands are involved.

The scenario most mentioned to substantiate the need for a conventional

bomber force is further Soviet intervention in Southwest Asia. If vital U.S. interests in the Persian Gulf region were threatened, it is argued, long-range strike forces would be needed to slow the advance of Soviet or proxy forces until U.S. ground forces could be brought to bear in sufficient number. Bomber advocates note that the border area between the USSR and Iran, for example, would be beyond the range of carrier-based interdiction aircraft unless carriers exposed themselves dangerously by entering the Persian Gulf. B-52s and follow-on bombers would offer the desired combination of range and payload for attacking distant and extended targets, according to this view.

#### Strategic Projection Force

The FY82 budget request for the Strategic Projection Force (SPF) responds to the Persian Gulf scenario, among others. This program would upgrade long-distance interdiction bombing capability as a complement to Rapid Deployment Forces (RDF). The SPF program would take 35 H model B-52s and configure them for improved general purpose use, including an expanded capacity for 500-lb bombs. According to Air Force spokesmen, the plan to convert H models instead of using D models, which already carry the maximum conventional payload, is based on the greater range and reliability of the newer aircraft.

#### REASONS ADVANCED FOR REPLACING B-52s

The Air Force's Long Range Combat Aircraft (LRCA) concept for a new strategic bomber responds to desires for an aircraft well-suited to a range of conventional uses also. Likewise, the "Multi-Role Bomber" concept mandated by the 96th Congress envisions general-purpose missions as well as strategic potential. Despite the great significance that non-nuclear power projection roles have been given in the marketing and promotion of certain candidate aircraft, these arguments relate generally to why bombers are useful, and not to why the U.S. needs new ones. By contrast, most arguments for replacing the B-52s are expressed in terms of the U.S.-Soviet strategic competition, and particularly the U.S. objective of penetrating future strategic defenses being developed by the Soviet Union.

#### Serviceability of the B-52s

A commonly-heard complaint about B-52s is that they will soon be older than the pilots flying them. While the B-52 represents a product of 1950's technology, modifications to G and H models have helped adapt them to new operating environments. Nevertheless, age imposes limits on the future service that B-52s can reliably offer, and, hence, on the readiness of the bomber force.

As strategic bombers, B-52s would fly the following mission profile in a general war: Take off from their dispersed bases before the impact of attacking warheads, fly at high altitude intercontinentally toward assigned targets, drop to low altitude to evade and defeat enemy air defenses, survive to reach and destroy their objectives, and then escape to recovery bases. Flight at low altitudes keeps an aircraft hidden from defending ground radars as long as possible, combines with speed to limit the engagement time of air

defense weapons, and conceals an aircraft from non-discriminating airborne radar systems by mixing its radar image with other signals, known as "ground clutter," reflected from the earth's surface.

Low flight combines with deception to permit penetration. Accordingly, B-52s rely on electronic countermeasures (ECM) to suppress, distort, or otherwise "jam" the radar echo that a hostile fire control system receives. ECM masks the presence of attacking aircraft or deceives the defending weapons about the number, size, location, speed, or other aspects of the target, once detected. ECM systems draw considerable amounts of power from their aircraft, however, imposing limits on the capability an aircraft can support.

The flight profile of an emergency take-off and a penetration mission places considerable stress on an airframe and demands on avionics. Although the ability of an aircraft to withstand such use declines with age, recent studies have confirmed that the B-52 airframe is still reliable; and by using B-52s as cruise missile platforms, the Air Force expects the system to be serviceable almost until 2000. As the aircraft grows older, however, incidents of failure may be expected to increase, lowering aircraft availability rates and adding to the costs of operating them.

#### Vulnerability to Soviet Air Defenses

Although the future reliability and maintainability of B-52s are of concern, the more critical reason for a new bomber, in the Air Force view, is improving Soviet air defenses. The Soviet Union already has deployed over 6,000 ground radars, 12,800 surface-to-air missile launchers, and 2,550 interceptor aircraft. General Ellis, Commander-in-Chief of SAC, estimates that 75% of an attacking B-52 force would be expected to survive Soviet defenses around 1985. The Soviet Union is constantly improving those defenses, however, leading the Air Force to conclude that B-52s would be highly vulnerable as a penetrating bomber force by 1990. Their utility until then depends on the rate of Soviet progress in the following areas:

- Deployment of a Soviet Union AWACS (Airborne Warning and Control System) aircraft (termed SUAWACS) that provides radar surveillance and coordinates interceptors' fire control over extended ranges, similar to the U.S. AWACS. With sophisticated "look-down" radar, it will be able to distinguish low-flying aircraft from ground clutter.
- Deployment of a new generation of fighter/interceptor aircraft whose improved radar and air-to-air missiles will provide a "look down-shoot down" (LDSD) capability similar to U.S. F-15s.

Although the Air Force is concerned about improved Soviet capabilities represented in the new SA-10 air defense missiles and in an integrated communications and electronic warfare system as well, it is the look-down shoot-down (LDSD) prospect particularly that threatens to eliminate the protection now afforded U.S. aircraft by low-level flight.

The B-52's chances of survival might be extended beyond the 1980s by

adding new systems of defensive avionics. Sentiment in the Congress, however, favors a new bomber for the penetrating mission. There is concern that the effectiveness of advanced "active defenses" like electronic countermeasures (ECM) cannot fully compensate for the limitations of the B-52's less advanced "passive defenses," related to size, propulsion system and fabrication materials. Such inherent characteristics largely determine an aircraft's "radar cross section" (RCS), which refers to the identifiability of the radar image an aircraft reflects back. Thus, the requirement for a new bomber aircraft is widely discussed in terms of improved design features to present a significantly lower RCS than existing aircraft, thus reducing susceptibility to radar detection and tracking.

