

RG 263 Box 182 Fld 7

7 May 1969

MEMORANDUM

SUBJECT : Response to "Lines of Questioning for Mr. Helms", US Senate Committee on Foreign Relations, Staff Memorandum, 23 April 1969

THE KEY QUESTION

What new intelligence regarding Soviet intentions and/or Soviet capabilities with respect to nuclear weapons has become available since November 1968?

Since November 1968, we have detected construction of one new group of six SS-9 ICBM launchers and seven new groups of 10 SS-11 missile launchers. The new SS-9 group and four or five of the new SS-11 groups were started after November.

The Soviets have tested SS-9s equipped with three reentry vehicles to ranges of 5,100 nautical miles, and have tested new or modified components for the Galosh ABM system.

In addition, they have launched two more 16-tube Y-class ballistic missile submarines, for a total of about nine units launched to date.

THE SS-9

1. When was the SS-9 first detected?

We detected the first flight test of the SS-9 in December 1963. We detected the start of construction on the first deployed silos in 1964.

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going back to its first deployment?

- 1964 - seven groups of six silos started
- 1965 - eleven groups started
- 1966 - nine groups started
- 1967 - five groups started
- 1968 - six groups started
- 1969 - one group known to have been started so far

3. Of the 230 SS-9s now deployed how many were deployed before December 1968?

There are now 234 SS-9 silos operational or known to be under construction. Prior to December 1968, there were 228.

4. How many SS-9s do you estimate could be deployed by 1972? by 1975? What limits the number? How many would be required to destroy or neutralize all of our Minuteman sites?

The intelligence community estimates that the Soviet ICBM force goal for the 1970s lies between 1,100 and 1,500 launchers. The SS-9 and SS-11 would comprise the bulk of the force at either the high or low side of the range.

If the Soviets decided to go for numbers, this could lead to the construction of 400 to 500 new launchers for one or more new ICBM systems. The 220 older SS-7 and SS-8s might be phased out by the mid-1970s, but most of them probably will remain operational for another year or so. To expand the force above 1,500 would add only marginally to Soviet military capabilities, and would increase the risk of stimulating a counter-buildup by the US.

The Soviets may decide to stress qualitative improvements rather than sheer numbers of launchers. In this event, the Soviets may intend to keep their ICBM force toward the low side of the estimate.

5. Did CIA assume that the deployment of SS-9s would level off at about 200? Did you see any significance in this level?

At the time the National Intelligence Estimate was written last year, there were 38 groups of six SS-9 launchers known to be operational or under construction in the USSR, the most recent of which had been started in May 1968. In view of the length of time SS-9 deployment had been underway and of the

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likely that a decrease in the number of SS-9 groups would be introduced, we allowed for the addition of one to three more SS-9 groups over the next two years before deployment phased out, which gave us our projection of 234-246 SS-9 silos by mid-1971.

6. *What improvements have there been in the accuracy of the SS-9 year by year? Have there been changes in the size of the warhead capacity?*

The Soviets probably have made small improvements in the accuracy of the SS-9 since testing began in 1963. The system now has an estimated accuracy of 0.5 miles with radio inertial guidance or 0.75 miles with inertial guidance.

Initially, the SS-9 carried about a 10,000 pound payload. In 1964 the Soviets began to test the SS-9 with a 13,500 pound payload. Both types of warheads continue to be flown. The lighter version probably yields [REDACTED], the heavier up [REDACTED].

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No changes have occurred in the size of the warhead capacity since 1964.

7. *What is your estimate of the maximum range achieved to date in test launches of the SS-9?*

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8. *What is Soviet targeting doctrine regarding the SS-9?*

We have no firm evidence on Soviet targeting doctrine. The warhead size and accuracy of the SS-9 make it suitable for use against hard targets.

9. *For what purpose or purposes has the SS-9 been built?*

The role of the SS-9 in Soviet strategic war plans is not clear. It could be used as a counter-force weapon for attacking hardened targets, and as a vehicle for multiple warheads and special-purpose weapons such as depressed trajectory ICBMs.

10. *What information indicates the Soviets are deploying the SS-9 in order to prepare for a first strike capability?*

We have no evidence beyond that cited in response to the above questions.

