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124. Report by the Anti-Submarine Warfare Panel of the President's Science Advisory Committee/1/

Washington, April 28, 1966.

/1/Source: Johnson Library, National Security File, Agency File, Office of Science and Technology, Vol. 1 [1966], Box 42. Top Secret. A title page is not printed.

I. PREFACE

A. Charge to the Panel

The Panel (membership attached as Appendix A)/2/ was formed in May 1964 by the Special Assistant to the President for Science and Technology and asked to review our Nation's present and planned capability in Anti-submarine Warfare (ASW).

/2/Not printed.

The ASW Panel was to assess for the President:

1) the extent and nature of the submarine threat,

2) the technical possibilities for coping with this threat,

3) the extent to which the programs we are undertaking or are projecting will take advantage of the available technical opportunities for coping with the submarine threat, and

4) the organization for developing and applying the technical means for solving ASW problems.

The PSAC ASW Panel examined the Navy's ASW program during the period May 1964-July 1965. This report was completed in August 1965./3/ Time has not stood still since that date, and in particular the Navy has accelerated or undertaken many important efforts that implement in part certain of the Panel's recommendations. For example, the Navy has expanded its exercise program and continued to develop an improved analytical capability; the Captor program has been accelerated; much greater coherence is seen in the torpedo-countermeasures program; greater emphasis has been given to anti-ship torpedoes; etc. The Panel is aware of these developments, in broad outline, but for the most part it has not investigated these matters in sufficient detail to attempt to revise the report to take into account new progress. The Panel believes that its assessment of the total ASW program remains valid and that its recommendations require further action.

/3/See Document 99.

B. Panel Activities

In carrying out its mission, the Panel undertook to examine all relevant technical areas, recognizing that this involved many aspects of technology and a wide variety of naval programs. We also sought to take full advantage of the wealth of experience accumulated by our naval personnel and by other technical groups, both through an examination of their writings and through personal contacts and discussions. Finally, we sought to gain as much first hand experience as our schedules would allow with the current operational and R&D ASW equipment and with our ASW forces.

In so doing, the Panel has considered the present families of ASW platforms: 1) submarines, 2) surface ships (destroyers), 3) fixed-wing aircraft, and 4) helicopters; ASW sensors: 1) fixed acoustic surveillance systems, 2) submarine-borne active and passive sonar, 3) ship-borne active and passive sonar, 4) variable-depth sonar (VDS) either towed or free-swimming, 5) helicopter-dipped sonar, 6) sonobuoys, 7) airborne magnetic anomaly

detection (MAD), and 8) radar; ASW weapons: 1) MK-37, MK-44 and MK-46 acoustic homing torpedoes, 2) mines, and 3) nuclear armed torpedoes or depth charges, including such delivery methods as anti-submarine surface launched rockets (ASROC), submarine launched rockets (SUBROC), and drone anti-submarine helicopters (DASH); and ASW fire-control and data-processing techniques and equipment.

In addition to these primary technical areas, the Panel has examined in some depth the Naval organization for R&D in ASW, including in particular the Navy's programs and techniques for developing, testing and evaluating systems and equipment. The Panel has also been concerned with manning requirements and training, ship automation, reliability and serviceability, the methods by which ASW effectiveness is measured, and the rationale for force-level determination. The Panel explored deeply with the Navy the detailed nature of the intelligence available on the Soviet submarine threat, and some members of the Panel went more extensively into the total store of intelligence.

Members of the Panel participated in ASW carrier task force exercises, visited shore-based sound surveillance systems, flew in shorebased and carrier-based fixed-wing aircraft and in helicopters, sailed on destroyers hunting submarines, spent several days on nuclear-powered killer-submarines (SSKN) of the most advanced types (Plunger-Thresher), and witnessed trial firings of Polaris missiles from nuclear powered ballistic missile submarines (SSBNs). The Panel also visited naval laboratories and facilities, as well as the headquarters of ASW, both Atlantic and Pacific. In addition, the Panel has had constant contact with the staffs of DDR&E and the Department of the Navy, as well as a joint meeting with a United Kingdom ASW panel under Dr. John Kendrew.