#### Diversifying and Modernizing

Another major reason given for replacing B-52s as penetrators is that they have already been scheduled to retire from that role and to serve as cruise missile carriers. By terms of the current rationale, cruise missiles carried and launched by SAC aircraft would not alter the doctrinal "triad" of U.S. strategic weapons. Rather, it is held that ALCMs will preserve the viability of the "air-breathing" leg more effectively than bombers alone, because "diversification" of this leg compels Soviet air defenses to contend with two kinds of attacking systems. Thus, the objectives of deploying ALCMs and simultaneously replacing B-52s as penetrators serve the goal of diversifying and modernizing bomber forces. The Air Force Deputy Chief of Staff for Research and Development, General Kelly Burke, argues that any investment in a new bomber is worthwhile if it successfully induces the Soviet Union to spend a disproportionately greater amount of its resources in preparing defenses against it.

Pursuing two objectives simultaneously concentrates the costs in a few years, and critics of this approach argue that deployment of new ALCMs makes it unnecessary to keep a large number of penetrating bombers. They feel that H model B-52s alone would constitute an adequate force of penetrators over the period while ALCMs are being phased in on G models. By deferring bomber modernization until around 1990, however, such a solution would have to provide not only a new penetrator, but a second-generation cruise missile carrier as well, since B-52s in any capacity will be retired before 2000; (Air Force spokesmen estimate between 1993 and 1998). Thus, the two elements of diversification must be confronted simultaneously, whether now or later, because of the finite service life of the B-52s.

#### CONGRESSIONAL POSITIONS

Congressional viewpoints on the bomber issue are reflected in current versions of the FY82 Defense Authorization Bill and in provisions of last year's Defense Authorization bill (P.L. 96-342).

#### Department of Defense Authorization Act, 1981 (P.L. 96-342)

Section 204(a) directs the Secretary of Defense to develop "a strategic multi-role bomber which maximizes range, payload, and ability to perform the missions of conventional bomber, cruise missile launch platform, and nuclear weapons delivery system in both the tactical and strategic role." This law

reflects Congressional intent to provide a replacement for the B-52 in each of its roles. Air Force plans for LRCA now make it clear, however, that the aircraft will assume its cruise missile-launching role only around the middle of its service life, when its effectiveness as a penetrator will have declined; 1995 is the suggested date. The "multi-role bomber," therefore, will not be used to provide a strategic penetration capability beyond that time.

P.L. 96-342 directed the Secretary of Defense to consider several candidates for the new multi-role bomber, to include the B-1, the FB-111B/C, and an "advanced technology bomber" (ATB), which would exploit innovations in a variety of emerging technologies, collectively known as "Stealth." Another provision states that development of the bomber must be guided by an Initial Operating Capability (IOC-the deployment of the first squadron of aircraft) not later than 1987. Realistically, an ATB candidate could not meet that requirement, although some supporters of that language may have thought otherwise at the time.

### House of Representatives

Reporting the FY82 Defense Authorization bill (H.Rept. 97-71), the House Armed Services Committee affirmed the 1987 deadline for a multi-role bomber, specifying July 1, 1987. Moreover, the Committee recommended that the Air Force procure B-1s in a configuration as near as possible to the prototype B-1s purchased before President Carter's 1977 decision to terminate production. This recommendation is apparently based on desires to deploy the aircraft in as short a time and with as little unnecessary expense as possible. A selection on that basis would probably provide a relatively high-performance variant, including a supersonic capability.

As reported and subsequently passed, the bill also authorizes Research, Development, Test and Evaluation (RDT&E) funding for an advanced technology aircraft. This authorization supports the Air Force's position that a B-1 should be acquired in the near-term as a multi-role bomber, and a more advanced penetrator should be acquired over the longer-term. Thus, the House bill supports a "two-bomber program" of a Long Range Combat Aircraft (LRCA), and a future advanced technology bomber (ATB).

### Senate

Defense bills passed by the Senate in the 96th Congress were not supportive of a revived B-1 program. The "multi-role bomber" language passed in P.L. 96-342 represented a compromise between a stretched F/FB-111, favored by the Senate Armed Services Committee, and a B-1 derivative Strategic Weapons Launcher (SWL), regarded by some as a first step toward a full B-1 program. By its adoption in conference, the Senate's language not only averted a SWL program, but it also undercut a competing strategy to produce a compromise in conference that would settle on a B-1. Thus, while the "multi-role" terminology has been perceived as favoring the B-1, it actually dampened the B-1's immediate prospects in 1980. The prevalent Senate position in the 96th Congress sought to leave open the options presented by emerging technologies. If a two-bomber approach were to be necessary, the Senate favored the FB-111B/C as an "interim bomber"; that program was originally approved in the Senate version of the FY81 Defense Authorization bill.

The FY82 Defense Authorization Bill (S. 815), reported by the Armed Services Committee (S.Rept. 97-58), and passed May 14, 1981, approves the Administration's request for bomber funding. The Senate version does not specify a choice, but it makes the obligation of funds contingent upon a recommendation by the President, and open to a concurrent resolution of disapproval by Congress. The Armed Services committee noted that a new bomber is needed not only for the strategic role, but for demanding conventional missions as well, and that a follow-on cruise missile carrier would hedge against degraded reliability or pre-launch survivability of B-52 carriers. From this language, it appears that Senate support for a B-1 program may have grown in the 97th Congress; but Senator Tower, Chairman of the Senate Armed Services Committee, has expressed reservations about the affordability of B-1s with an ATB.

### OPTIONS AND ARGUMENTS

#### The Need for a "Two-Bomber" Program

While sharing the ultimate objective of deploying an ATB, many bomber advocates would prefer to precede it with an aircraft of more predictable capability, cost, and availability. This group believes that Stealth technology can be applied to future aircraft more completely and more effectively if development is not rushed. Accordingly, many have concluded that a "two-bomber program" is needed, on the assumption that Soviet air defenses effectively will have "closed the door" on B-52 penetrators by 1990, and that ALCMs alone should not be relied upon to maintain the strategic balance in the interim between generations of penetrators. The issues which follow from these conclusions are: (1) How much of an investment to make, (2) how much capability to build, and (3) how many years' use to expect in an aircraft short of an ATB. These questions will remain relevant as Congress monitors the progress of the LRCA program.

