

THE PRESIDENT'S REPORT ON CONTINUING THE ACQUISITION OF THE PEACEKEEPER (MX) MISSILE



MARCH 1985

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TO THE Congress OF THE UNITED STATES:

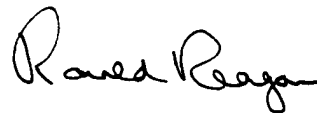
The attached report on the Peacekeeper missile contains my assessment of the requirement for Peacekeeper and my anticipated impact of the continued procurement of Peacekeeper missiles, pursuant to the provisions of Public Law 98-525, Section 110 of October 19, 1984.

My report concludes that the continued procurement and deployment of the Peacekeeper are essential to national security. The recommendations of the Scowcroft Commission are still valid. One hundred Peacekeeper missiles should be deployed in existing Minuteman silos as soon as possible.

My report also concludes that Peacekeeper is an essential element of our arms control strategy. Without the Peacekeeper our chances of reaching an equitable agreement with the Soviet Union to reduce significantly the size of our nuclear arsenals are substantially lowered. Indeed, should Congress delay or eliminate the Peacekeeper program, it would send an unmistakable signal to the Soviet Union that we do not possess the resolve required, nor the continuity of purpose, to maintain a viable strategic triad and the policy of deterrence the triad represents.

The time has come to place this issue behind us. While we have debated the merits of the Peacekeeper program, the Soviets have deployed over 600 Peacekeeper type missiles. If we are to move towards an equitable treaty in Geneva, procurement of 100 Peacekeeper missiles must continue.

I urge each member of Congress to approve the Peacekeeper and join me in a bipartisan and united effort in Geneva. With your support, and the support of the American people, our efforts at the negotiation table could lead to the more stable world we all seek, and lead to that day when mankind is free of the terrible threat of nuclear weapons.



THE WHITE HOUSE,
March 4, 1985.

THE PRESIDENT'S REPORT

on

CONTINUING THE ACQUISITION OF THE PEACEKEEPER (MX) MISSILE

Foreword

This report was prepared in accordance with the fiscal 1985 Department of Defense Authorization and Appropriation Acts, Committee of Conference, Section 110e and delivered in compliance with Section 110g(2). The Act states that the report shall include:

- (1) a statement that the President has determined that further acquisition of operational missiles under the MX missile program is in the national security interest of the United States and is consistent with United States arms control policy;
- (2) findings of the President concerning the effect of the acquisition and deployment of such missiles on the vulnerability of the United States land-based intercontinental ballistic missile force;
- (3) a discussion of the basing mode for the MX missile (and related improvements in silo-hardening technology) and of proposals for the basing mode for the small, single-warhead intercontinental ballistic missile.

Summary

The President has concluded that the continued production and deployment of the Peacekeeper (MX) missiles in existing Minuteman silos is required in order to meet U.S. national security interests, is consistent with U.S. arms control policy, and enhances the prospects for global stability. As a result, the President seeks to remove Congressional restrictions on the Fiscal Year 1985 funds that were authorized and appropriated by the Congress for the Peacekeeper missile program. This report provides the President's rationale and furnishes additional information as required by the Congress.

Strategic Balance and International Stability

In February 1984, in response to the FY84 Defense Authorization Act, the President reported to Congress on the anticipated political-military effect of procurement of Peacekeeper missiles. This year's report reviews major

developments in the strategic balance over the past twelve months. This report concludes, as did last year's document, that continued procurement of Peacekeeper and deployment of 100 missiles in Minuteman silos "...is a necessary part of our concerted effort both to improve deterrence and strategic stability and to enhance our ability to achieve deep and meaningful arms reductions." The passage of one year has given the Soviet leadership an opportunity to make adjustments in its strategy and policy. Thus, from the perspective of this report it is useful to determine what changes have occurred in these areas.

No change is apparent in the Soviets' continued efforts to build-up their strategic nuclear forces both quantitatively and qualitatively (the magnitude and pace of which over the past 23 years are portrayed--in sharp contrast to U.S. efforts over the same period--in Figure 1). They did not slow any aspect of their program, as indicated by these developments that occurred during 1984:

- o Modernization of the Soviets' fourth generation Intercontinental Ballistic Missile (ICBM) continued with the modification and deployment of an additional 30 SS-19s (carrying a total of 180 highly accurate warheads). At the same time, development and flight test of both the new SS-X-24 ICBM with 10 warheads and the single-warhead SS-X-25 ICBM continued (despite the fact that SS-X-25 testing violates at least two provisions of the unratified SALT II Treaty as documented in the February 1985 Report to Congress on Soviet Noncompliance). We anticipate that both SS-X-24s and SS-X-25s will be deployed in silos as well as on mobile launchers over the next few years.
- o Three types of strategic bombers are in production or development. Production continues on the Backfire and Bear H bombers. The Bear H achieved its Initial Operational Capability (IOC) with the new AS-15 air-launched cruise missile during 1984. This deployment is advancing more rapidly than we projected one year ago. Advanced development of the new Blackjack bomber, similar to but larger than the B-1B, also continued, and we expect it to be ready for deployment before the end of the decade.
- o An additional Typhoon-class missile submarine (SSBN) (the third) joined the Soviet Navy, as did the first and second ship of a second new class of SSBNs, the Delta IV. Testing of the Delta IV's sea-launched ballistic missile, the SS-NX-23, also continued throughout 1984, and an IOC in the near term is expected. In a related development, flight testing of a long-range sea-launched cruise missile (SS-NX-21) appears to have been completed and the missile may already be operationally deployed on submarines near U.S. coasts.