Thus, we believe that we have examined the relevant technical areas. We have benefited greatly by our contacts with naval personnel and by the work of other technical groups. Although we were able to visit many naval establishments and to examine much equipment firsthand, we were not able to do so to the extent that we would have liked and have instead had to rely to a great extent on the available technical data. We believe that the available data have been provided by the Department of Defense and the Navy; as we received these data we were gradually led to the conclusion that one of the primary weaknesses in our ASW program was the scarcity of technical and scientific personnel in positions which carried real management responsibility and/or authority.

In this report, the technical material and supporting arguments are to be found in Sections III through VII; conclusions and recommendations are contained in each of these sections; however, the major ones have been extracted and are to be found in the summary section (Part II). A first reading of the material should include at least Parts II and III.

II. SUMMARY

A. The Submarine Threat

The submarine threat to the United States is very substantial and will remain so indefinitely. As a measure of its intensity, we can note that the Soviet Union has a fleet of approximately 350 long range submarines of which 40 are nuclear and 310 conventional; that China has already built one and will probably build more copies of the **Soviet diesel-electric G-class submarine which is capable of firing short range ballistic missiles while surfaced; and that such lesser powers as Indonesia and Egypt have been given Soviet submarines and can, therefore, pose a threat to elements of our naval forces in limited wars. Without question, submarines will with time become available to more and more nations perhaps including South American nations.**

We found it useful to classify the submarine threat in the following important categories:

1. Submarines carrying nuclear weapons which can be used against CONUS by the Soviet Union now and by China in perhaps five years, as a deterrent force.

2. USSR submarines which would be used against our Naval forces (i.e., carrier and amphibious landing force) and against merchant shipping which might be carrying out theater support in a limited war.

3. Submarines of small powers which might be used as in para 2. Although we do not have detailed knowledge of the technical characteristics of the newer Soviet submarines, we have some quantitative data to support the conclusion that, with the possible exception of the most recent classes whose acoustic characteristics are not well known, current Soviet submarines are relatively noisy--except, of course, when they work on battery. In addition, nuclear submarines may possess a very small separate machinery plant to allow long endurance "creep" operation at reduced noise level. This does not mean that the Soviets may not now be developing relatively quiet nuclear subs, as we have done, or even fuel-cell powered quiet submarines. In fact, it is hard for us to assume

otherwise since the Soviets certainly have the technical capability to do so and they are surely aware of the fact that noise is a key weakness in their subs.

B. Our Capability

Our capability in ASW depends on a composite of sensors, ordnance, platforms to carry the sensors and ordnance, and tactics for their utilization. The sensors which are used for detection and classification, location, and tracking of submarines include active and passive sonar, MAD, radar, and even visual sighting. These sensors must work in the open ocean, which is a complex medium with poorly determined properties that vary with both time and location. The platforms in which the sensors are installed include surface ships, submarines, fixed-wing aircraft, helicopters, sonobuoys, as well as fixed platforms in our coastal water and other critical areas. The effectiveness of each element, or combination of elements, of course, also depends strongly on the technical characteristics and the tactics of the enemy submarines.

No one device or tactic plays a predominant role in our capability to detect, classify, locate and kill enemy submarines, and our capability is indeed a result of the combined use of the elements which make up our ASW forces. We do not foresee at this time any single new invention, development, or discovery which would by itself drastically alter this interdependence. The Panel does recognize that if large surface-effect naval vessels such as the Captured Air Bubble (CAB) ship could be successfully developed, they would, because of their great speed, be substantially less vulnerable to submarines than present types of vessels. It also recognizes that a reduction in the noise output of USSR submarines would greatly reduce our over-all effectiveness, but would affect the elements of our ASW forces differentially to different degrees.

Assessing our ASW capability for various threats is an extremely difficult task. It cannot be done convincingly by combining in a simple way the performance capability of each of the many elements that make up our ASW forces. It must depend in good part on empirical data from imaginatively and carefully designed naval tests and exercises. These are costly and difficult to design, execute and evaluate, but are nevertheless essential if we are to have any confidence in any assessment of our ASW capability. Although efforts to test and evaluate our ASW forces have been greatly expanded in the past two years, and the quality of the at-sea exercises shows continuing improvement, much still needs to be done in this very difficult aspect of ASW. As a result, we are now in the position that any such assessments are largely based on incomplete, inconsistent and fragmentary data; and any reliable quantitative assessments of our over-all capability is virtually impossible at this time.