#### The B-1 Alternative: "Near-Term" or Long-Term?

B-1 proponents view the ATB as a high risk alternative, both financially and technically. Past experience with previous programs to replace the B-52 (AMSA, B-70, B-1) leads many to fear the same fate for Stealth; and they discourage waiting for Stealth because that would commit the country to developing an all-new aircraft by around 1990, whatever the cost. That could place the Department of Defense in a less favorable bargaining position for dealing with aircraft manufacturers, some assert, whereas a B-1 program and an ATB program would introduce competition and offer the Air Force more flexibility.

While some B-1 backers foresee its long-term role as a penetrator, the Air Force requested 100 B-1s as "near-term" penetrators, preferring an ATB as the ultimate replacement for the B-52 in that role. Illustrative plans would phase the B-1 in as a penetrator from 1987 to 1990, then phase it in as a cruise missile carrier beginning around 1995. Its place as a penetrator would then be taken by an ATB, (of which the Air Force hopes to build 132).

Given fiscal constraints, some B-1 backers suspect that LRCA, once begun, will be the only new bomber program for the remainder of this century. Accordingly, they feel the B-1 should be acquired in the full number needed

to replace the B-52s as they retire from service in all roles. B-1 advocates note that the synergistic effects of its new design features with its ALQ-161 ECM system should reduce its previous RCS by a factor of 10, and assure its effectiveness as a penetrator "well into the 1990s." They suggest that if technological advances offer increased advantages for penetrating aircraft, they can be added to the B-1 LRCA. For example, development of laser defenses against surface-to-air missiles would permit high-altitude penetration, as suggested by former Air Force Secretary Hans Mark.

This difference of approach among those who support a B-1 alternative leads to disagreement over how to configure the aircraft, now that it has been chosen for the LRCA program. For example, should the B-1s be constructed initially with the features needed only later to carry cruise missiles? And should a supersonic dash capability be included? Neither was initially provided for within the funding requested by the Administration, but October budget revisions added about \$800 million in modifications for cruise missile carriage.

#### The "Baseline Variant"

The precise configuration of the new B-1 for LRCA has not been publicized, but it builds on the "core aircraft" which would be common to any variant, reportedly keeping 85% of the design features from the original B-1. Any number of combinations could be conceived to constitute many different variants, both for adding to the capability of the original and for economizing somewhat. Much of the work over recent months by both the Air Force Bomber Office and the OSD Bomber Study Group has involved defining competing configurations and developing cost estimates for each, then conducting cost-effectiveness analyses for each variant in relation to each other and to notional advanced technology candidates.

The baseline variant being promoted by Rockwell International would be designed to fly farther than the original B-1, and would have an increased payload. The requirement for a multi-role configuration as well as for penetrating improved defenses calls for other changes, and the added costs which result are to be offset in part by reductions in the maximum speed and altitude attainable by the aircraft (from 70,000 feet to 42,000 feet). Accordingly, the following modifications to the earlier aircraft may be expected in the B-1 LRCA:

- Reduction in supersonic performance from Mach 1.6 to Mach 1.2 (attainable only at high altitudes). Low-level supersonic "dash" capability will be abandoned.
- Changes in the engine nacelles to reduce radar cross section.
- Redesign of the weapons bay to include a movable forward bulkhead for a larger number of ordnance (and fuel) loading options, including cruise missiles.
- Provisions for external stores (fuel or weapons) under the fuselage.
- Use of the new offensive avionics system being installed in B-52s.

-- Improvements in defensive avionics capabilities (ECM).

The resulting aircraft, powered by four General Electric F101 engines, could take off weighing as much as 477,000 lb, (compared to 395,000 lb previously) with a maximum ordnance load of 38 nuclear gravity bombs and SRAMs or, in later years, 30 cruise missiles. The maximum range at that payload has not been publicized, but Air Force spokesmen claim that in unrefueled operational flight profiles, the B-1 variant could out-distance a B-52 H by a couple of percentage points. Rockwell International adds that, without refueling, the LRCA should be able to perform the strategic mission that the original B-1 could accomplish with one refueling.

### Schedule

Air Force Systems Division has issued an estimate of the B-1 variant's availability, based on a go-ahead around July 1, 1981. By adjusting that starting date to Nov. 1, the first delivery would be made in June 1985 and the last delivery in October 1988; IOC would occur in December 1986. Industry's estimates tend to be more optimistic than the Air Force's, because of different assumptions about the work force's learning curve.

### Costs

Procurement costs for B-1 derivative aircraft depend on the variant chosen; accordingly, reports of findings by the Bomber Study Group as high as \$24.6 billion contrast with the initial Air Force estimate of \$19.7 billion (in FY81 terms). Based on current Administration projections of inflation over the years of a LRCA procurement program, the "baseline" cost goal of \$20.5 billion will actually amount to \$27.9 billion by the time of program completion.

Critics of the B-1 proposal argue that even an equivalent projection based on more realistic inflation factors would still underestimate the total cost of LRCA acquisition. While Air Force spokesmen insist their estimates are firm, especially with the prospect of multi-year contracting for much of the program, doubters point to the absence of contracts at present, and note that the baseline cost estimate excludes likely expenses for a simulator program (\$300 million), a second inertial guidance system (\$220 million), or a "permissive action link" to provide for disarming nuclear weapons as a safety measure (\$50 million). In October, the Air Force's \$19.7 billion target was revised to \$20.5 billion in FY81 terms, reflecting primarily the Administration's decision to proceed at the outset with provisions for cruise missile carriage, both internally and externally. The \$800 million difference also includes a new radio system. Some other costs for complete cruise missile integration may be expected at the time operational conversions of LRCAs are actually made (in the 1990s); but in FY82 terms, the program to acquire the 100 aircraft with an IOC of late 1986 is estimated to cost \$22 billion.

