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THE SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

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Copies to: MEMORANDUM FOR THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS
 THE SECRETARY OF STATE
 THE DIRECTOR OF CENTRAL INTELLIGENCE AGENCY
 THE CHAIRMAN, JOINT CHIEFS OF STAFF
 THE CHAIRMAN, COUNCIL OF ECONOMIC ADVISERS
 THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET
 THE DIRECTOR, ARMS CONTROL AND DISARMAMENT AGENCY

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SUBJECT: FY 73 Safeguard Program

In accordance with the President's direction to review the Safeguard program annually with respect to:

- technical problems and progress,
- changes in the threat,
- progress in the Strategic Arms Limitation Talks,

the Department of Defense has prepared the attached "FY 73 Safeguard Rationale" paper which discusses the areas above. It also contains a description of the proposed FY 73 Safeguard program in response to the review.

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Enclosure

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Sec Def Cont Nr. X- 0739

FY 73 SAFEGUARD RATIONALEI. Introduction

This paper is in response to the President's direction to review the Safeguard program annually in accordance with his public commitment of March 14, 1969. The review covers:

- technical problems and progress
- changes in the threat
- progress in the Strategic Arms Limitation Talks

II. Background

On March 14, 1969, President Nixon announced the following objectives for Safeguard:

- "Protection of our land-based retaliatory forces against a direct attack by the Soviet Union."
- "Defense of the American people against the kind of nuclear attack which Communist China is likely to be able to mount within the decade."
- "Protection against the possibility of accidental attacks from any source."

He further elaborated:

- "We will provide for local defense of selected Minuteman missile sites and an area defense designed to protect our bomber bases and our command and control authorities."
- "By approving this system, it is possible to reduce U.S. fatalities to a minimum level in the event of a Chinese nuclear attack in the 1970's or in an accidental attack from any source."

In the FY 70 budget, following the Safeguard decision, the President proposed to move forward with the deployment of an initial phase consisting of sites at two Minuteman Wings, one near Grand Forks Air Force Base, North Dakota, and one near Malmstrom Air Force Base, Montana. Congress approved this proposal.

The Administration's FY 71 proposal, following the first annual review, was to go forward with both the Grand Forks and Malmstrom

sites; commence deployment at one additional site in the Minuteman field near Whiteman Air Force Base, Missouri; provide for additional Sprints at the Grand Forks and Malmstrom complexes; and undertake advanced preparation for deployment at five other sites. Congress approved this proposal, except that authorization for advanced preparation was limited to a single site near Warren Air Force Base, Wyoming.

In the FY 72 budget request, following the second annual Safeguard review, the President's proposal recommended continued deployment at Grand Forks and Malmstrom, initiation of construction at Whiteman in CY 71, and authorization for deployment of a fourth site at either Warren or in the Washington, D.C. area. Congressional action on the FY 72 request approved the continued deployment at Grand Forks and Malmstrom, but withdrew authorization for construction at the Whiteman site, thereby limiting deployment authorization to the Grand Forks and Malmstrom sites; activity at the Whiteman and Warren sites was limited to advanced preparation only; and eliminated consideration of pre-deployment activities in the Washington, D.C. area in FY 72. This action was based in part on the fact that delay in the start of the Malmstrom site construction influenced the decision to delay construction at the Whiteman site.

III. Review for FY 73

Principal findings of the review relative to the FY 73 budget submission are summarized below:

- The technical progress on Safeguard over the past year has been outstanding and there are no technical problems which would affect a decision to proceed with the Safeguard deployment in FY 73.
- Construction at the Grand Forks Safeguard site is on schedule and about 80% complete. Construction at Malmstrom has been delayed by 11 months by labor problems with an attendant delay in site readiness (early 1976). Construction at Malmstrom has been restarted.
- All of the Safeguard ground equipment for Grand Forks and Malmstrom is under contract and procurement of equipment has been initiated for the Whiteman site.
- The Soviet threat has continued to evolve both numerically and technologically over the past year. The Soviets have initiated construction of new silo designs at R&D and operational sites which imply that new or modified missiles may be deployed. The Y-class ballistic missile launching submarine production continues at a high rate and a new, longer range SLEM is rapidly approaching an operational capability (although its platform has not yet been identified).

