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Memorandum

THE SOVIET RECONNAISSANCE SATELLITE PROGRAM

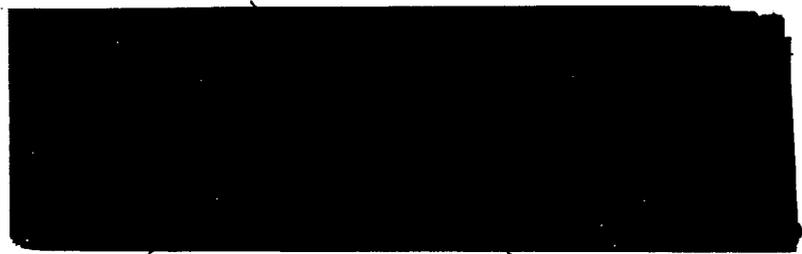
18 June 1964

DIRECTORATE OF INTELLIGENCE
DIRECTORATE OF SCIENCE AND TECHNOLOGY

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No. 1391/64

CENTRAL INTELLIGENCE AGENCY

18 JUNE 1964

MEMORANDUM

SUBJECT: The Soviet Reconnaissance Satellite Program

A Soviet military reconnaissance satellite program appears to be well under way with possibly as many as 12 flights since 1962. The program uses recoverable vehicles launched from Tyuratam under the mantle of the Cosmos series.

The program is expensive, possibly costing as much as 500 to 700 million dollars so far, and places added demands on resources available for Soviet space programs. A requirement for precise targeting information on US targets, not obtainable through other collection means, seems to be the primary reason for the program. Also, Soviet collection of other military intelligence on the US could be usefully supplemented by satellite photography. Khrushchev's open acknowledgments of the program have been aimed at stopping U-2 flights over Cuba, but also imply a desire for a tacit understanding on reconnaissance satellites. The existence of the Soviet program tends to reduce the likelihood of a Soviet attempt to attack a US satellite.

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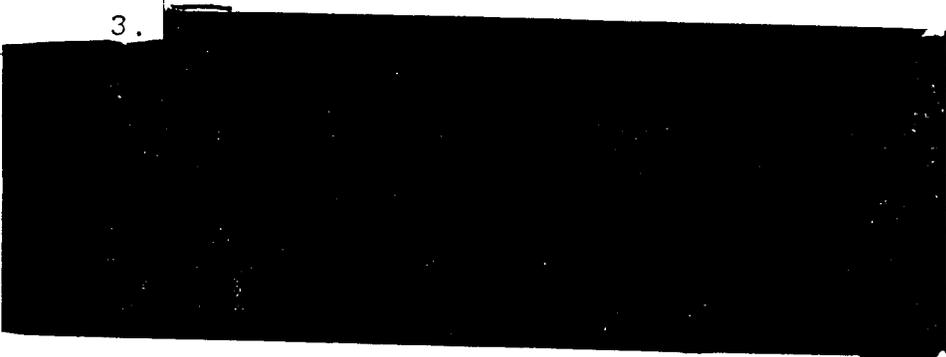
1. We have concluded that the Soviet military reconnaissance satellite program may have involved as many as 12 flights since 1962. The evidence is convincing that these were military reconnaissance satellites, although they may have had additional missions. Their launch times and orbits were ideally

Prepared jointly by the Directorate of Science and Technology and the Directorate of Intelligence.

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suiting for reconnaissance coverage of the US during daylight hours, the payload was recovered, they were earth oriented and stabilized within the requirements of a sophisticated camera system, and telemetry from them reflected payload activity like that of a reconnaissance photographic payload.

2. A study of the [16] Cosmos satellites successfully launched from Tyuratam between [26 April 1962 and 10 June 1964] leads us to believe that four of them were military reconnaissance satellites, [eight others probably were, and four probably were not.]

3. 

4. Moscow has held that the purpose of the Cosmos series, which began in March 1962, was to collect scientific data. It became clear, however, that different types of vehicles were being launched from two different rangeheads, Kapustin Yar and Tyuratam, and the characteristics of the 14 satellites successfully orbited from Kapustin Yar rule out a reconnaissance mission.