A draft GAO critique of the B-1 estimates, reported in the Washington Post (Oct. 29, 1981), found false economies in the omission of likely program expenses; one example was the requirement to match planned avionics systems to new Air Force specifications, perhaps costing an added \$86 million, and delaying the schedule of production by 6 to 12 months. The Air Force and DOD had not been given their customary opportunity to review or comment on the

draft. A CBO estimate, based on their inflation figures and the assumptions of the GAO study, projected a "then-year" cost of almost \$40 billion.

The opportunity for the U.S. to redeem much of the \$5 to \$6 billion in research and development costs already invested in the original B-1 program, and for industries to regain work that was lost as a result of the 1977 decision, has remained an important consideration, economically as well as politically, in support for the B-1.

#### Affordability of the "Two-Bomber" Program

Among those committed to deploying a new bomber, the greatest concern with the B-1 has been expressed by William Perry: "Spending billions on the B-1 would rule out a Stealth follow-on." Although outlays in the current five-year plan would be higher in the case of a two-bomber (B-1/ATB) program than for an all-Stealth program, the few cost estimates for total program costs have been in the same broad range both for 250 ATBs and for a mix of B-1s and ATBs totalling the same number. Thus, the case has not been made for the argument that the two-bomber approach per se is more costly. Rather, the primary argument is that sufficient funding will not be provided over the period needed to complete a \$40-\$60 billion program, regardless of what kind. The bomber's ultimate share of defense resources, in other words, is expected to be considerably less, but with different consequences for the two approaches: An all-ATB program would be slowed or reduced somewhat; in the case of a two-bomber program, however, the near-term B-1 would be deployed, and the longer-term ATB might not. Stealth proponents decry that prospect, insisting that an ATB can be available soon enough to alleviate the need for another aircraft, and that a B-1 could not satisfy the long-term requirements.

Early in the 97th Congress, prospects for a "two-bomber" approach were enhanced by perceptions that new support for defense spending would make such a choice politically more attractive than in the past. The durability of that support is coming into question, however; and, as defense spending levels are held short of the Administration's initial projections, the two-bomber approach may prove particularly vulnerable to future budget cuts. Strategic initiatives for a new bomber and the MX were specifically insulated from the \$2 billion in defense cuts made during the Administration's FY82 budget revisions in October, however.

Once the B-1 program has started, cuts could not easily be made there, especially since that could appear to duplicate the Carter Administration's controversial decision in 1977. Thus, for Stealth proponents, the significance of the President's choice, while endorsing the goal of an ATB, is that the Stealth program has been placed at some greater risk, since it becomes hostage to the fortunes of the Reagan economic program as a whole and the level of support for defense spending. Defense officials concede, in any event, that funding for the development of an ATB will be less now than if the decision had been made to proceed directly with a Stealth bomber.

#### Replacing B-52s Directly With a Stealth Penetrator

On Aug. 22, 1980, former Secretary of Defense Harold Brown revealed that the United States had been developing so-called "Stealth" technology "which alters the military balance significantly." It is widely believed that only

an ATB with Stealth technology could penetrate Soviet air defenses throughout the 1990s and possibly for sometime thereafter. Some even argue that Soviet defenses have already incorporated advances that responded specifically to the prospect of a B-1 threat. Consequently, Stealth supporters argue that the B-52 should be replaced with nothing short of an ATB. Illustrative plans for an all-ATB replacement program envision about 250 new aircraft.

Since ATB proponents see a multi-role B-1 as the primary threat to early Stealth deployment, they argue that perceptions of the B-1 inevitably have been tainted by its previous cancellation, and that selection now of a previous "loser" would not serve the goals of the Congress or the new Administration. Proponents argue that H model B-52s will retain sufficient penetrating capability over the time of transition, and that ALCMs should be fully deployed by 1990, while MX deployment will have strengthened the ICBM force, thus compensating for a reduced number of penetrating bombers during the ATB building period.

A particularly strong argument in closing weeks of the debate was the assertion -- at one point supported by Secretary Weinberger, but then retracted -- that B-1s would fail as penetrators by 1990.

Stealth technologies combine aircraft design features and defensive countermeasures to reduce the radar reflection (radar cross section or RCS) and mask energy emissions of aircraft, thus improving their abilities to elude Soviet defenses. Innovations for this purpose reported in the past have involved reducing the weight of the aircraft, and the size of the tail section in particular, using non-metallic and radar absorbing materials, keeping flat or angular surfaces and "resonant" cavities to a minimum, limiting the number of engines, modifying the shape and placement of engine air intakes, reducing engine exhaust temperatures, and treating fuels to reduce infrared emissions in the spectral bands used by Soviet detectors. Since Secretary Brown's announcement, however, little has been said about the program in open sources to identify the specifics of current Stealth research and development.

### Schedule

Because of uncertainties about how far Stealth technology has evolved and how much it will cost in application to a bomber, a deployment schedule for an ATB cannot be specified. These unknowns form a part of the debate over options for replacing the B-52s. General Ellis, former SAC Commander, estimated that a prototype ATB could be flown in 1985 and an IOC, achieved by 1990. This prediction appears to rest on fully funding a one-bomber program for an ATB, however.

The views of former Undersecretary of Defense for Research and Engineering, William Perry, reflect the difficulties in judging the potential of Stealth: he testified last year that he has "unbounded confidence" in Stealth technology, but that "it has not yet reached a state of maturity for application to bombers in the near future." Nevertheless, testifying this year, he stated his opposition to an interim program, based on his estimate that production of a Stealth aircraft could begin as early as 1988. The Air Force Scientific Advisory Board has concluded that 1992 would be the earliest possible IOC for an ATB.

Even if the early projections of Stealth availability are not realized, the need for an interim penetrator is not accepted by hold-outs for an ATB.