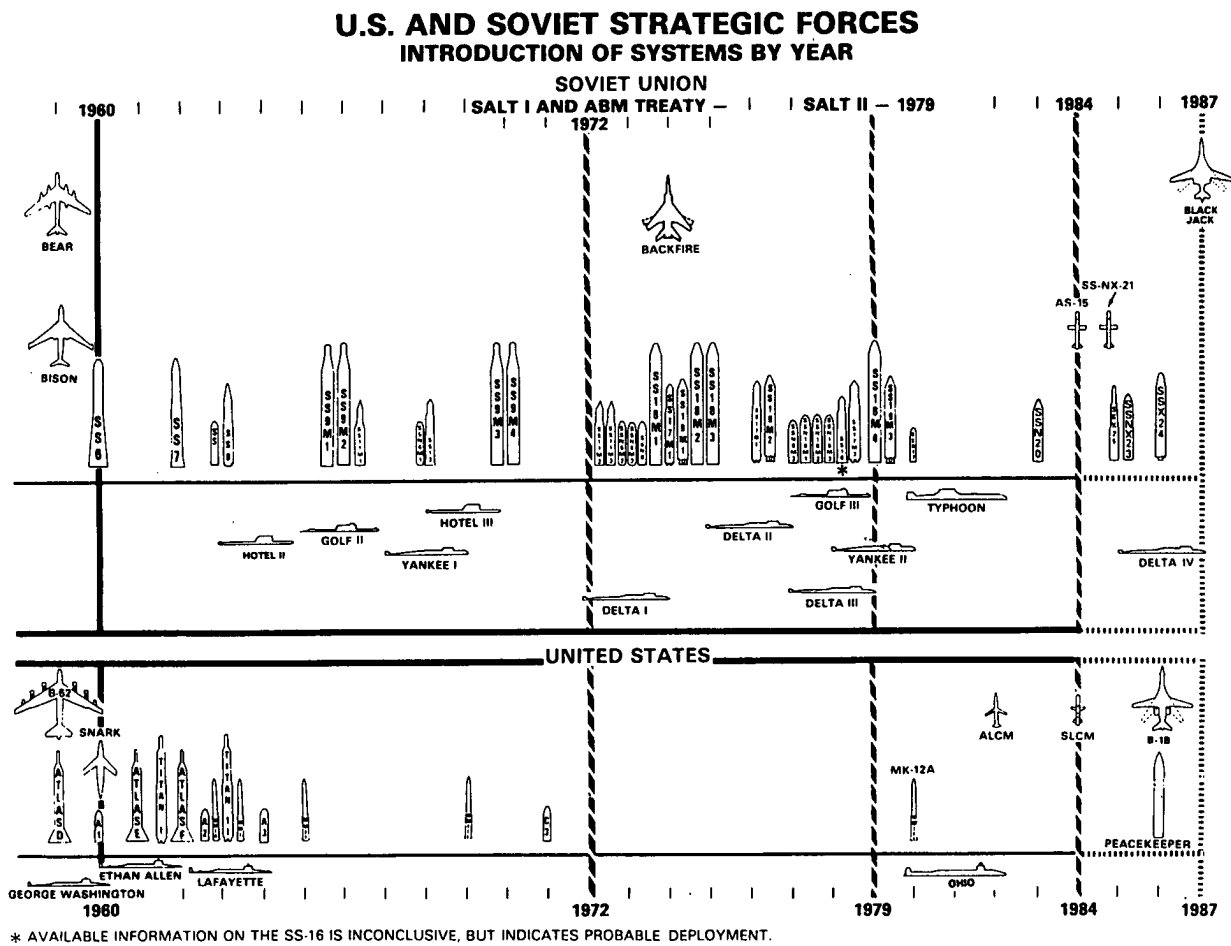


Figure 1: Introduction of Nuclear Systems by Year

In addition to this accumulation of offensive intercontinental nuclear forces, the Soviet Union in 1984 continued to:

- o improve its massive air defenses;
- o upgrade the Moscow anti-ballistic missile (ABM) system and construct large phased array radars (one of which constitutes a violation of the legal obligations under the ABM Treaty);
- o perform extensive research and development (R&D) on a rapidly deployable ABM as well as extensive R&D on a space-based strategic defense system, and on new air defense missiles with capabilities against some types of ballistic missiles; and,
- o Deploy significant numbers of new intermediate- and short-range nuclear missiles and artillery systems.