Quantitative evaluation is fundamental not only in assessing our over-all capability, but also in assessing the desirability of various courses of action at all levels in the ASW program, from exploratory development, to component selection, to force design and procurement, to the selection of tactics and ASW strategy. Unless the marked improvement in this area which we have observed over the past two years continues and is expanded, we shall be forced to continue to rely too heavily on judgment in areas in which the rapidity of technological advance has provided opportunities and problems well beyond the scope of past military experience. Although the design, execution and evaluation of appropriate analytical studies, naval tests and exercises are difficult, they must be pursued with increased vigor.

In assessing our capabilities, we note that some of the individual components of our ASW forces, such as nuclear powered submarines (SSNs), are clearly qualitatively superior to their Soviet counterparts. We are impressed by the dedication and general quality of the officers in our ASW forces. These forces can clearly cope with the existing submarine threat from any of the smaller nations, although not without some losses. We note also that the Navy has carried out successfully numerous difficult intelligence missions, using components of the ASW forces, but the analysis of our ASW capabilities against the Soviet threat is still a complex problem. We can, however, say that our currently programmed (5 year) ASW forces would have extreme difficulty in denying to the Soviet Union a submarine-launched nuclear second strike capability which is a substantial augmentation of their land-based strategic nuclear forces./4/ Our active ASW is not good enough and our detection net is too soft do this.

/4/We note that since the publication of the draft of this report, greater emphasis has been devoted to the concept of [*less than 1 line of source text not declassified*] and more emphasis to the question of coercing the USSR through blockades at sea; neither of these changes in emphasis is evaluated in this report. [Footnote in the source text.]

By addressing ourselves to the specific threat, we may be able to acquire the capability of denying the Chinese a credible nuclear deterrent as long as the Chinese deterrent is based solely on a few G-class subs with short-range missiles aimed at West Coast targets. A detailed study of this threat and of possible techniques to counteract it is clearly warranted.

Although we believe that being prepared for an all-out non-nuclear war in Europe in the style of World War II may be somewhat unrealistic, we emphasize that in most of the information provided to the Panel, a large fraction (1/2 to 1/3) of currently programmed ASW forces was justified primarily for this purpose. Nevertheless, our capability is poor to protect against substantial loss in sustained conveying of groups of 50 to 150 slow merchant ships in the face of a concerted attack by a Soviet submarine force. The fact that the Navy was unable to present to the Panel a current carefully-thought-out and realistic convoy doctrine or policy (and probably has an insufficient number of torpedoes if the USSR uses countermeasures) is symptomatic of the uncertainty even the Navy has in this matter.

Regarding the protection of carriers, amphibious forces and replenishment groups against the USSR submarine force, we appear to be placing a great deal of reliance on the effectiveness of the SQS-26 sonar used in bottom-bounce and convergence zone modes. Our limited (and inadequate) collection of oceanographic data does not support confidence in the bottom-bounce and convergence zone operations over large areas of the oceans and this leads us to doubt that detection will be achieved with a consistency sufficient to permit effective escort protection in many of the situations postulated for its use. Moreover, we believe that the potential effectiveness of our SSN/SS barriers has been overestimated, principally because enemy attacks, variations in enemy tactics, and even simple torpedo countermeasures have not been realistically assessed. Thus, we conclude that our carriers, amphibious forces, and replenishment groups are likely to be much more vulnerable to submarine attack, either by the USSR or by the smaller nations possessing USSR submarines, than has been stated in Memoranda to the President and presentations to the Congress on the basis of the Official Navy Study Cyclops II. In the case of small nations, for which submarine effectiveness is alleged to be very poor because of the inexperience of native crews, we note in particular that identification of the nation to which a W-class submarine belongs poses difficult technical and political problems and that the operational readiness of these submarines could rapidly be enhanced through appropriate use of "volunteer" crews.

C. ASW Expenditures

Considering the total submarine threat to the U.S., the very costly, but, in our view, inefficient program we mount to counter the important categories of the threat, and considering the high cost and low effectiveness of adding to our force structure many of the platforms, devices, techniques, etc., now being considered by the Navy, we conclude that some portion of the budget originally planned for the further operation and acquisition of present types of systems should be re-allocated to improvement programs to increase those systems substantially in effectiveness from their present marginal levels. Many of these systems, in fact, have considerable potential for improvement. Further acquisition of larger numbers of marginal or ineffective systems would provide far less ASW defense for our dollar than will such improvement programs.