They argue that H model B-52s will retain sufficient penetrating capability over the time of transition, and that ALCMs should be fully deployed by 1990, while MX deployment will have strengthened the ICBM force, thus compensating for a reduced number of penetrating bombers during the ATB building period.

It is widely assumed that the ATB would serve solely as a penetrator, since its size and design would be optimized for that mission. If an all-ATB program were chosen on that basis, some other aircraft would be needed to replace cruise missile-carrying B-52s. On the other hand, if plans exist to adapt the Stealth bomber for cruise missile carriage, that would alleviate the requirement not only for a follow-on cruise missile platform for the long term, but also for the LRCA as a cruise missile carrier in the 1990s.

### Costs

The Northrop Corporation has been chosen as the prime contractor to develop a Stealth bomber, but until a definite aircraft design can be evaluated, cost estimates for an ATB will have limited reliability. Also, in weighing cost estimates, the distinction must be made between an all-ATB replacement program (about 250 aircraft) and a "follow-on" program to produce 100 to 150 Stealth bombers after LRCA have been acquired. In the case of an all-ATB approach, the Stealth program would be directed toward the earliest achievable IOC, and some argue that R&D costs would be minimized if the program were fully funded on that basis. An added drawback to the smaller program, some point out, is that the price per aircraft would be higher, since R&D costs would be recouped over a lesser number of aircraft. Regardless of whether an all-ATB program or a follow-on program were chosen, there will probably be little difference in outlays for Stealth during the next five years, since procurement cannot begin in any event until the necessary R&D has been completed. Accordingly, the cost difference between the two over the period of the current Five-Year Defense Plan (FYDP) is essentially the amount of the B-1 program.

Estimates reported to date for a program of 250 ATB range from \$41 billion to \$56 billion. Estimates for the Stealth portion of a two-bomber program range from \$22 billion to \$35 billion. By adding the cost of the B-1 program to the latter set of figures, rough estimates thus suggest an equivalent cost over the acquisition of either an all-ATB program or a two-bomber program. On that basis, the primary cost advantage of an all-stealth program is that it defers the major expenditures for bomber modernization for several years. This may also represent a vulnerability, however, in that the program could be affected by intervening changes before production finally begins.

Finally, some Stealth proponents argue that an all-ATB program would cost less than a mix of B-1s and Stealth totalling the same number; this implies that Stealth bombers per unit may cost less than B-1s. Cost estimates have not yet been published to substantiate that claim; and at this point, they would be viewed with skepticism anyway. In addition, it is not clear that B-1s and ATBs should be treated as equivalent capabilities, one for one. Thus, the primary cost argument in favor of the Stealth bomber remains the claim that B-1s can be dispensed with.

The Air Force counters that claim by its estimates that it would cost less to buy B-1s in the interim than to modernize the B-52s and FB-111s sufficiently to continue relying on them. The specifics of such a modification program have not been discussed; but even excluding normal operations and maintenance expenses, extending the life of B-52s and today's FB-111s as strategic penetrators reportedly could cost \$20 to \$28 billion.

It is unclear how much of that expense, if any, would be incurred anyway in modifying the B-52s for cruise missile carriage in the 1980s and 1990s.

### The Evolving Role of the Bomber

Preferences in how to modernize the bomber force follow from assumptions about the future role of bombers and about how the candidate aircraft will serve those roles. To date, the Stealth bomber has been discussed almost exclusively as a strategic penetrator. The LRCA by contrast, has been justified largely in terms of its capacity for collateral as well as strategic missions. There is concern that an aircraft chosen on that basis may not serve in the strategic role -- or in any single role -- with the greatest effectiveness. Conceptually, the B-1 LRCA is said to be suited to the following conventional or tactical nuclear missions; others may be added:

- (1) Counter-intervention force in western Europe, supplementing other strike forces;
- (2) power projection and counter-intervention force in Southwest Asia;
- (3) mining operations to protect the sea lines of communication;
- (4) maritime support in the form of anti-surface ship operations;
- (5) fleet air defense, using air-to-air missiles against Soviet naval Backfire bombers.

The list of collateral missions for which the LRCA might prove useful, although arguably essential, was capped by retiring Air Force General Alton Slay, when he added, "dropping hay to stranded yaks in Katmandu."

For many, past events in the Persian Gulf region have underlined the need for the United States to have a power projection capability that can be brought to bear world-wide. While long-range bombers may offer a unique combination of range and payload needed for some cases, existing naval and amphibious forces, sea-based aviation, or land-based tactical air forces may adequately meet the needs of other non-strategic circumstances.

Although Congress has endorsed the need for a new bomber with a penetrating capability, some continue to regard the manned bomber as an obsolescent weapon system. Accordingly, they are opposed even to an ATB, arguing that resources will be better spent on more cost-effective cruise missiles and future unmanned delivery vehicles. They note that Stealth is equally applicable to those systems, and could be used more effectively with ALCMs. Former CIA Director Turner has expressed the view that manned aircraft in general will be overtaken not just by Soviet defenses, but by the march of technology on all sides. In his view, the United States will not have the chance to receive back the deterrent value of its investment in any new bomber.

Ultimately, improvements in air defenses may force a decline in the use of costly aircraft against strategic targets. Part of the five-point strategic program announced by President Reagan along with bomber modernization was the plan to deploy nuclear cruise missiles aboard U.S. attack submarines. The

development of long-range sea-based cruise missiles for use against targets ashore could soon overtake many advantages now perceived in manned aircraft, including bombers.

### BOMBER COMPARISONS

	<u>B-52</u>	<u>B-1B</u>	<u>Stealth</u>
Actual or planned inventory	350	100	132-250
IOC as penetrator	-	1986	1990s
End of use as penetrator	1990	1995	2000+
IOC as cruise missile platform	1982	1995	N/A
End of use as ALCM platform	2000	2000+	N/A
Procurement/modernization program costs			
(\$ billions, FY 81)	20-28	20.5-22	22-35/ 41-56
Maximum loading per aircraft			
Nuclear gravity bombs/SRAMs	12	38	?
ALCMs	20	22/30	N/A
Conventional bombs	27/108	128	N/A
Radar cross section (sq m)	90-100	1	?
Penetration speed (Mach)	.55	.85	?
Primary ECM system	ALQ-122	ALQ-161	?