As last year's report made clear, this accumulation of vast military power, coupled with current Soviet advantages in strategic forces, could--if unchecked--result in the Soviet leadership becoming far more confident about using its political and military leverage to exert influence against other nations around the globe. A perception that the United States is unable or unwilling to take the steps necessary to offset this growing Soviet power could further increase the Soviets' inclination to become involved in regional conflicts, even if such involvement would risk engaging U.S. interests. Furthermore, a growing risk of direct confrontation with the Soviet Union would cause regional powers to become more inclined to accept a greater level of Soviet interference in their affairs. Finally, and most dangerously, this perception could over time begin to suggest to the Soviet leadership that the threat, or actual use, of military force--including nuclear weapons--against United States forces or against those of our allies could result in significant military advantages for them. Thus, from this evidence we can only conclude that the Soviets have not changed either strategy or policy. They continue to build and modernize at a very high rate.

To reverse these dangerous and destabilizing trends, this Administration initiated the Strategic Modernization program in October 1981. The program resulted in some improvements in our deterrent capabilities in 1982 and 1983. In 1984 this long-range program began to secure truly significant enhancements to our forces.

- o The remaining two squadrons of B-52Gs identified for conversion to air-launched cruise missile (ALCM) carriage became operational, bringing the total to five squadrons (90 B-52s with 1,080 ALCMs). Additionally, preparations to begin ALCM conversion of the B-52H force proceeded on schedule, with modification of the first aircraft scheduled to start in July 1985. Moreover, our first new long-range strategic bomber aircraft in over 30 years, the B-1B, was delivered for test and evaluation in October 1984. The B-1B is scheduled to enter the Strategic Air Command's inventory next year.
- o The Trident submarine USS GEORGIA began operational patrol, the fourth Trident, USS FLORIDA, was commissioned and the fifth Trident, USS HENRY M. JACKSON, began sea-trials. FLORIDA began operations recently, and the JACKSON will begin regularly scheduled operations later this year. Additionally, in June 1984, the nuclear version of the Tomahawk land-attack cruise missile (TLAM-N) achieved its scheduled IOC aboard selected submarines and surface combatants.
- o The Ground Wave Emergency Network (GWEN) achieved its initial connectivity capability, thereby increasing the difficulty of attempting to preempt U.S. retaliation by

attacking our command, control and communications (C³) system. The third electro-magnetic pulse (EMP) hardened National Emergency Airborne Command Post (E-4B) was delivered last year. Additionally, we began improvements to the Ballistic Missile Early Warning System (BMEWS).

- o 1984 also witnessed three more highly successful Peacekeeper test flights (the fourth, fifth and sixth tests in that series) concluding Phase I of the test flight program. The seventh test flight, which occurred on February 1, 1985, was also successful. The Peacekeeper continues to perform exceptionally well, achieving accuracies which are better than design requirements. Additionally, production of the first 21 Peacekeeper missiles is underway, as well as support facility construction. All aspects of this program are progressing smoothly and are well within cost estimates. In fact, with the release of the FY85 funds, the program will be over 50 percent complete in terms of total program funds.

An ICBM test program does not, however, constitute a deployed asset. Despite the success of the Peacekeeper test flights, and the progress we have made in starting to rebuild the bomber and submarine legs of the Triad, the inevitable length of time required to modernize all of our strategic assets demonstrates that we have not yet acquired an operational capability that redresses the Soviets' destabilizing advantage in prompt hard-target capability. The planned deployment of 100 Peacekeepers beginning in late 1986 represents the best--and only--near-term solution to begin to correct this strategic imbalance. The rationale for this--deterrence of Soviet aggression through the maintenance of a stable strategic balance--has not changed for the past 12 months, nor has it changed in the last 40 years. The Report of the President's Commission on Strategic Forces (the Scowcroft Commission), which provided the blueprint on which our ICBM modernization program is based, was quite clear about the need to balance Soviet power:

This is central to our understanding of how to deter war, how to frustrate Soviet efforts at blackmail and how to deal with the Soviets' day-to-day conduct of international affairs.

Neither has the importance of the contribution of the ICBM force to the Triad's deterrent capabilities changed. The intrinsic qualities of the ICBM, and in particular the Peacekeeper with its hard-target potential, are most appropriate for placing at risk precisely those Soviet targets (military forces, leadership and C³ capabilities) that the Soviet leadership values most for a war-fighting rather than deterrent posture. Air-breathing systems (bombers and cruise missiles) and submarine-launched ballistic missiles both play valuable and

complementary roles in deterrence; however, neither of these forces alone possesses the requisite combination of promptness, rapid retargeting, and nearly 100 percent alert rate which is available in our ICBM force, and which we need to ensure that the United States can respond credibly and effectively against the entire range of Soviet war-making capabilities in the event deterrence fails.

