

UNCLASSIFIED

GENERAL INTELLIGENCE AGENCY

Box 6, Folder

~~TOP SECRET~~ NSEC 176A11

OFFICE OF THE DIRECTOR

8 January 1962

252.

The President
The White House

Dear Mr. President:

The attached memorandum is in response to your request for further information about the Soviet missile program.

Respectfully,

John A. McCone
Director

Attachment

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8 JAN 1962

ESTIMATED SOVIET ICBM REACTION TIMES

There is no intelligence specifically indicative of Soviet ICBM reaction time. The following minimum reaction times for ready missiles, therefore, are based (1) on the assumption that rapid reaction time has been a Soviet objective, and (2) on what is known about Soviet ICBM performance characteristics and launching procedures.

First Generation ICBM (NIE 11-5-61 Dated 25 April 1961)

Condition I - Crews on routine standby, electrical equipment cold, missiles not fueled. Reaction time - 1-3 hours

Condition II - Crews on alert, electrical equipment warmed up, missiles not fueled. Reaction time - 15-30 minutes

Condition III - Crews on alert, electrical equipment warmed up, missiles fueled and occasionally topped. This condition probably could not be maintained for more than an hour or so.

Reaction time - 5-10 minutes

Second Generation ICBM (CIA opinion)

Condition I - Crews on routine standby, electrical equipment cold, missiles not fueled. Reaction time - 1-2 hours

Condition II - Crews on alert, electrical equipment warmed up, missiles fueled. This condition could be maintained indefinitely in temperate climatic environment but would be limited to an hour or so under the worst conditions. Reaction time - 2-5 minutes.

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THE SOVIET SOLID PROPELLANT PROGRAM

Our evidence indicates that the Soviets made a decision shortly after World War II to pursue their long-range ballistic missile program on the basis of liquid propellants rather than on large grain solid propellants. This decision was probably based upon several considerations:

1. Their ability to exploit the German World War II ballistic missile program which was based upon liquid propellants rather than solids.
2. They probably did not at that time foresee a submarine launched ballistic missile program.
3. They probably did not foresee a requirement for rapid reaction times which are obtainable with solid propellants or storable liquid propellants.
4. They were probably also aware of the initial greater payload potential for space missions of the liquid rocket systems.

As the Soviet ballistic missile program progressed, they developed an extensive experience with liquid propellants. In the

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mid-1950's when they were considering a second generation ICBM and a ballistic missile from a submarine, the question of solids vs. liquids probably arose. We believe they probably decided on storable propellants for these roles, thus capitalizing on their liquid propellant experience factor, and perhaps avoiding time delays inherent with developing a completely independent solid propellant program.

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