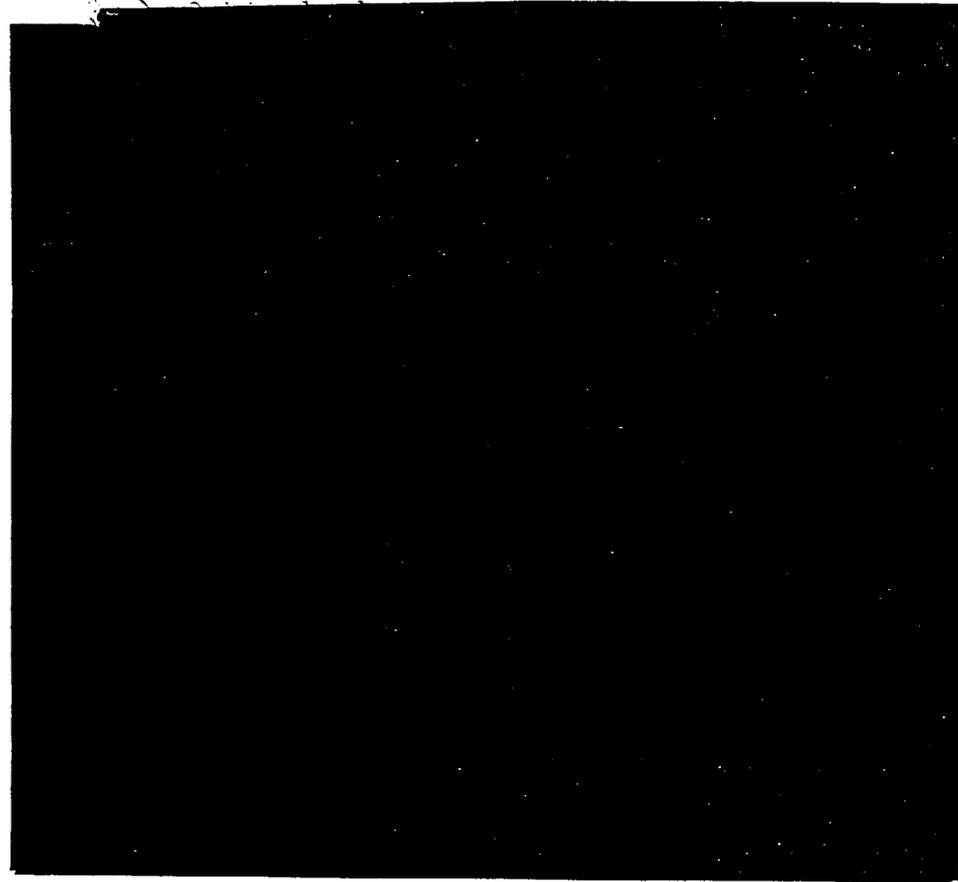
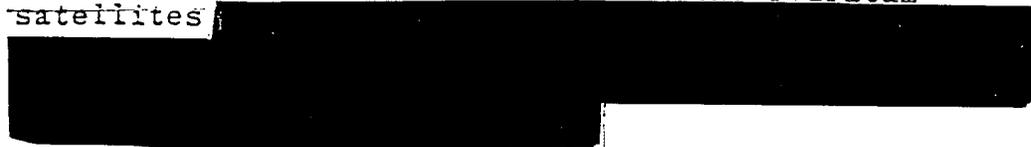
5. The [16] successful Cosmos operations from Tyuratam which we have examined are believed to have used 

All were recovered in the Soviet Union three to ten days after launching. The most recent in the series, Cosmos 32, had an inclination of 51 degrees to the equator, while all previous Tyuratam Cosmos satellites had inclinations of 65 degrees. This change suggests that the Soviets are improving their reconnaissance program because the inclination of Cosmos 32 permitted greater coverage of the US each day.]