In particular, the inherent high alert rates, low day-to-day operations cost, and responsiveness of the ICBM force, which includes Peacekeeper missiles, provide a powerful disincentive to a Soviet first-strike. With 100 Peacekeeper missiles in our inventory, the Soviet leadership finally will have to weigh more seriously the vulnerability of key elements of their own forces to retaliation. Peacekeeper thereby will help to induce caution and restraint into Soviet geopolitical activities by removing any perceptions the Soviet leadership might harbor about its ability to dominate a crisis or to conduct and emerge successfully from a nuclear conflict with its most valued assets intact and its war aims achieved. As a result, deployment of Peacekeeper starting in 1986 will clearly decrease the risk of war. These facts have not changed in over a decade of debate about this missile.

At the same time, however, the size of the Peacekeeper force was not chosen arbitrarily. A limited deployment of 100 missiles will not give the USSR legitimate grounds for fearing a first-strike from U.S. forces. With 100 missiles, U.S. strategic forces will fall far short of possessing a first-strike capability--given the numbers of hardened military assets and the dispersal of Soviet nuclear forces. A force smaller than the planned 100 Peacekeepers, however, would have significantly reduced military significance in the eyes of the Soviets. As we begin our new negotiations such reductions to the Peacekeeper program could cause the program to appear as tokenism and thus reflect unfavorably on U.S. resolve to carry through its programs.

Without question, the asymmetry in ICBMs between U.S. and Soviet strategic forces remains very much in their favor. In the absence of continued Peacekeeper production, this asymmetry would become even more skewed in the USSR's favor. Moreover, decisions demonstrating that the United States does not have the determination to proceed with the Peacekeeper program would affect significantly the Soviet leadership's assessment of our national will to meet their political and military challenges.

We believe that our ICBM modernization program, based on the bipartisan Scowcroft Commission Report (and Executive and Legislative branch approval thereof in 1983) continues to offer a sound basis for needed improvements to the ICBM leg of the triad. Further delay on the Peacekeeper will be counterproductive to national security. Our program also reduces

significantly the risks inherent with the failure to modernize. Prompt Congressional approval of joint resolutions lifting the FY85 funding restriction on Peacekeeper production and, later this year, approval of the request for the Peacekeeper in the FY86 budget--in keeping with the Scowcroft Commission's recommendations--will promote global stability, help prevent a deteriorating strategic balance, and reflect a cohesiveness and a sense of common purpose that will strengthen our ability to deter aggression, furnish a foundation for arms reductions, and promote the prospects for continuing peace.

With regard to arms control, we are encouraged that the prospects for negotiations have been improved since our last report. Important developments have occurred after the one-year hiatus that followed the Soviet walk-out from the Intermediate-Range Nuclear Forces (INF) talks and concomitant refusal to set a date to begin new START negotiations. Contrasted with the prospects last year, we now have reason for cautious optimism. We and the Soviet Union are about to begin new negotiations in Geneva, in which a central objective will be to seek agreements on significant reductions of strategic arsenals. As we enter these talks we recognize that our ability to negotiate effectively--and to achieve our goals of deep and effectively verifiable reductions--is heavily dependent on the Soviet leadership's view of our purpose, will and strength.

Recent experience has confirmed, despite Soviet propaganda attempts to the contrary, that they have responded to the steady, responsible actions of the NATO Alliance in fulfilling missile deployment commitments taken under the December 1979 decision. They agreed to negotiate initially, only when it became clear NATO would make a coordinated decision to deploy. They agreed to resume negotiations only when it became clear they could not destroy NATO's resolve through threats and bluster. Likewise, if we are to succeed similarly in our new strategic negotiations, we must demonstrate the same constancy of purpose and determination as shown by the Alliance in INF. Conversely, if we fail on the eve of these new negotiations in Geneva to proceed with Peacekeeper production and deployment, the impact could be far-reaching, extending not only to failure of the strategic negotiations, but may affect the broader East-West relationship as well.

We hope these new negotiations will lead eventually toward agreement on deep reductions, but they are at a critical stage--the first step. That step must be on firm ground because it will set the direction for a lengthy but ultimately rewarding journey. Most of all, it is essential at this time that we not appear hesitant or otherwise lacking in resolve. Cancellation of, or slowing, the Peacekeeper deployment would unavoidably give such an appearance to the Soviet leadership. In fact, should the Congress decide to terminate the Peacekeeper production and deployment program during these early stages of negotiations, the Soviets would have every incentive not to

negotiate seriously, but to anticipate that the United States would take additional unilateral actions which would further reduce U.S. strength without them having to make equitable concessions of their own. There would be comparatively little reason for the Soviets to continue negotiating seriously in the START area, because they would have achieved much of what they want and could be expected to stall to see how much additional they could obtain without concessions.

This result would not be mitigated by cancelling the Peacekeeper and opting only for deployments of the new small missile. The Soviets would observe that the IOC for this alternative is planned (i.e., not a certainty) for 1992, some seven years from now. This additional delay, coupled with 12 years of debate on just the development and deployment of the Peacekeeper, certainly will not convey national resolve to correct the long-standing strategic imbalance. Certainly it will not encourage the Soviets to move toward deep reductions--especially if they conclude that the higher costs associated with a mobile ICBM (they have relevant experience) will give additional support to the arguments that the U.S. will not be willing to spend the money necessary to procure sufficient small ICBMs to correct the imbalance.