Note: All candidate aircraft must meet SAC specifications for dispersability to multiple airfields, safe escape time on notice of attack, and protection ("hardness") against the secondary effects of nuclear explosions, including electromagnetic pulse (EMP).

### LEGISLATION

P.L. 97-86, S. 815

Department of Defense Authorization Bill, 1982. Both bills provide \$302 million for LRCA RDT&E, as requested by the Administration, and \$1942 million for procurement, also as requested. The Senate version includes \$179 million requested for procurement of spares; the House version does not. Therefore, H.R. 3519 approves \$2.244 billion; S. 815 approves \$2.423 billion for LRCA. The House version, reported by the Armed Services Committee on May 15, 1981 (H.Rept. 97-71), approves procurement funding based on the choice of a B-1 LRCA, with the provision that the obligation of funds for an advanced technology bomber instead, if recommended in the national interest by President Reagan, would require affirmative action by both houses within 60 days of that recommendation. The Committee Report recommends a supersonic B-1 with minimal changes to the original program. The Senate version, reported by the Armed Services Committee on May 6, 1981 (S.Rept. 97-58), and

passed by a vote of 92 to 1 on May 14, does not specify an alternative, but makes the obligation of funds contingent upon a recommendation by the President, and open to resolutions of disapproval in both Houses of Congress. S. 815 passed the House, amended, July 16, in lieu of H.R. 3519. Conferences held. Agreement by House and Senate conferees were announced Oct. 30, 1981. The conference report (H.Rept. 97-311), dated Nov. 3, 1981, recommends \$2.1 billion in authorizations for development and procurement of the Long Range Combat Aircraft in FY82. Authorizations will be available for obligation to the B-1 bomber beginning Nov. 18, 1981. The Senate agreed to the conference report Nov. 5; the House agreed Nov. 17. The bill was presented to the President Nov. 19, and signed into law on Dec. 1, 1981 (P.L. 97-86).

P.L. 97-114, H.R. 4995

Department of Defense Appropriations Bill, 1982. As reported by the Committee on Appropriations (H.Rept. 97-933) on Nov. 16, and subsequently passed on Nov. 18, 1981, \$2,092.9 million is recommended for the LRCA program, including \$1,574 million for procurement, \$227 million for advance procurement, and \$291.9 million for RDT&E. The total is about \$330 million less than requested by the Administration; comparison with the Administration request is complicated, however, by the Oct. 2 revision to the March 1981 budget request. In both requests, funding for the LRCA totalled \$2.423 billion; the Oct. 2 revision, however, redistributed that amount among the several activities: procurement was increased slightly, and advance procurement was increased slightly. The request for initial spares (which had been deleted entirely in the House version of the Defense authorization bill) was reduced from \$179 million to \$51 million; the difference was then made up in the requested increase to RDT&E from \$302 million to \$471 million. (See chart below). The House committee reported the bill with cuts in procurement spending and initial spares to match authorized levels that were agreed to in conference after the Administration's revisions had been submitted. On its own initiative, the committee also cut \$179.1 million from the revised RDT&E request, explaining that the amount was found to be unobligated from FY81. Appropriations to modernize B-52 aircraft were increased over requested levels to a recommended \$500.5 million. About \$62 million of the \$162.1 million increase is directed for D-model B-52s, which the Administration has scheduled for early retirement. In disagreeing with that part of the President's strategic program, the Appropriations Committee added about \$18 million in Operations and Maintenance funds as well, to keep B-52Ds flying in FY82. The House passed the 1982 Defense Appropriation Bill on Nov. 18, 1981, having first rejected amendments to delete funding for B-1 production and to revive the FB-111B/C alternative for the LRCA program. Conferences held. Conference report was filed Dec. 15, 1981 and passed in both Houses, 334-84, and 93-4, respectively. House-passed level (\$2092.9 million total, including \$1,801 million for procurement and \$291.9 million for RDT&E); and adoption of Senate-passed language (Nunn amendment) intended to facilitate congressional monitoring of B-1 costs. The bill was signed into law (P.L. 97-114) on Dec. 29, 1981.

S. 1857 (Hatfield)

Department of Defense Appropriation Bill, 1982. As reported by the Committee on Appropriations (S.Rept. 97-273) on Nov. 17, and subsequently passed on Dec. 4, 1981, \$2,439 million is recommended for the LRCA program, including \$1,724.2 million for procurement, \$233.8 million for advanced procurement, and \$471 million for RDT&E. The total reflects a 3% add-on to procurement funding in anticipation of cost growth. By disallowing money for spare parts, however, the Senate recommendation exceeds the Administration's request (discussed above for H.R. 4995) by only \$16 million. The Committee

recommended about \$350 million more for LRCA than the House Committee had reported the previous day. The Senate bill, as reported out of Committee, made no change to the Administration's request for B-52 modernization, including provisions for the early retirement of D-model B-52s. RDT&E funding for Air-Launched Cruise Missiles (ALCMs), however, was increased from the \$69 million requested to \$104 million.