D. ASW As A Systems Problem

The structuring and utilization of the various elements in our ASW forces constitute a systems problem in its most challenging form. The interdependence of the elements with each other must be appreciated and accounted for. Major commitments either for development or deployment in any one area must be made in the light of an assessment of the net contribution of each element to the over-all system. We cannot afford to neglect systems analysis and management here, even though they are far more difficult than in the strategic military areas where they have been very effectively utilized. On the contrary, because of the greater complexities and the greater number of subtleties involved, it seems to us that an over-all systems approach to ASW would be more fruitful, would reduce unnecessary duplication and redundancy, and could provide more insight than it does in those areas where it is more easily applied. How else can we possibly measure the increase in effectiveness we get for each dollar spent in ASW, or even the relative value of investing in different elements of our ASW forces, or the priority which we should assign to different development projects?

E. ASW Management

The responsibility for ASW in the Navy now is diffused through the many bureaus, laboratories, etc., in the Navy, and we find little evidence of *effective* testing, analysis, evaluation or decision-making concerning our over-all ASW forces. Rather, we have the impression that our ASW posture is largely a residue of tradition, of history, and of considerations of "balanced forces" rather than response to the realities of the current and projected threat and the current and projected technology. It is quite natural that past history, tradition, and internal forces within the Navy would have strong influences, but they cannot be allowed to overwhelm whatever hard data, analysis, test results, etc., one can bring to bear on the problem. Clearly, the Navy recognizes its dilemma and has tried in the last year to focus much of the responsibility for ASW in two newly created positions: the Director of ASW Programs under the Chief of Naval Operations, and the Manager of ASW Systems Projects under the Chief of Naval Materiel. Although we support these actions as steps in the right direction, we consider them inadequate to cope with the problem in spite of the obvious competence, dedication, and serious intent of the individuals chosen to occupy these positions. The new offices do eliminate in part the excessively piecemeal approach of the old organization, but they seem to have inadequate technical staff and insufficient line authority and responsibility in ASW.

We conclude that the Navy is not yet organized to maximize its ASW capability, and that to do so would require a major reorganization which would recognize and treat ASW as a technical system and provide greater management focus for responsibility and authority. In order to achieve marked improvements in our ASW effectiveness per dollar spent, there must be a high-level organizational element within the Navy with a strong technical staff which would have the responsibility for examining *all* the elements of ASW and their interrelationship, and would also have the authority to control the major portion of the resources allocated to ASW. It would be only too easy simply to recommend a Polaris type management system for handling ASW. But we recognize that the ASW problem is characterized more by its differences than by its similarities to the Polaris system. We do, however, recommend that the Department of Defense develop a management system for ASW which will have the substance and authority that the Special Projects Office had; but this will evidently require more effort and more technically competent people to manage adequately this more complex and more varied field.

F. Major Conclusions and Recommendations

1. *General*.

The Panel has heard the Navy on a number of occasions on matters relating to the rationale underlying force level development, threat and desired capabilities of Naval forces. The Panel was convinced that the information that was presented to it was inadequate and that the rationale underlying the development of forces has not been adequately developed. In its deliberations the Panel has arrived at a number of conclusions in this area that do not coincide with those of the Navy, and strongly believes that the Navy should devote much greater efforts to the development of a rationale for the employment of ASW forces and of justification for its development and procurement programs.

Our primary general conclusion is that our over-all ASW capability is very poor in relation to what we should expect from a program which costs the nation approximately $3B per year. The principal reason seems to us to be an inability to take full advantage of technical opportunities available to us, which is directly traceable to management policy which in effect gives excessive emphasis to quantity, to the relative neglect of quality (technical performance, availability, reliability, ease of maintenance, etc.) in force development. This is reflected most clearly in a relative lack of *effective* operational tests and evaluation of components and systems, and hence in a lack of a realistic factual basis on which decisions might be based. This is further reflected in a collection of components that are not well matched, or capabilities for individual components that are clearly out of phase. (The mismatch between destroyer sonar detection ranges, fire control accuracy, and weapon acquisition range is one example. Another is the lack of balance between torpedo countermeasures capability, which is practically nonexistent, and other characteristics of torpedoes such as range, lock-on range, etc., which have been continually improved. Another is the lack of balance between sonobuoy detection capability, which utilizes narrow band spectral analysis (LOFAR) of low frequency line structures, but is not directional, and correlation analysis using sonobuoy (CODAR) localization which depends on broad band noise with average higher frequencies and hence much greater attenuation. A final example is the great emphasis placed on anti-submarine torpedoes and the relative lack of effort on anti-shipping or anti-surface ship torpedoes.) These deficiencies will not be corrected by further procurement of the present systems. Thus, the Panel does not endorse several major components of the present ASW procurement program, and instead, concludes that a major effort should be made to improve the quality of our ASW posture rather than increase the numbers of those components that are often inadequate to their mission./5/ An increase in the numbers of such components over the next five years at the proposed rate means only a modest increase in total numbers, but it is questionable whether this will correspond to an equivalent increase in over-all effectiveness. However, the institution of several major developmental programs over the next five years is almost certain to lead to a very major improvement in our ASW capabilities in the period five to fifteen years from now, provided that these programs are well executed.