It is useful in this regard to recall the comments made by former Secretary of Defense Harold Brown, a Senior Counselor to the Scowcroft Commission, at the time the Commission published its report:

To [abandon the MX and] say that the United States will modernize in the early 1990s with a small single-warhead missile will just not be believable. The Soviets would be justified in calculating that any new U.S. ICBM system will be aborted by some combination of environmental, doctrinal, fiscal, and political problems.

Thus, this report reaffirms the wisdom of the bipartisan Scowcroft Commission to proceed with the full program featuring phased deployment of 100 Peacekeeper missiles beginning in 1986 and development of a new small ICBM for a 1992 operational capability. In addition, Peacekeeper will be instrumental in producing an arms control reduction of Soviet forces which will guarantee the viability of the small missiles deployment in fiscally reasonable numbers.

The Effect of Peacekeeper Deployment on ICBM Vulnerability

In requesting this report, the Congress directed that it include the "...findings of the President concerning the effect of the acquisition and deployment of such missiles on the vulnerability of the United States land-based intercontinental ballistic missile force."

From a technical or engineering viewpoint, the vulnerability of Peacekeeper missiles based in existing Minuteman silos will be roughly equivalent to the Minuteman ICBMs currently deployed in those silos. But because the Peacekeeper was built to withstand greater lateral motion than the Minuteman, there would be some increase in survivability when nuclear-induced ground shock/motion occurs.

The question of force survivability, however, is not the same as that of silo vulnerability. Because the three legs of our Triad each have different characteristics, a Soviet planner seeking to construct an attack against U.S. strategic forces faces significant timing problems. As the Scowcroft Commission noted:

...the different components of our strategic forces would force the Soviets, if they were to contemplate an all-out attack, to make choices which would lead them to reduce significantly their effectiveness against one component in order to attack another. For example, if Soviet war planners should decide to attack our bomber and submarine bases and our ICBM silos with simultaneous detonations--by delaying missile launches from close-in submarines so that such missiles would arrive at our bomber bases at the same time the Soviet ICBM warheads (with their longer time of flight) would arrive at our ICBM silos--then a very high proportion of our alert bombers would have escaped before their bases were struck. This is because we would have been able to, and would have, ordered our bombers to take off from their bases within moments after the launch of the first Soviet ICBMs. If the Soviets, on the other hand, chose rather to launch their ICBM and SLBM attacks at the same moment (hoping to destroy a higher proportion of our bombers with SLBMs having a short time of flight), there would be a period of over a quarter of an hour after nuclear detonations had occurred on U.S. bomber bases but before our ICBMs had been struck. In such a case, the Soviets should have no confidence that we would refrain from launching our ICBMs during that interval after we had been hit. It is important to appreciate that this would not be a 'launch-on-warning,' or even a 'launch under attack,' but rather a launch after attack--after massive nuclear detonations had already occurred on U.S. soil.

As a result, the Commission concluded that:

... the vulnerability of such silos in the near term, viewed in isolation, is not a sufficiently dominant part of the overall problem of ICBM modernization to warrant other immediate steps being taken. ...

These judgments remain valid today.

It is also important to recognize that compared to Minuteman, the increased capability of Peacekeeper to place at risk even the hardest Soviet targets will strengthen substantially our ability to deter nuclear attacks. The extent to which a Soviet planner is deterred from undertaking an attack depends significantly on his calculation of our retaliation exacting heavy damage on Soviet assets. The deterrent value of Peacekeeper must be viewed from the Soviet perspective and their estimate of risk to their key assets. Peacekeeper's capabilities ensure that such an estimate of risk will be very high. The same cannot be said for the capability of the Minuteman force against these same key assets, because Minuteman is not sufficiently effective against these installations. We believe, therefore, that Peacekeeper's ultimate survivability resides in its ability to deter attack in the first instance--and, thereby, increase the survivability of not only the entire ICBM force but of the entire Triad as well.

ICBM Basing

It was the intent of Congress that this report should provide:

...information regarding options to enhance the basing mode survivability of deployed Minuteman II and III missiles, the soon to be deployed Peacekeeper (MX) missile, as well as information about the basing options under consideration for the small ICBM. This should include an assessment of the merits of hardening existing silos, constructing new super-hardened silos, multiple aim point configurations and closely spaced array basing options. Such an assessment should address the availability, possible siting, and potential cost issues for each basing option, as well as any environmental and arms control considerations.

In March 1983, the Department of Defense completed and forwarded to the Congress the "Strategic Forces Technical Assessment Review." This document, which served as a technical input to the Scowcroft Commission's deliberations, reviewed 11 basing proposals and four alternative missile deployments on the basis of:

- o Strategic capability: deterrence, military capability, survivability, endurance, resiliency, and defendability;
- o System Feasibility: cost, schedule, technical risk, operability/supportability, siting, environmental, and public interface;
- o Policy considerations: arms control and foreign policy. Each basing and missile alternative combination was evaluated at the subfactor level by measuring the alternative against a standard of evaluation for the subfactor.