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OTHER SOVIET OFFENSIVE ROCKETRY

1. How many SS-11s does the Soviet Union now have deployed?

We have detected 730 deployed SS-11 launchers. When all identified groups are filled out and construction is completed--by mid-1970--there will be 780 operational SS-11 launchers deployed.

2. How does the SS-11 compare with the SS-9 as regards accuracy?

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The SS-11 has an estimated CEP or accuracy of [redacted] using its inertial guidance system.

3. Have the Soviets deployed FOBS? Is the development of FOBS related to a first strike or second strike capability?

We have no evidence that the Soviets have deployed a FOBS.

The FOBS-type device the Soviets have been testing would be less accurate and have a lower yield than a conventionally fired SS-9 ICBM. ✓

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- SOVIET ABM PROGRAM
1. *When was development of the Galosh system begun? When was deployment begun?*

Research and development on the large radars now associated with the Galosh system began in the late 1950s. Construction of the large ABM radars began at field sites in late 1962. Construction of launchers for flight testing the Galosh missile began in 1961 at the Sary Shagan test range. Construction of Galosh launch sites around Moscow began in late 1962.

2. *How many missile launchers did the Galosh system contemplate originally? How many missile launchers have been deployed?*

The original deployment of the Galosh system was to consist of 128 launchers at eight locations around Moscow. This deployment has now been cut back to 64 launchers at four locations. Some 40 launchers are now believed to be operational.

3. *Why has there been a slowdown over the past year?*

We believe that the Soviets cut back the deployment around Moscow mainly because they recognized that their present system cannot cope adequately with existing or proposed US strategic attack systems. The Soviets apparently are trying to improve the Moscow system, however, and the logical first step in any future ABM deployment would be to augment the defenses of Moscow.

4. *What US weapons system does the Galosh system most closely resemble?*

The Nike Zeus.

5. *Do you still believe that the Tallinn system is designed against aircraft and air breathing cruise missiles only?*

It is unlikely that the Tallinn system now has an ABM capability, and we doubt that the system will be modified for an ABM role.

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6. *What kind of sophisticated simulated ABM defense systems have the Soviets set up?*

We are unaware of any sophisticated ABM system which the Soviets may be simulating for purposes of defining design goals for further research and development.

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STATUS OF MRV AND MIRV PROGRAMS

1. *What is the status of M-R-V development in the Soviet Union?*

25X1D6a In August 1968 the Soviets began testing MRVs on the large SS-9 ICBM. There have been six tests so far--all apparently successful. The two most recent tests, conducted in April, were extended range firings [REDACTED] into the Pacific. The system being tested delivers three warheads to the same target area.

2. *How many M-R-Vs does the Soviet Union have compared to the number we have?*

The Soviets have no MRVs deployed in their operational force. ✓

3. *Have the Soviets tested MIRVs, as we have, and if so to what extent?*

No. ✓

4. *How close is the Soviet Union to being able to deploy MIRVs?*

Should the Soviets decide to develop a MIRV system, an operational capability to attack several soft targets with a single missile might be attained some time next year. The precision necessary to attack several hard targets with a single missile probably could not be attained before 1972.

5. *Does the United States have the capability of detecting all testing of MIRVs?*

The US probably would be able to detect flight testing of MIRVs for ICBMs if conducted on the established Soviet test ranges. A clandestine program to develop MIRVs might go undetected initially, but full-range tests of the system probably would be detected prior to initial operational deployment.

6. *Does the United States have the capability of detecting the deployment of MIRVs?*

We see little prospect of determining the extent to which MIRVs had been incorporated in deployed offensive missiles.

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1. *What is the status of nuclear submarine countermeasures in the Soviet Union, in particular the attack submarine?*

The Soviets are making a major effort to improve their ASW capabilities. Several new classes of attack submarines are in production. One of these new classes is equipped with a new short-range missile system which may be intended for use against submarines. All of the new attack submarines are equipped with new sonars, but we lack the data required to assess their capabilities.

2, 3. *Are the Soviets able to find a single American Polaris submarine on station? Could they find all of our missile submarines on station? What are the projected Soviet developments in this field over the next five years?*

The Soviet capability to detect, identify, and locate Polaris submarines operating in the open ocean is limited and probably will remain so for the next several years.