/5/The Panel is aware that current budgeting procedures result in R&D and procurement programs being considered quite separately, but believes this to be unwise, especially for systems which are not normally replaced over an interval of from 15 to 20 years. [Footnote in the source text.]

In adopting this conclusion, the Panel recognizes that over the next five years major improvements in our ASW posture can come about only as the result of improving the presently-existing components. In addition, the proposed developmental programs, if they are to be properly executed, will require a major reorganization in the management of ASW.

In concluding that many of the proposed increases or replacements in present ASW forces are not justified, the Panel examined the threat, with the results which follow:

a. *General War with USSR*. The Panel recognizes the capability of the USSR to use surface-launched ballistic missiles (SLBM) and surface-launched cruise missiles (SLCM) in an attack on the Continental United States

(CONUS). The limited size of such attacks, plus the possibility of early detection and warning, reduce the attractiveness to the USSR of this as a first strike alternative. The USSR SLBM and SLCM's could be used in a second strike as a follow-on to their first strike or in the event of a first strike by the U.S. Our present ASW forces might detect the build-up for a first strike, but have a limited capability for interdicting one. The U.S. capability would diminish and could become largely ineffective in the event the Soviets elected to use such submarine forces as a second strike. A numerical build-up of our SSN and DE-1052 destroyer forces over the next five years would lead to only minor improvements in both our capability to detect or interdict.

b. *Non-nuclear War with USSR*. The Panel believes that the large number of Soviet submarines would lead to very large U.S. and allied shipping losses during the early months of such a war--perhaps sufficiently great to materially reduce the effectiveness of allied ground forces, though the Panel has not examined this point in detail. An increase in the number of ASW components could *possibly* produce a proportional decrease in shipping losses in convoys, but the Panel believes that alternative tactics to convoy operations could also decrease such losses.

c. *General War with Communist China*. The Panel believes that the Chinese Communists could deploy in five years a small number of missile-carrying submarines which would pose a threat to West Coast cities and act as a deterrent against our use of nuclear weapons. While such a threat is not decisive, it does provide China with a negotiating tool. The Panel believes that development of [*less than 1 line of source text not declassified*] techniques may effectively neutralize this threat. The development of [*less than 1 line of source text not declassified*] tactics will require extensive operational tests. Success in these tests should lead to increased consideration of a forward Sound Surveillance System (SOSUS) and to the development of special [*less than 1 line of source text not declassified*] aids.

d. *Limited War*. The Panel concludes that there is a definite threat to carrier task forces and to amphibious forces in limited war situation. Such forces are vulnerable primarily because of inadequate sensors.

In view of these considerations, the Panel recommends acceleration in certain development programs, changes in the organization of the R&D program, and reduction in several procurement (or replacement) programs.

[Here follow Sections (or Parts) III-VII.)

130. Memorandum From Spurgeon Keeny of the National Security Council Staff to the President's Special Assistant (Rostow)/1/

Washington, May 31, 1966.

/1/Source: Johnson Library, National Security File, Intelligence File, TKH Jan.-July 1966, Box 1. Top Secret; [*codeword not declassified*]. An attached undated note from Bromley Smith to Rostow notes that this statement on Soviet ABMs also affected the ACDA proposal Rostow had spoken about that morning. Smith added that the President's attention should be directed to this data during the preparation of the military budget.

SUBJECT
CIA Intelligence Report on the Status of the Anti-Missile Defense System for Moscow

Bromley Smith asked that I prepare a note for you commenting on the attached report which summarizes the current status of our knowledge of the anti-missile defense system in the Moscow area since he felt it might have considerable impact on our own military planning.