Application of the standard resulted in a rating of either outstanding, good, fair, marginal, or poor for the specified subfactor. In turn, they were combined to yield a resultant rating for the criterion. No attempts were made by the Commission to weight any subfactor; all were treated equally.

For this Report, we re-examined the sections of the Technical Assessment Review (TAR) pertaining to the multiple aim point and closely spaced basing alternatives. After that review, we concluded that the TAR's judgments of the evaluation criteria for these two basing alternatives remain largely valid. The following paragraphs provide a brief summary of those assessments.

o Multiple Protective Shelters (MPS)

The MPS concept proposed a force of Peacekeeper missiles shuttling throughout a larger number of horizontal shelters placed approximately one mile apart. Its rationale was to force Soviet war planners to target each shelter because they could not know with sufficient confidence which ones actually contained missiles. The review showed that, absent real and verifiable arms control restraints, the Soviets could have placed this basing concept at risk either through increased fractionation of their existing missiles (putting a larger number of smaller warheads on the missiles) or by adding new missiles, thus reducing its potential for survivability to a marginal level. Such a basing concept would incur high acquisition costs and evoke significant environmental issues in comparison to the basing option selected for the Peacekeeper. For these reasons and subsequent Soviet force developments this approach was rejected.

o Closely Spaced Basing (CSB)

The Closely Spaced Basing (CSB) proposal involved placing missiles in super-hardened silos positioned optimally about 1,500 feet apart in an overall geometric arrangement occupying about seven square miles. This concept was designed to enhance survivability in two ways: (1) by protecting the missile in super-hardened silos, and (2) by forcing the attacker to sequence the attack (to avoid fratricide) of the silos such that his successive waves of attacking missiles would take hours to complete it, thus furnishing time in between waves to launch a retaliatory strike before the missiles can be destroyed.

Currently, it appears that the only practical means of attacking optimally spaced targets is with specialized, very high technology weapon systems. These include maneuvering reentry vehicles (MaRVs) with earth penetrating weapons, very high accuracy MaRVs with homing sensors,

and synchronized fuzing systems that allow virtually simultaneous detonations of all attacking weapons. Even with these advances, the degree of operational precision required is so high that overall confidence in an attack would probably be very low.

However, one of the potential problems associated with closely spaced basing is the possibility of a "pin-down attack." Such an attack might be able to prevent a retaliatory strike, for long periods by detonating weapons over the deployment area every 30 to 60 seconds. Obviously, this would be an inefficient use of their assets that could be mitigated by deploying U.S. missiles in a greater number of arrays separated by at least five to eight miles. Thus, each must be "pinned" separately, raising the number of weapons expended in a pin-down attack to an exorbitant level; also, some believe that this type of attack could be mitigated by an active terminal defense.

The overall performance of this basing mode is outstanding for its deterrent, military capability, survivability (both current and projected threats), defendability, siting, and public interface. Its costs and environmental impacts are moderate in comparison to the basing mode selected for the Peacekeeper and the other alternative basing modes. Because of these attributes, notwithstanding some technical uncertainties, it was recommended as a basing mode for the Peacekeeper in 1982. Subsequently, it was rejected by the Congress.

o Modification of Existing Minuteman Silos

Existing Minuteman silos could be modified to an upper-bound hardness level of three to four times that of current silos (new super-hardened silos can be made vastly harder--see the following section). This would add some degree of survivability to any ICBM deployed in them--Minuteman II, Minuteman III, Peacekeeper, and the small ICBM. However, the modification would be extensive. The silos would receive a new circular top closure about two or three feet thicker than the current covering device. At launch, it would be lifted by the new missile canister, then tipped off to one side as part of the egress process during the initial launch sequence. The structure of the silos' launcher equipment room and the launch tube would be substantially strengthened by adding more steel and concrete. The launch tube to hold the missile's launch canister would be lengthened, from 5 to 55 feet (deeper), depending on whether the small ICBM, Minuteman (II or III), or Peacekeeper were to be deployed in it. The operational support equipment would be repackaged and mounted in a saddlebag configuration near the top of the missile canister. Other changes involve EMP protection and changes above ground at or near the silo for interfacing with

completely new maintenance and transport vehicles. Cost, both acquisition and life-cycle, for such modifications would be high. Environmental impacts would be low.

o Peacekeeper Basing

As noted previously, however, the Scowcroft Commission took a very different approach to ICBM modernization. Its recommendations for, and the Administration's approach to, the modernization of the ICBM force separated the problem into its near- and longer-term elements. This approach to the problem resulted in the following conclusions:

- oo None of the short-term needs for ICBM force modernization would be met by deploying any missile other than Peacekeeper.
- oo Deployment of Peacekeeper in Minuteman silos would permit fielding the missile at the earliest possible date and at the lowest cost.
- oo No other basing mode would be available in time to meet the missile's initial, or for that matter, realistically meet its full operational capability dates, nor is it clear that we could capitalize on the effectiveness of alternative basing options in the near term to warrant the additional cost associated with them.
- oo For the longer term, Peacekeeper survivability can be improved by additional measures including the super-hardness described below, active defense, or a complementary combination of these and other measures. We believe these conclusions remain sound and correct.