4. *How many Polaris-type submarines have been built?*

The Soviets have launched about 9 Y-class ballistic missile submarines.

5. *Do Soviet Polaris missiles have a MIRV capability as do our Poseidons?*

Not at present.

6. *Are the Soviets building a Polaris fleet for a first strike capability or to improve their second strike capability?*

The Soviet submarine launched ballistic missile force is almost certainly intended primarily to provide an assured second strike capability.

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1. *What is the present status of the development of a Chinese intercontinental ballistic missile capability?*

Flight testing of ICBMs could begin later this year if test vehicles are available.

2. *When is it estimated that the first Chinese intercontinental missile will be operational?*

We estimate that the earliest the Chinese could have an operational ICBM would be late 1972. This assumes that flight testing would begin later in 1969 and would require only three years to achieve IOC.

With China's inexperience and limited technical and scientific base, more time will probably be required--perhaps as much as two or three years.

3. *What is your estimate of Chinese ICBM strength in 1975? in 1979?*

Assuming the earliest possible initial operational date of late 1972, it is doubtful that the Chinese could achieve an operational ICBM force of more than 10 to 25 missiles by 1975.

4. *When do you estimate that the Chinese will have the capability of equipping their missiles with penetration aids?*

Chinese development of effective penetration aids almost certainly could not be accomplished by 1975.

5. *Is there any reason to assume that the Chinese regard the United States as their first priority potential ICBM target, rather than the Soviet Union?*

There is no evidence available that indicates what the planned targets of the Chinese ICBM force will be, nor the priorities that will be assigned to different targets.

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SOVIET POLITICAL REACTION TO SAFEGUARD

1. *Has the Soviet press and radio reaction to the Safeguard decision been friendly or hostile?*

Soviet public media have responded to the Safeguard decision with expressions ranging from mild disapproval to hostility. In general, much of the commentary has been devoted to reporting US internal criticism and debate. ✓

2. *What effect on elements within the Communist Party of the Soviet Union is the deployment of Safeguard likely to have? What effect did the Sentinel decision have?*

The Soviets announced their willingness to initiate arms talks soon after the decision of the Congress in June 1968 to continue funding of the Sentinel program.

The probable effect of Safeguard on the Soviet political leadership is difficult to predict. The way individual Soviet leaders interpret Safeguard probably depends in large measure on their general opinions regarding US motives and their particular domestic policy preferences. For example, there is reason to suppose that some government leaders, such as Kosygin, have tried to buttress their domestic reform policies with efforts to diminish tensions abroad. Some party leaders, such as Brezhnev, apparently lean toward another line, which might be characterized as one calling for stricter discipline and the maintenance of strong defenses.

Since the Safeguard announcement, articles have appeared in the Soviet military press citing that decision as "evidence" that the US has no interest in reducing tensions or in following a peaceful policy, and claiming that Safeguard would exacerbate the arms race.

3. *Have the deteriorating Soviet relations with Mainland China been reflected in the Soviet program of nuclear weapons development?*

Deteriorating relations with China have been reflected more in Soviet general purpose force developments than in Soviet strategic weapons programs. Since 1965, for example, the number of Soviet ground divisions in the border area has more than doubled.

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1. *What has been the trend of Soviet military expenditures over the last five years compared to earlier periods?*

Soviet military and space expenditures during the 1965-69 period were about 20 percent higher than during the preceding five years. ✓

The three major factors contributing to the increased expenditures in 1965-69 were the constantly rising outlays for research and development, a change in the allocation of investment outlays from a peripheral to an intercontinental attack orientation, and the buildup of general purpose forces due to the Sino-Soviet border confrontation. ✓

2. *What has been the trend of such expenditures devoted specifically to offensive and defensive missile systems and what has been the breakdown within this category as far as research and development, submarine missile systems and offensive missile systems are concerned?*

Soviet spending for offensive and defensive weapons remained relatively constant for the two five-year periods 1960-64 and 1965-69. This stability of total outlays for the attack and defense missions masks sizeable shifts in spending for various programs. ✓

Long and medium range bombers, medium and intermediate range ballistic missiles, and control and warning forces all declined in 1965-69 compared to the 1960-64 period. These reductions were offset by a doubling of expenditures for ICBMs, however. The Soviets are just now developing a Polaris-type force and expenditures on it are increasing. ✓

The nature of the information available on Soviet spending for research, development, testing, evaluation, and space precludes an estimate of spending directly associated with specific weapon systems.