This is not a new development. Information on this system has been accumulating for several years. There has been agreement in the intelligence community for over a year and a half that it was almost certainly intended for some sort of anti-ballistic missile defense and that it was probably based on the use of relatively high-yield

weapons for exoatmospheric defense. The principal new piece of information reported in the memorandum is that the Soviets are now beginning to construct missile launchers, probably for the Galosh missile, at several of the radar sites associated with this system. This move had been anticipated for several months since launchers were observed under construction at the prototype installation at the Sary Shagan anti-missile development center.

The central question is how effective the Moscow ballistic missile defense would be against US strategic missiles in the late 1960s and early 1970s when it would presumably be fully operational. While it is impossible to give a precise answer to this question since we can only guess how the Moscow system would operate, I think it is possible to make some significant general observations on the system's capabilities that indicate quite persuasively that by itself the Moscow system would not be particularly effective even in the defense of Moscow and would have only a small perturbation on our over-all war plans.

1. *Physical Vulnerability*. The Moscow system is extremely soft and hence highly vulnerable to a well-planned large-scale attack. It appears to depend for early warning and initial tracking on the Hen House radars located at Olenegorsk in northern Murmansk and Skrunda on the Baltic coast. Both of these radars are very soft and essentially undefended. The large Dog House radar at Moscow, which may be back-up early warning and tracking radars for the system, and the radars at the triads which probably do the final tracking of the incoming missile and the tracking of the defensive missiles are also extremely soft. Finally, the defensive missiles will fire from exposed above-ground launchers.

2. *Penetrability*. By the 1969-70 period our programmed penetration aids for Minuteman-Polaris will probably be very effective against a Moscow-type system (high altitude intercept). By dispensing chaff and decoys, each missile will present the defense with some 7 to 21 separate re-entering targets even when very high-yield warheads are employed. Hence, a very small number of our offensive missiles would probably overwhelm the system.

3. *Fire Power*. The Moscow system will not have a high rate of fire. So far, we see only some 64 missile launchers under construction. When the entire projected deployment of 8 double triads is completed (some of this is not yet really started), the total system would consist of only 128 launchers. This is very small compared to the requirements of a really effective ABM system and the Soviet threats McNamara has hypothesized in his US force level projections. For example, in his Memorandum for the President in connection with the FY-1967 budget for strategic offensive-defensive forces,/2/ McNamara examined a worst-possible Soviet threat in the early 70's in connection with the decision to initiate deployment of the Poseidon missile to increase the fire power of the Polaris submarine fleet. In this analysis he assumed that the Soviets put MIRVs (multiple independent re-entry vehicles) on enough of their ICBM force to completely eliminate our Minuteman force in a pre-emptive strike. (I would note that there is no evidence that the Soviets have done anything leading towards a MIRV capability.) McNamara also assumed that our penetration aids programs would all fail catastrophically and that aircraft would be unable to inflict any damage on the Soviet Union because of SAM defenses. He then assumed that the Soviets would deploy 4,500 exoatmospheric ABM interceptors which could effectively engage 3,000 separate incoming targets. Even in the face of this concatenation of extreme threat assumptions, he concluded that with the added fire power of Poseidon we would still be able to approximate the amount of damage required to meet his criteria of assured destruction.

/2/For a draft, see Document 103.

Although it is not discussed in the attached document, the big area of disagreement about Soviet ABM capabilities in the intelligence community is over the functional identity of the so-called Leningrad-Tallinn system which has been suspected, particularly by DIA, as being a possible ABM system. This system is now being deployed at a number of locations from the Baltic to the Urals. CIA is now almost certain that this system is in reality a long-range air defense system to supplement or replace the SA-2 system. DIA is now in the process of reevaluating their position on this system. I agree with CIA.

In summary, there is nothing particularly new in the attached report. Although we are beginning to accumulate details that may indicate how the Soviet system actually works, we are fundamentally in the same position concerning Soviet capabilities and intentions in this area that we have been in for the last year or two. There is no question that the Soviets are interested in ABMs and are undertaking at least a limited deployment at Moscow. We have not, however, seen real evidence of a massive national deployment or of a really effective system at Moscow by the standards we are now considering.

In line with Bromley's concern, I believe that this information will not have any special impact on the DOD since they have already assumed much worse threats in their military planning. I also do not believe the information on the Moscow system will have any special impact on Congress since McNamara has already briefed the Congress on an estimated Soviet ABM threat that is, if anything, more extensive than the current facts indicate. (See attached extract from McNamara's classified testimony.)/3/ I would emphasize that the above views are my own.

