HR70-14

GUIDED MISSILE AND ASTRONAUTICS INTELLIGENCE COMMITTEE

22 December 1961

MEMORANDUM FOR : Office National Estimates

SUBJECT : The Soviet Second Generation ICBM System

INFO : GMAIC Members

GMAIC, with the exceptions noted, agreed to the following concerning the second generation ICBM :

1. Current reviews of the data available on the Soviet second generation ICBM system (Category B) indicate that system characteristics can now be estimated, and, though there is varying confidence in the validity of particular estimated characteristics, a basic compatibility of system elements exists. Of fundamental importance in appreciating the timing and characteristics of this system is : (1) the recognition of deployed sites and test rangehead similarities ; (2) the contribution of the 2500 nautical mile missile system to the missile development; and, (3) the pace of the system development program.

2. The first operational capability (IOC) is estimated to occur during the first half of 1962 (*), (**), with a few missiles on completed operational launchers at one or more ICBM complexes manned by trained handling and launching crews.

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* Based on the time available subsequent to the start of the "B" vehicle flight test program and the uncertainties of the purpose, scheme of activation, status of construction and installation of equipment in complexes of the type reported at Yurya, the Army and Navy Members consider the latter half of 1962 to be the most probable IOC period.

** Air Force Member believes the phrase "possibly early 1962". should be added.

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3. The missile characteristics and performance are estimated as follows :

a. The missile is a tandem two stage vehicle. There is no direct evidence on its size. However, it is believed that the vehicle is smaller than the first generation ICBM and that a gross weight at launch of about 300,000 pounds is a reasonable assumption. The propulsion system is liquid and probably uses storable propellants.

b. Maximum range for the system demonstrated in tests to the Pacific in September-October 1961 is 6500 nautical miles.

d. The guidance system is estimated to be radio-inertial, with greater dependence on inertial components than in the first generation system. We believe the accuracy achieveable will not be worse than the first generation system and could be better. The estimated accuracy of the second generation missile, as initially deployed, is one to two nautical miles. We cannot exclude the possibility of an all-inertial guidance system in which case the accuracy would be degraded.

e. The reliability of the missile improved considerably during the latter part of the flight test period, and we believe that during the first year of availability the on-launcher reliability would be around 70-80% and in-flight reliability would be around 65-75%.

4. The characteristics of the deployed sites would include relatively simple paired pads, eight pads per missile complex, missile assembly and checkout facilities at the complex, rail transport to the complex, and road transport to the launchers. This latter feature requires a rail-to-road transfer point at the complex.

5. This missile system was probably conceived in 1958, to meet a requirement for a smaller more easily handled system, and took into consideration the experience with the first generation system and the advancing and anticipated levels of missile and nuclear technology. A high priority for the program is evidenced by the high degree of concurrency between operational site construction and the R & D program, and accelerated flight testing, including early long range system tests.

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