- The Peoples Republic of China (PRC) has continued to develop its nuclear capabilities. There is new evidence that the PRC initiated flight testing of a probable ICBM in September 1971.
- SALT negotiations continue which may result in restricting ABM deployments for the U.S. and USSR. We cannot at this time be certain, however, that a SALT agreement will be reached or, if so, what the exact provisions of the agreement will be. The measured, phased Safeguard program continues to support both the flexibility and the strength of the President's SALT negotiating position.

Thus, since (a) successful technical progress has been made on Safeguard, (b) the Soviet threat has continued to grow, and (c) we have not yet reached a SALT agreement, we are requesting authority in FY 73 to proceed with Safeguard deployment at four Minuteman sites.

We are also requesting authority to initiate advanced preparation for Safeguard deployment at the ECA (Washington, D.C.). Our long term plan continues the option for full Safeguard deployment of 12 sites.

Finally, we believe that it is essential to maintain an aggressive ABM R&D program. We are, therefore: (a) continuing the Hardsite Defense Prototype Demonstration program so that it can be available to augment the Safeguard program for defense of Minuteman if required later, and (b) continuing the area defense R&D program leading to an expanded defense of strategic retaliatory forces, improved NCA defense and light, nationwide area defense. We feel that all of the above programs are important to our national security and provide incentive to the Soviets to negotiate meaningfully at SALT.

IV. Technical Progress

The research and development portion of the Safeguard program is progressing satisfactorily. The prototype Missile Site Radar (MSR) located at the Kwajalein Missile Range began radiating power in September 1968 and has been operating since that time. It has met or bettered all of its design objectives and no serious deficiencies have been found. Beginning in March 1969, check-out of the MSR data processing system was initiated and successful operation of four data processing units working in parallel has since been achieved. MSR software for the first part of the system test program has been completed and installed. Beginning in July 1969, tracking of local targets was accomplished with the initial software and, in December 1969, two ICBMs launched from Vandenberg AFB, California, were successfully tracked.

The Perimeter Acquisition Radars (PAR) are under fabrication and the first installation will be at Grand Forks (the first Safeguard

operational life). The Air Force FFS-85, a radar based on similar technology, has been operating since January 1969 at Eglin AFB in Florida. A limited engineering development model of the PAR was constructed at the Syracuse, New York, General Electric Plant during 1969 and has been undergoing test. No serious technical problems in this development have been encountered, and there is high confidence of meeting the presently scheduled date for the first PAR site.

The Safeguard system test program began at Meck Island in the spring of 1970 and 23 tests have been conducted to date. Of these, 19 have been successful, two partially successful and two unsuccessful.

The first phase of the system test program contained 16 tests and was completed in the fall of 1971. This phase verified basic system design concepts and demonstrated system level integration of hardware subsystems while evaluating software programs to be used in later testing. The series included three successful Spartan intercepts of target reentry vehicles launched by ICBMs from California. In one of these three tests, two Spartan missiles were launched a few seconds apart and simultaneously guided by the MSR, one to intercept the incoming reentry vehicle and one to intercept a space point. Sprint interceptors successfully intercepted target reentry vehicles launched by ICBMs from California in three tests in this series, one of which involved two Sprint missiles launched a few seconds apart and guided to successful intercepts of a single target reentry vehicle. Also, during this series of tests, Sprint successfully intercepted a target reentry vehicle launched by a Polaris missile from a ship located north of Meck Island.

The second phase of the Safeguard system test program which contains about 40 planned missions began in the fall of 1971. This series of tests is being conducted with an advanced data processing program which contains more tactical elements than the previous one. Tests in this series are designed to evaluate the integrated system using more complex intercept geometries which stress specific system functions. Seven tests, all of which were successful, have been conducted thus far in this series. These tests have included one Spartan and one Sprint intercept of target reentry vehicles launched by ICBMs from California, and one Spartan and two Sprint intercepts of target reentry vehicles launched by Polaris missiles. In all of these intercepts, the Spartan and Sprint interceptors do not carry any type of explosive warhead. The success or failure of the intercepts are verified by electronic means.