They are based on what I think we have seen and not what the Soviets might do in the future. There is no agreed-upon or disagreed-upon net evaluation within the US Government of the effectiveness of the Soviet ABM system and our ability to penetrate it. To correct this situation, Bob McNamara has just (May 21) directed Johnny Foster (DDR&E) to prepare such a study,/4/ working with the Services and cooperating with CIA and Don Hornig's office. Although the organization of the study has not yet been worked out, Don Hornig and I together with some of our consultants, who are extremely well informed on this subject, will be involved in the review of the study. The study is now tentatively scheduled for completion on August 1, 1966.

/3/Not printed; the excerpt is from McNamara's testimony on February 7 before the House Subcommittee on Defense Appropriations on the FY 1967-1971 Defense program and the FY 1967 Defense budget.

/4/In this memorandum McNamara asked Foster to work with other Service Secretaries, the Director of Central Intelligence, and the President's Science Adviser in preparing an "authoritative report" on "the character, geographical deployment, and potential effectiveness, by year for each of the next five years, of the Soviet anti-ballistic missile system" and "the capabilities of each of our major ballistic missile systems to penetrate the Soviet anti-ballistic missile system, by year for each of the next five years, and the level of confidence we can attach to these capability estimates." (Washington National Records Center, OSD Files: FRC 330 70 A 4662, 471.94 Penetration 1966)

Spurgeon

Attachment

Washington, May 18, 1966.

INTELLIGENCE MEMORANDUM/5/

/5/Prepared by the Office of Current Intelligence and coordinated with OSI, OPR, and ONE. [Footnote in the source text.]

USSR Pushing Ahead With Antimissile Defenses for Moscow

Summary

The Soviets are pushing ahead with deployment of antimissile defenses. Probable launch positions now are being constructed at one of the four ABM electronic sites which form an arc to the north and west of Moscow. The missile has not yet been identified. While there is no evidence of deployment elsewhere, the Soviets can be expected to extend ABM defenses to the same areas where the extensive deployment of new long-range surface-to-air missile defenses is under way.

131. National Intelligence Estimate/1/

NIE 11-4-66

Washington, June 16, 1966.

/1/Source: Johnson Library, National Security File, National Intelligence Estimates 11-65, USSR, Box 3. Secret; Controlled Dissem. A title page, prefatory note, and table of contents are not printed. According to the prefatory note, the CIA and the intelligence organizations of the Departments of State and Defense and the National Security Agency participated in the preparation of this estimate. Representatives of CIA, State Department, DIA, and NSA concurred; the AEC and FBI representatives abstained, the subject being outside their jurisdiction.

MAIN TRENDS IN SOVIET MILITARY POLICY

The Problem

To review significant developments in Soviet military thinking, policy, and programs, and to estimate main trends in Soviet military policies over the next five years or so.

Scope

This estimate assesses broad trends in Soviet military policy and doctrine. It does not attempt to recapitulate existing NIEs on Soviet strategic attack, strategic air and missile defense, and general purpose forces. Our most recent detailed estimates on the size, composition, and capabilities of these principal components and the supporting elements of the Soviet military forces are as follows:

NIE 11-8-65: "Soviet Capabilities for Strategic Attack," dated 7 October 1965, Top Secret, Restricted Data (Limited Distribution).

NIE 11-14-65: "Capabilities of Soviet General Purpose Forces," dated 21 October 1965, Secret.

NIE 11-3-65: "Soviet Strategic Air and Missile Defenses," dated 18 November 1965, Top Secret./2/

/2/Documents 97, 98, and 106.