We believe that the overriding national security necessity is to get the new Peacekeepers with their vastly improved accuracy and yields, deployed and operational as soon as possible.

Construction of New Super-Hardened Silos

We have made remarkable progress over the past two years in our research program on silo hardening. It is now possible to construct new silos perhaps 25 to 40 times as hard as current silos. The resistance of these silos to nuclear effects would be significantly above the level of both our current silos and the estimated hardness of Soviet silos. Initial results from scale-model tests have been highly encouraging.

Structures have been designed and tested which will survive near the edge of a nuclear crater. Techniques developed for earlier hardened systems are generally applicable, but exceptional technical development can enable us to deal successfully

with air-blast in the very high overpressure region and with near-crater ground shock and electro-magnetic pulse. The super-hard silo design approach uses steel to confine concrete sufficiently to resist loads rather than carry these airblast-induced loads. For example, the percentage of steel has increased over the current Minuteman design by a factor of four to eight, depending on the design alternative. One other factor also has come to play on the potential effectiveness of these new silos--U.S. construction material technology. Commercially available construction materials have improved significantly in strength since the first Minuteman silos were constructed over 25 years ago.

The missile lateral and vertical shock isolation capability has also been increased through some new technological advances. Current lateral shock isolation technology is based on canisterization of the missile and new Peacekeeper-type shock isolation materials and designs. The canister acts as a strongback, uniformly distributing the shock isolation loading along the missile through many pads. New, high efficiency foam/crushable materials have been developed which distribute a nearly constant force against the missile canister even when the outer silo structure moves violently, thus mitigating the otherwise destructive effects of a nuclear blast.

However, airblast in the very high overpressure region, crater size, and near-crater ground shock and fratricide effects among attacking weapons are the most significant and uncertain areas of nuclear weapons effects associated with super-hard silos. As recommended by the Scowcroft Commission, we have concentrated our recent effort on reducing the uncertainties in these specific effects or, in the case of fratricide, the many nuclear effects that could destroy, damage, or change the trajectory of an incoming weapon following the detonation of another weapon.

Recent analyses by the Defense Nuclear Agency (DNA) have encountered physical relationships that complement the developments in silo hardening technology. These analyses indicate that craters resulting from nuclear detonations are much smaller under certain circumstances than previously predicted. This fact, coupled with improved shock isolation system design technology, has increased our ability to protect a silo's contents within a constrained silo volume. Furthermore, missile egress now appears feasible through debris depths twice as thick as previously believed possible. Taken together, these developments suggest that Peacekeeper deployments in super-hardened silos could, in the future, greatly enhance Peacekeeper's survivability.

This technology is not now ready for full production. Larger-scale tests are required to confirm the scale-model results, and to reduce the uncertainties associated with all these new technologies. Nevertheless, it seems clear that silos

can be built many times harder than predicted in 1983. This program, which is about 30 percent complete, is discussed in detail in the Secretary of Defense's ICBM Modernization Program Annual Progress Report to the Committees on Armed Services of the Senate and House of Representatives, 15 January 1985. This report concluded on the following note:

While encouraging progress has been made, much work remains to be accomplished to resolve uncertainties and validate hardening technology through large-size tests. If successfully validated, hardening technology holds great promise as a survivable ICBM basing mode.

Should a decision ultimately be made to proceed with hard silo deployment for Peacekeeper to enhance mid-term survivability, additional funds would be needed. Because the Soviets will always try to improve their missile accuracies, to the point where even super-hardened silos begin to become vulnerable, the importance of the Strategic Defense Initiative becomes more evident, not to protect silos but to prevent Soviet missiles from reaching any of their targets.

Small Missile Basing

The FY 1985 Defense Authorization Act also required a discussion "...of proposals for the basing mode for the small, single-warhead intercontinental ballistic missile."

In accordance with the Scowcroft Commission's conclusion that deploying the small ICBM in more than one mode would serve stability, we are currently examining three potential basing options for the small ICBM: hard mobile basing; continuous road mobile basing; and super-hardened silo (the same technology applicable to future Peacekeeper) basing. Several developments of note have occurred in the past year.

Competitive contracts were awarded for weapons system concept definition, propulsion, C³, and guidance system alternatives. Thus far, results stemming from these initiatives indicate that difficult, but not insurmountable, technological challenges still exist in (1) building an affordable guidance system; (2) developing a safe, high-energy propellant that meets the missiles' weight restriction; (3) designing an effective C³ system; and (4) reducing the overall cost of ownership. Our work on these and other development efforts indicate that the design goals for the missile are within reach. The Secretary of Defense's Report on ICBM Modernization, cited previously, contains additional details.

o Hard Mobile Launcher

The hard mobile basing mode is currently the primary

focus of attention as a basing mode for the small ICBM. The concept employs launcher vehicle hardness and mobility to provide survivability by imposing a heavy price on the attacker to negate the system. The hard mobile launcher would likely be deployed on existing Department of Defense (DOD) or Department of Energy (DOE) controlled land, where it would be dispersed randomly and moved periodically. The associated launch control centers, which are ground-mobile, will probably operate both on and off government land to ensure survivability.