Command and control requirements for the interface with the Air Force Minuteman equipment have been defined, and a study of the integration of Safeguard with Continental Air Defense Command has been completed. No significant problems have been encountered.

There are no technical problems that would affect a decision to continue with the Safeguard deployment.

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Construction on the first two Safeguard sites at Grand Forks and Malmstrom Air Force Base is now proceeding. However, a labor contract problem caused a delay in the Malmstrom site schedule of about 11 months. Construction for Grand Forks currently is about 80% complete and about 5-10% complete for Malmstrom. At Malmstrom, a letter contract has been signed and the local labor authorities have begun to provide manpower to support the initial low level construction related activities.

All ground equipment for Grand Forks and Malmstrom is under procurement contract. Production of the operational Spartan and Sprint missiles to be deployed at the first two sites is under way. Procurement has been initiated for the Whiteman AFB site.

V. The Threat

The Soviet and Peoples Republic of China ballistic missile threat estimates are presented for February 1969, February 1970, February 1971 and February 1972. These are key dates for Administration decision points on the Safeguard program.

A. USSR ICBMs

The following table summarizes approximate minimum numbers of Soviet SS-9 and SS-11 ICBM launchers* estimated at the time indicated to be operational or under construction:

	<u>Feb. 69</u>	<u>Feb. 70</u>	<u>Feb. 71</u>	<u>Feb. 72</u>
SS-9	225	275	300	288 ^{a/}
SS-11 ^{b/}	700	800	950	970

^{a/} Work on 12 silos previously identified was apparently stopped:

^{b/} Includes those SS-11s in both ICBM and MRBM/IRBM complexes.

Deployment of the SS-11 in standard silos has probably ceased. Although SS-9 deployment has been irregular, the table is based upon the indications that further SS-9 silo construction has stopped. However, during the course of the last year, we detected 100 new silos that differ from currently deployed Soviet ICBM silos. There are several variants in early to mid-stages of construction - conclusions are that a higher level of hardness is intended and that a new or modified, large missile (roughly the size of the SS-9 and possibly a MIRV) and a new, smaller missile (perhaps an SS-11 modification) may be deployed.

* There are now more than 375 additional launchers deployed for other operational ICBMs, and test and training launches.

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Tests of modifications to the SS-11 and SS-13 have continued during the last year. Data acquired from SS-9 tests in the fall of 1970 indicate the capability of controlled variations in the release of the three reentry vehicles carried, suggesting to some an independent targeting capability, but we have not identified achievement of accuracies consistent with high probability of kill against hard targets for these reentry vehicles. There have been no tests of this system since November 1970, suggesting that the Soviets may have canceled or curtailed the SS-9 triplet program, possibly in favor of the new, large missile noted above.

Analysis of the latest projections (Illustrative Force Model Projections by Year 1971-1979, National Intelligence Estimate 11-8-71) concerning Soviet capabilities indicates that, if the most severe of the postulated SS-9 and SS-11 type missile forces were directed at Minuteman, the Minuteman force (assuming that the silos are undefended, but are upgraded as scheduled to 1000 psi) could be drawn down to 300 survivors or less as early as 1975. Other less severe SS-9 and SS-11 type missile forces in these projections could not achieve this level of damage against Minuteman until 1978 or later.

Tests of modified versions of the SS-11 have been under way since the summer of 1969. The new payloads may represent an attempt to improve penetration capability against active defenses, but the payload-accuracy combination of currently deployed systems is estimated to be inadequate at this time for an effective hard target attack.

B. USSR SLBMs

The number of Yankee-class submarines (16 missiles each) for SLBMs estimated to be operational or under construction at the time indicated is depicted below:

	<u>Feb. 69</u>	<u>Feb. 70</u>	<u>Feb. 71</u>	<u>Feb. 72</u>
Y-class Boats	14-18	22-25	33-35	42-43

All of the 33-35 Y-class boats identified last year will probably be operational by the end of 1972. The operational Y-class force could reach over 40 units by the end of 1973. If production continues at the present rate -- and there is no indication of slackening -- the operational force could reach over 50 units by 1975. The Y-class SLBM range is about 1300 nm. The present Soviet operational Y-class force is sufficient to threaten that portion of the SAC bomber force which is on normal alert at coastal bases.