3. *What changes have occurred in the relationship between Soviet military spending and US military spending over the past five years?*

When measured in dollars, Soviet military and space spending generally averaged about 90 percent of comparable US outlays during the 1960-64 period. Since 1965

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clined as a result of increased outlays by the US for Vietnam, and for the entire 1965-69 period, Soviet outlays averaged only 75 percent of the US.

4. *What factors--such as deteriorating Sino-Soviet relations--have played a part in Soviet military budgeting?*

Since 1960 there have been several events which have caused Soviet military spending to increase. Probably the most important events are: the Berlin crisis of 1961; the Cuban missile crisis of 1962; Khrushchev's weakened position in Kremlin councils after Cuba, and his fall from power in October 1964; the continuing Sino-Soviet dispute, which began to have a significant effect on spending in 1966; and, about the same time, the start of the deployment of a single-silo ICBM force equivalent to the US force.

Each of these events, by itself, can be pointed to as having an effect on military spending. In addition, there have been other factors such as the invasion of Czechoslovakia and Middle East tensions that have contributed to high levels of Soviet military spending.

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VULNERABILITY TO MISSILE ATTACK

1. *In what ways is the population of the United States more concentrated than that of the Soviet Union?*

The population of the United States is more concentrated than that of the Soviet Union in that the number of Soviet cities of roughly 25,000 people or more is at least twice the number of similar-sized US cities, despite the larger US total urban population. Furthermore, US urban population represents a larger proportion of the total population than does that of the Soviet Union. Finally, the concentration of US urban population in several huge megalopolises makes the US population more vulnerable to fallout. ✓

2. *In what ways is the population of the Soviet Union more concentrated than that of the United States?*

The urban population of the Soviet Union is more densely concentrated than that of the United States, since the people reside in a smaller total urban area. Unlike cities in the United States, Soviet cities are not surrounded by sprawling suburbs. In addition, there is no city in the US which compares to Moscow in its political and economic significance to the rest of the country. ✓

3. *Would the destruction of the 25 largest cities in the United States assuming total loss of life, involve more fatalities than the destruction of the 25 largest cities in the Soviet Union?*

The destruction of the 25 largest cities in the United States with total loss of life would result in over twice as many fatalities as the destruction of the 25 largest cities in the Soviet Union--over 60 million US urban fatalities compared to under 30 million Soviet urban fatalities. ✓

It would require more--or much larger--warheads to achieve total loss of life in the largest US cities because of the greater urban sprawl. ✓

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4. How does the concentration of industry in the Soviet Union compare to the concentration of industry in the United States? -

The industrial capacity of the Soviet Union is more vulnerable than that of the United States because industry is more heavily concentrated in Soviet cities, particularly the larger cities, than is the case in the United States.

5. How does the concentration of population in Mainland China compare to the concentration of population in the United States and the Soviet Union?

China is more rural than either the US or the USSR in that 85-90 percent of the Chinese population resides in the countryside. Nevertheless, 80 million Chinese are found in urban areas.

The landmass of China contains great variation in human density. A population density of 520 per square mile exists in extensive portions of the east China plain and the Szechwan basin. In contrast, the western half of the country contains less than 8 percent of the population.

6. How does the concentration of industry in Mainland China compare to the concentration of industry in the United States and the Soviet Union?

China's industrial base is smaller and more concentrated than that of either the US or the USSR, and would be much more vulnerable in the event of hostilities.

Chinese industry is concentrated in the vicinity of large cities. The three northeastern provinces (Manchuria) still contain the largest industrial concentration and are the foremost centers of heavy industry. East China ranks second in industrial production, and the triangular area in north China bounded by Peking, T'ang-shan, and Tientsin represents the third most important industrial area.

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