During extensive floor debate on the 1982 Defense Appropriation Bill, the Senate adopted several amendments of significance for strategic bomber modernization. The first (offered by Mr. Nunn) requires the President to certify the costs of 100 B-1B aircraft before procurement funds will be made available, and further requires quarterly DOD program cost estimates to include the LRCA program, based strictly on production of 100 aircraft. The second (offered by Mr. Jackson) prohibits the diversion of funds as appropriated for the advanced technology bomber program, whose level of funding remains classified. A third (offered by Mr. Levin) adds \$62 million for continued modernization of D-model B-52s, consistent with House-passed provisions. All were adopted by voice vote. The Senate rejected several amendments related to bomber programs: Mr. Hollings, to delete B-1 funding and increase funding accordingly for selected readiness-related items (28-66); Mr. Proxmire, to eliminate a 3% cost growth allowance for the B-1 and MX programs (46-47); Mr. Levin, to restore \$220 million for 4 KC-10A aerial refueling tankers, cut in October budget revisions from 8 (38-55); and Mr. R. Byrd, to increase funding for Stealth RDT&E by \$250 million (tabled, 51-40). The last two amendments, offered Dec. 1, 1981, were characterized by the Republican leadership as efforts in a Democratic strategy to pre-empt funding for the B-1.

The Senate version was passed on Dec. 4, 1981, 84-5. (S. 1857 was indefinitely postponed on Dec. 8, 1981.) Conferees were appointed, and H.R. 4995 was passed on Dec. 15, 1981 (see above).

FY82 LRCA FUNDING REQUESTS, AUTHORIZATIONS AND APPROPRIATIONS  
(\$ millions)

	Procurement	Advance Procurement	Initial Spares	RDT&E	Total
Carter Request	0	0	0	0	0
Reagan Request (March)	1632	310	179	302	2423
House Authorization	1632	310	0	302	2244
Senate Authorization	1632	310	179	302	2423
Reagan Revisions (OCT)	1674	227	51	471	2423
Authorization Conference	1574	227	0	302	2103

House Appropriation	1574	227	0	291.9	2092.9
Senate Appropriation	1724.2	233.8	0	471	2439
Appropriation Conference	1574	227	0	291.9	2092.9

[See Defense Budget -- FY83 for further legislation.]

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U.S. Congress. Senate. Committee on Armed Services. Department of Defense Authorization for Appropriations for Fiscal Year 1982; report to accompany S. 815. May 6, 1981. (97th Congress, 1st session) Washington, U.S. Govt. Print. Off., 1981. 197 p.

#### CHRONOLOGY OF EVENTS

- 01/25/82 -- Pursuant to P.L. 97-114, the FY82 Department of Defense Appropriation Act, President Reagan transmitted to Congress his certification of B-1 cost estimates (H.Doc. no. 97-127), stating that acquisition of 100 B-1B aircraft is feasible within the \$20.5 billion budget estimate by 1986. This appears to correspond to the Department of Defense cost estimate in terms of FY81 constant dollars.
- 12/15/81 -- The conference report (H.Rept. 97-410) for Department of Defense Appropriations, 1982 (H.R. 4995) was submitted and passed in both Houses, providing LRCA funding of \$2092.9 million. According to a provision introduced in the Senate version (an amendment by Mr. Nunn) and retained in the final bill, funds for B-1 procurement will not be made available until the President certifies to Congress the costs of the 100 B-1 aircraft. To facilitate congressional monitoring of the LRCA program, the Department of Defense is also required to include B-1 cost estimates in its quarterly reports to Congress. The bill provides that such reports must be based on 100 aircraft, reflecting congressional concern that the size of the program might later be cut if overly optimistic cost goals were accepted now and enforced.
- 12/04/81 -- The Senate passed the 1982 Defense Appropriation Bill (H.R. 4995), 84-5, after adopting an amendment by Mr. Levin, consistent with a House-passed provision, to add \$62 million for continued modernization of D-model B-52s, which the Administration proposed to retire. (The bill already contained \$18 million to continue B-52D operations.)
- 12/03/81 -- Senate consideration of the 1982 Defense Appropriation Bill (H.R. 4995) was dominated on this date by debate over the Administration's request for 100 B-1B aircraft. Mr. Hollings' proposed amendment to delete all B-1B funding and add accordingly to other programs was defeated, 28-66. The Senate rejected an amendment by Mr. Proxmire to eliminate a 3% cost growth allowance for the B-1 and MX programs, 46-47. An amendment by Mr. Nunn, requiring the President to certify B-1 costs now, and requiring quarterly DOD cost estimates for the LRCA program of 100 B-1s, was passed by voice vote. Also passed by voice vote was an amendment by Mr. Jackson prohibiting the diversion of funds as appropriated for the advanced technology bomber.

- 12/01/81 -- During consideration of the 1982 Defense Appropriation Bill (H.R. 4995), the Senate rejected two amendments characterized by the Republican leadership as preliminary moves to delete B-1 funding: Mr. Levin proposed to add 4 KC-10A refueling tankers, restoring the Administration's October cut from 8 to 4 such tankers; Mr. R. Byrd proposed an increase to Stealth RDT&E of \$250 million. Both were understood to require offsetting reductions elsewhere in the legislation, as opposed to "add-ons." (The overall level of funding for Stealth-related programs remains classified.)
- The President signed into law the 1982 Department of Defense Authorization for Appropriations Act, P.L. 97-86.
- 11/18/81 -- The House passed the FY82 Department of Defense Appropriations Act (H.R. 4995) after rejecting (142-263) an amendment by Mr. Addabbo to delete funding for B-1 production, and rejecting (99-307) an amendment by Mr. Murtha which would have had the effect of substituting the FB-111B/C for the LRCA program. The bill passed by the House provides about \$12 billion less in new obligational authority than the bill reported by the Senate Appropriations Committee (S. 1857).
- 11/17/81 -- The Senate Committee on Appropriations voted 21-7 to recommend the FY82 Defense appropriations bill (S. 1857), containing about \$2.4 billion in funding for the LRCA program, including about \$2 billion for production of B-1 aircraft and over \$400 million for research and development (S.Rept. 97-273). Unlike the House, the Senate Committee recommended the full amount requested for RDT&E (raised in October revisions to \$471 million). In addition, the Senate Committee applied a 3% cost growth allowance to raise procurement funds slightly over requested levels. Consequently, the Senate version provides about \$350 million more for LRCA than the House bill (H.R. 4995).
- 11/16/81 -- The House Committee on Appropriations reported the FY82 Defense appropriations bill (H.R. 4995), containing about \$2.1 billion in funding for the LRCA program: about \$1.8 billion for production of B-1B aircraft, and \$300 million for research and development (H.Rept. 97-933). In a departure from the President's strategic program, the Appropriations Committee disapproved early retirement of D-model B-52s, and restored about \$60 million for their continued modernization, as well as \$19 million for operations and maintenance in FY82. Total funding for modernization of all B-52s was increased over the Administration's request by \$162 million, amounting to about \$500 million.
- 11/05/81 -- A resolution disapproving the President's announced decision to build B-1 aircraft for the LRCA program,

S.Res. 240, was introduced by Sen. Levin.