Testing of a new 3500 nm range SLBM continued in 1971. The initial test from a seaborne platform was conducted in December 1971. The intended platform for its deployment is unknown (it will not fit into the Y-class boats built to date), but the missile is clearly approaching an operational capability.

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C. Peoples Republic of China (PRC)

The PRC continues to press toward an ICBM capability. There is new evidence that the Chinese initiated flight testing of an ICBM in September 1971, and preliminary evidence suggests they may be in the first stages of developing an SSBM capability. A Chinese ICBM force of 10-25 silo launchers may be possible by 1975, but it more likely will be later. Some 50 or more launchers could be operational by the late 1970s.

The Chinese conducted a nuclear test involving a weapons physics experiment in November 1971 which would allow them to refine and expand their thermonuclear weapons capability.

VI. SALT Developments

A. Current Negotiations with the Soviet Union

Presently the focus of the SALT negotiation is being directed towards obtaining an initial agreement covering ABM systems, together with some limitation on offensive missile systems. We do not know if a SALT agreement will be reached or, if so, what the exact provisions of the agreement might be. The President's Safeguard program enhances the probability of SALT success and is flexible enough to accommodate any SALT agreement or lack of agreement.

B. Considerations for U.S. Policy for RDI&E Under a SALT Agreement

A more general strategic ballistic missile defense issue is the level and structure of activity appropriate in the period that a SALT agreement might be in force. The Soviets have greatly expanded their ABM development efforts in recent months and may be expected to continue with an extensive research and development program even if a SALT agreement is reached limiting or prohibiting ABM deployment. To date the U.S. and Soviets have taken the position that ABM R&D should not be limited by an agreement.

From a national security point of view, the United States cannot afford to abandon ABM R&D if it is allowed under an agreement. We need to continue ABM R&D for at least three reasons:

- We must hedge a requirement to protect our land-based retaliatory forces with ABM defenses. Although continuing attempts will be made to limit the threat to U.S. retaliatory forces by SALT agreements, results of these efforts could be inadequate, or a treaty abrogation or violation could occur.
- We must be able to insure adequate penetration of our own offensive missile systems. U.S. ABM development efforts can provide knowledge which will help us understand the full implication of Soviet ABM activities.

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// → We must be able to meet a possible requirement to deploy a nationwide area defense at some time in the future. Although such a defense is necessary if we are to satisfy the President's objectives to defend against a possible Chinese attack or accidental attacks from any source, deployment of such a defense might be restricted in any near term SALT agreement. We intend to continue development effort on improved light area defense components.

In all cases U.S. programs will be formulated such that appropriate actions following any treaty breakout could be undertaken expeditiously. This would include incorporating provisions in our R&D programs such that ABM deployments could be rapidly achieved after a treaty breakout.

VII. Proposed FY 73 Program

A. Safeguard Deployment

We propose to proceed with our previously planned defense of strategic retaliatory forces at four Minuteman sites by continuing our ongoing construction and installation programs at Grand Forks and Malmstrom, and proceeding with construction and procurement for the Whiteman and Warren sites. This program would be completed in late 1977.

We also propose to initiate advanced preparations for defense of the NCA at Washington, D.C. By starting this now, we can have a defense by early 1979. This will provide substantial protection of our NCA and its attendant command/control against a small or accidental attack, and above all afford additional valuable time for decision-making in the event of a mass attack on Washington. In particular, this deployment will counter SLBMs launched from submarines off our coast with very short times of flight. More specifically, such defense will discourage what otherwise could result in a situation whereby the NCA could be destroyed in a surprise attack perhaps with a small expenditure of enemy resources; e.g. one Y-class submarine and its missiles.

The Safeguard program plan for the longer term is to continue the measured deployment with additional sites as appropriate leading to the full 12-site deployment in support of the President's objectives for ABM defense.