Summary and Conclusions

A. There has been no basic change in established Soviet military doctrine or force structure, but recent trends point to adjustments in Soviet defense policy. The present political leaders seem more attentive than was Khrushchev to professional military advice, and they have been willing to authorize increases in both defense expenditures and military manpower. Current military writings reveal a search for ways to broaden the options available to the USSR in the application of its military power. (Paras. l-5)

B. The Soviets retain their belief in the primacy of strategic attack and defense forces, both for deterrence and for foreign policy support. In addition, however, they now show increasing interest in improving the capabilities of their general purpose forces to meet contingencies short of general nuclear war. We believe this interest is in part responsive to past developments in US and NATO capabilities and to US advocacy of flexible response. Additional factors include the tensions arising from the Vietnam war and the resulting US military buildup, as well as Chinese hostility towards the USSR. (Paras. 6, 7, 12-14)

C. A sharp increase in Soviet defense expenditures is evidently to occur this year. We attribute it primarily to planned expansion in military R and D and to the cost of long lead-time deployment programs for strategic systems which were authorized in previous years. It probably also stems in part from some recent increase in operating costs, including military manpower. The Soviet leaders have probably authorized further growth in military and space expenditures during the 1966-1970 Five Year Plan period. We believe, however, that in the interests of their ambitious economic programs they will seek to limit the growth in defense spending to no more than the average rate of growth in GNP. (Paras. 3, 4, 17-22)

D. The Soviet leaders probably expect to achieve a substantial improvement in their strategic position vis-a-vis the US during the next several years. Chief among their current strategic attack programs is the rapid deployment of ICBMs in dispersed and hardened silos, which will add substantially to the survivability and retaliatory capability of the force. Major current air and missile defense programs include improved means of warning and control, better defenses against aircraft and aerodynamic missiles, and what we believe to be ABM defenses under construction. Through these and other programs, we think the Soviets are working to alleviate their present strategic inferiority, and to gain greater assurance of deterring the US in the various crises and confrontations they must allow for as they contemplate possible developments in the world situation./3/ (Paras. 26, 30, 31, 36)

/3/Colonel Harry O. Patteson, for the Assistant Chief of Staff Intelligence, USAF, would add the following sentence to this paragraph:

The intensity with which the USSR is pursuing a massive military research and development program--the specific content and progress of which are not clearly known to the US--could portend far more than an intent merely to strengthen Soviet deterrent posture and could well be aimed at attainment of a strategic military position which the US would recognize as providing the USSR with a credible first strike damage limiting capability as well as an assured destruction force. [Footnote in the source text.]

E. The past restructuring of Soviet theater forces for general nuclear war has resulted in certain characteristics which could be serious handicaps in non-nuclear warfare, particularly if at all prolonged. We estimate that the

Soviets will undertake gradual improvements in their general purpose forces which will make them somewhat better suited than at present for conventional operations. Ground units will probably be provided with greater tactical mobility and improved combat and logistic support, becoming more quickly responsive and better able to engage in sustained combat. The Soviets will also maintain a large and versatile tactical air component. They will continue to expand their naval presence in the open oceans, and will acquire greater capabilities to move unopposed military forces to distant areas. The Soviets may regard improved general purpose forces as having increased relevance as their strategic capabilities grow, but we do not think they expect alterations in the strategic situation so great as to permit them to undertake substantially more aggressive courses of action./4/ (Paras. 32-35, 37)

/4/Colonel Harry O. Patteson, for the Assistant Chief of Staff Intelligence, USAF, believes the Soviet longer term goal is a combination of capabilities which would yield a credible first strike capability against US forces and thus permit substantially more aggressive courses of action. [Footnote in the source text.]

F. Soviet military policy will continue to be heavily influenced by external developments. In recent years Soviet forces in the Sino-Soviet border area have been strengthened in minor ways, and we expect a gradual increase in Soviet military strength confronting China. In Eastern Europe the USSR continues to develop the forces of its Warsaw Pact allies, despite their increasing tendency to assert their independence. The USSR is thus far disposed toward caution with respect to the present weakening of NATO, perhaps because of concern over the possible loosening of constraints on a revival of independent German power. But the Soviets weigh the adequacy of their military programs primarily against US capabilities, and they will continue to be sensitive to major new developments in US military policy and forces. (Paras. 8-11, 14)

G. Within the USSR, a high level of effort in military R and D will almost certainly be continued, despite resource allocation problems. The Soviets probably regard such an effort as imperative in order to prevent the US from gaining a technological advantage and also to gain, if possible, some advantage for themselves, but in deciding to deploy any new weapon system they would have to weigh the prospective gain against the economic costs and the capabilities of the US to counter it. (Paras. 15, 23)

H. We do not expect that Soviet military forces will come to be structured according to some quite new and clear-cut strategic doctrine. This will almost certainly be prevented by such factors as the momentum of existing programs, the multiplicity of claims on resources, and the differing views of various groups as to priorities. (Para. 5)

[Here follows the Discussion section (pages 5-16).]