- 10/30/81 -- The results of the conference on the FY82 Defense Authorization bill (S. 815) were announced by Senator Tower. Conferees had agreed to LRCA funding for FY82 in the amount of \$2.1 billion, representing cuts of \$320 million in RDT&E, initial spares, and procurement. According to language adopted by the conference, money authorized for LRCA will be available for obligation to the B-1 bomber beginning Nov. 18, 1981, unless both Houses have agreed to resolutions of disapproval over LRCA before that date.
- 10/29/81 -- In testimony before the Senate Armed Services Committee, Air Force Deputy Chief of Staff Burke explained that the Air Force's official estimate of \$19.7 billion for LRCA acquisition costs did not include full cruise missile integration. The Administration's decision to provide from the outset for internal and external cruise missile carriage (and to include a new new radio system) resulted in the revised estimate of \$20.5 billion (FY81 dollars) or \$22 billion (FY82 dollars), according to General Burke.
- The Washington Post reported findings of a draft GAO report that false economies may have been made to substantiate initially low estimates of LRCA acquisition costs. The Post article reports that expenses added later could include \$220 million for a second inertial navigation system, \$50 million for a classified "nuclear feature," presumed to be a safety device for disarming weapons, and \$65 million to match planned avionics systems with new Air Force specifications. The draft GAO report, not yet circulated to DOD for comments as customary, maintains that "questionable reductions" were made to lower the basic cost goal from \$22 billion (in FY81 dollars).
- 10/28/81 -- By a vote of 7 to 5, the Defense Subcommittee of the House Committee on Appropriations agreed to recommend appropriations in FY82 for the LRCA program as requested by the Administration. The Defense Authorization Bill, as passed by the two Houses, was still being considered in conference as of this date, with some differences over strategic programs reported.
- 10/26/81 -- As the House Appropriations Subcommittee on Defense began its consideration of the FY82 Defense Appropriations Bill, Subcommittee Chairman Addabbo proposed elimination of the B-1 program as part of an \$11.2 billion reduction from spending levels requested by the Administration.
- 10/16/81 -- The Air Force announced, without further comment, that Northrop has been selected as the prime contractor "to proceed with initial research and development on advanced bomber concepts."

- 10/12/81 -- Aviation Week & Space Technology magazine reported that a Stealth bomber, as developed by Northrop, is scheduled to fly for the first time in late 1984. The advanced technology bomber program will cost \$21.9 billion, according to this report.
- 10/02/81 -- As part of a 5-point program to revitalize U.S. strategic deterrent posture, President Reagan announced his decision to build 100 long-range combat aircraft (LRCA), based on the B-1 bomber, while continuing the planned deployment of air-launched cruise missiles on B-52s. President Reagan pledged to pursue development as well of an Advanced Technology Bomber (ATB) "for the 1990s."
- 07/16/81 -- The House passed S. 815, the FY82 Defense Authorization bill, in lieu of H.R. 3519. The bill, as amended, incorporates the same provisions with respect to the funding of strategic bomber programs as reported by the Armed Services Committee.
- 07/09/81 -- In considering the FY82 Defense Authorization bill (H.R. 3519), the House rejected two amendments that would have weakened the Armed Services Committee's pro-B-1 language. The first amendment, by Fowler (153-254), sought to remove restrictions on bomber funding that specify the choice of B-1s. The second amendment, by Harkin, would have adopted Senate language on congressional approval or disapproval of the President's choice.
- 05/21/81 -- Secretary of the Air Force Orr formally recommended to Secretary of Defense Weinberger the procurement of 100 B-1 variants (estimated at \$19.7 billion), to be followed by 110 Stealth bombers (estimated at \$30 billion).
- 05/14/81 -- By a vote of 92 to 1, the Senate passed its version of the FY82 DOD Authorization Bill (S. 815), providing \$2.4 billion for development and procurement of a LRCA yet to be specified. The measure includes the provision for disapproving the President's choice by a majority vote in both houses.
- 05/06/81 -- The House Armed Services Committee approved the FY82 DOD Authorization Bill (H.R. 2970) after adopting an amendment that specifies a B-1 derivative for LRCA development (\$302 million) and procurement (\$1.9 billion) and affirms an IOC not later than July 1, 1987. If the President declares procurement of an advanced technology bomber instead to be in the greater national interest, the obligation of funds requires congressional approval within 60 days of that recommendation.
- 04/28/81 -- In approving the FY82 DOD Authorization Bill (S. 815), the Senate Armed Services Committee

provided \$1.9 billion for procurement and \$302 million for development of LRCA. Obligation of funds for procurement was made contingent upon the President's recommendation to Congress concerning the aircraft selected. In addition the bill provides that, if both Houses pass resolutions of disapproval, the obligation of funds for buying LRCA as recommended by the President would be blocked.

04/07/81 -- The Armed Services Committees received a status report on selection of a new manned bomber from the Assistant Secretary of Defense, pending a full recommendation from the Secretary of Defense, originally due March 15. In addition to assessing the capabilities of the three main candidates, it reviews the rationale for a new bomber. AF Gen. Burke cited low confidence in contractors' cost figures as a reason for the delay.

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