B. ABM R&D

With continued qualitative improvements in Soviet ICBMs even without increases in the number of Soviet ICBMs, the threat to Minuteman

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in the last half of the 1970s might grow to a level beyond the capabilities of the four site Safeguard defense of Minuteman. For this reason, the Hardsite Defense Prototype program was started. Hardsite Defense would be designed to protect Minuteman against a USSR attack which is more severe in numbers and sophistication than Safeguard is designed to handle. It would augment Safeguard should a future threat make that advisable. The Deputy Secretary of Defense, on 14 January 1971, directed the Army to plan and carry out a Hardsite Defense Prototype Demonstration program.

The Secretary of the Army assigned the HSD mission to the Safeguard System Manager. An Army organization has been established and a System Engineering and Technical Assistance Contractor has been competitively selected. The program is on schedule. Three competitive contracts were awarded in June 1971 for prototype demonstration program proposals which were submitted on 30 November 1971. These proposals are being evaluated by formal source selection procedures and a prime contract for the execution of the HSD Prototype Demonstration program is planned for award in the first half of CY 1972.

We propose a FY 73 Hardsite program funded at \$20M in RDT&E funds plus \$20M in construction for RDT&E facilities that would permit initial deployment of the system in the 1978-1979 time frame. The Hardsite program will be continually evaluated, taking into account threat developments, the impact of SALT, and other variables and uncertainties.

Our program also includes continuation of area defense research and development leading to bomber defense as part of the Safeguard deployment, an improved NCA defense and an advanced nationwide area defense against light attacks. New funds for area defense are not requested as part of the Safeguard program since adequate prior year funds are available. In addition, advanced area defense technology will be pursued in the Advanced BMD program.

C. Summary and Discussion of Program

Summarizing, we propose to:

1. Proceed with the planned deployment at the four Minuteman sites.
2. Initiate advanced preparation for defense of the NCA at Washington, D.C.
3. Plan for the longer term to continue the deployment leading to 12 sites.
4. Continue with the Hardsite Prototype development program.
5. Continue with area defense research and development under Safeguard and the Advanced BMD program.

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This over-all ABM program would:

- Provide a level of protection, dependent upon the nature and severity of the attack, for Minuteman, and command and control centers in the central United States (Omaha and Colorado Springs) at the earliest possible time, and a base for defense of inland bomber bases with improved area defense components.
- Provide a defense of the NCA against small attacks or accidental launches, and the means of affording added valuable time for decision-making in the event of a mass attack on Washington, D.C.
- Provide the base for augmenting Safeguard defense of Minuteman sites with HSD if threat developments warrant it.
- Provide the means of introducing advanced nationwide area defense at a later time.
- Enhance probability for success of SALT.

D. Deployment Schedule

The deployment schedule for the proposed Safeguard program is shown below:

<u>Oct. 74</u>	<u>Early 76</u>	<u>Early 77</u>	<u>Late 77</u>	<u>Early 79</u>
Grand Forks	Malmstrom	Whiteman	Warren	<u>Initial &/ NCA Defense</u>

a/ The initial defense of the NCA, Washington, D.C. is the same as would be provided in the 12-site Safeguard deployment and consists of a single MSR and interceptors. A Safeguard site at Washington under an arms control agreement permitting ABM defenses of national capitals might need to provide for a "reinforced" deployment of 3-4 radars deployed by late 1979.

Under the proposed program, the earliest Hardsite deployment, if found necessary, would be in the 1978-79 time frame. Substantial deployments could be available in 1980 or 1981.

The Safeguard and Hardsite funding requirements are as follows:

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SAFEGUARD PROGRAM
 (TOA in Millions)

Weapon System Acquisition Cost

	<u>FY 1971</u>	<u>FY 1972</u>	<u>FY 1973</u>
RDT&E	364.0	357.6	340.0
Missile Procurement, Army	648.2	639.0	753.0
Other Procurement, Army	2.8	1.0	1.4
Military Construction, Army	<u>357.0</u>	<u>119.0</u>	<u>390.0</u>
TOTAL	1,372.0	1,116.6	1,484.4

HARDSITE PROGRAM
 (TOA in Millions)

	<u>FY 1971</u>	<u>FY 1972</u>	<u>FY 1973</u>
RDT&E	25.0	60.0	80.0
Military Construction, Army	<u>-</u>	<u>-</u>	<u>20.0</u>
TOTAL	25.0	60.0	100.0

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