In order to assist the basing mode and area selection decisions associated with entering full-scale development next year, efforts are underway to prepare a Legislative Environmental Impact Statement by late 1986. The Legislative Environmental Impact Statement will address any potentially significant environmental impacts that may be created as a result of stationing the small ICBM at candidate deployment areas. Preliminary systems and operational requirements are being applied as criteria for screening available DOD- and DOE-controlled lands to eliminate unsuitable areas.

Advanced threats that might be able to obtain prompt tactical targeting information for seeking mobile launchers must still be investigated. Threats may take the form of cruise or ballistic missiles with inflight targeting updates or terminal homing capabilities. Even if one or more of these might become feasible after the year 2000, mitigating countermeasures may be available, but more research will be required in this area.

The principal cost issues for this basing mode are related to manpower required for physical security and maintenance of the system. The physical security concept calls for passive delay and denial measures in the Hard Mobile Launcher to prevent unauthorized access to the nuclear warhead, with rapid response forces being available to supplement the crew. Because of the large area occupied by the system, providing security for the nuclear assets and maintenance of the system to assure readiness tend to be manpower-intensive. Various deployment/operation options are being studied to reduce manpower and attendant significant costs.

The hard mobile launcher concept definition studies were begun and simulated blast tests were completed on scale models of candidate launchers submitted by four competing firms. Based on these results, we have selected two of these firms to proceed with the pre-full-scale development phase. This program is currently on schedule and within cost.

o Continuous Road Mobile Basing

The continuous road mobile concept would achieve survivability by dispersing minimum-hardness system elements over a large area. These "soft" vehicles would

utilize a continuous move-park-move cycle on all-weather roads rather than on DOD- or DOE-controlled lands to achieve survivability.

In concept, the Continuous Road Mobile system reduces the technical risk of development by reducing its hardness and mobility requirements. However, it increases potential public opposition, security, and command and control problems because of its large area of operations. This system is less susceptible to advanced threats than the Hard Mobile system because it can expand its deployments into larger areas.

The system costs tend to be driven by manpower requirements. As with Hard Mobile basing, the security concept calls for passive delay and denial measures to be incorporated for protection of the nuclear assets, with rapid response forces available to supplement the drivers and security escorts. Costs and manning tend to be higher than those of Super-Hard Silo or Hard Mobile basing because of the special physical security forces required, the dispersal of maintenance operations over a large area of the continental U.S., and the manning needed to operate the system over this area. On the other hand, the conventional design requirements for the launcher would reduce acquisition costs. Also, the system tends to be insensitive to changes in the size of the threat, since it can easily be expanded to greater areas once it is established.

Finally, super-hardened silos for the small ICBM could conceivably complement a hard mobile basing concept. The current generic hard silo research and testing being undertaken will have application to the small ICBM as it does the Peacekeeper.

We are proceeding on a prudent schedule to meet the planned operational capability date of 1992 for the missile. Missile flight tests will begin in late 1988 or early 1989 based on a full-scale development decision in 1986. The 1986 decision will also commit the program to a primary basing mode for initial deployments. While we believe this represents excellent progress for a program started only a year and a half ago, it is clear that the small ICBM can be deployed no earlier, without incurring unacceptable levels of technical risk, than its planned IOC of 1992. This planned IOC, coupled with the other attributes of the small ICBM, continues to reinforce our belief and strong recommendation that the Peacekeeper must be deployed as soon as possible and that the small missile is complementary to, but not a substitute for, the Peacekeeper.

Conclusion

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This report documents the President's review of the Peacekeeper program requested in the 1985 Department of Defense Authorization Act. The President has concluded that further acquisition of operational Peacekeeper missiles is in the national security interests of the United States and is consistent with United States arms control policy. The President has reviewed the effect of the acquisition and deployment of Peacekeeper missiles on the vulnerability of the U.S. land-based intercontinental ballistic missile force and found that the recommendations of the Scowcroft Commission remain valid.

The President's review also concludes that the continued efforts of the Soviets to expand their strategic forces has heightened the military need for the Peacekeeper missile. The Report also notes that Peacekeeper production and deployment is closely related to our chances of achieving significant reductions in nuclear arsenals in Geneva. It notes that should the Congress decide to terminate the Peacekeeper production and deployment program during the negotiations, the Soviets' long-term efforts to reduce U.S. strength without meaningful negotiating and without having to make equitable concessions of their own would be realized in considerable measure. Finally, the Report concludes that Peacekeeper deployment in existing silos is essential to enhance deterrence and to maintaining crucial options for restoring the survivability of land-based ICBMs in a cost-effective manner in the years ahead.

In re-endorsing the Scowcroft recommendations the President strongly recommends that production and deployment of the Peacekeeper missile continue as planned in parallel with development of a new small ICBM.