6. The series launched from Tyuratam may have had other missions in addition to photographic reconnaissance.



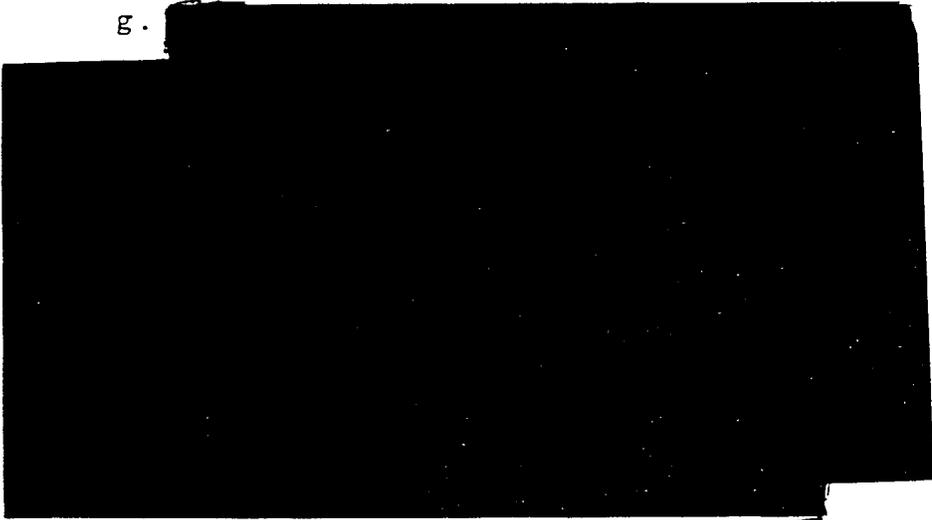
7. We have identified most of the Tyuratam satellites



f.



g.

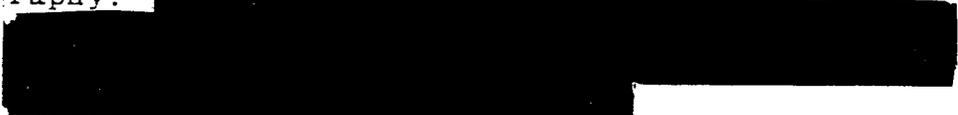


h. Soviet statements: Khrushchev himself has alluded to Soviet satellite reconnaissance on several occasions. In 1963, he told Belgian Foreign Minister Spaak that the Soviets were engaged in photographing the United States and that he could produce the photographs to prove it. Former Senator Benton also quoted Khrushchev as saying, during their recent meeting in Moscow, that Soviet space cameras have filmed US military installations.

8. If we are correct in concluding that most of the Cosmos satellites launched from Tyuratam have a reconnaissance mission, it would seem that Moscow is devoting a substantial share of its space effort to the collection of military intelligence. According to preliminary estimates based on the costs of US scientific satellites, the cost of Tyuratam Cosmos operations to date may have amounted to the equivalent of about 700 million to one billion dollars, roughly 20 percent of total expenditures estimated for all observed Soviet space programs. As a rough proportion of this estimate, the costs of a military reconnaissance program including the 12 satellites launched so far would be on the order of 500 to 700 million dollars.

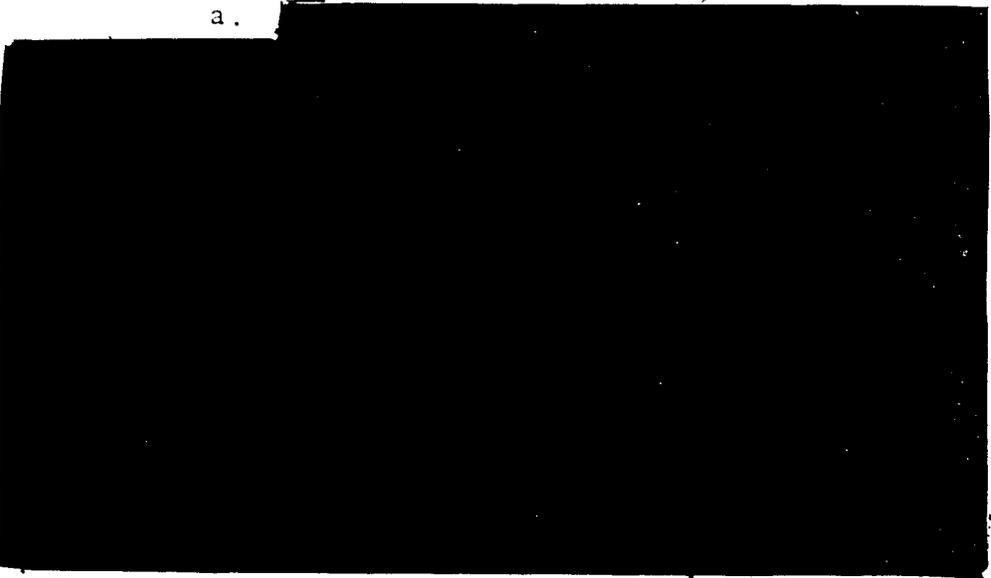
9. Also important is the additional strain imposed on the human and material resources available for Soviet space programs by the demands of a reconnaissance program.

10. We believe that the USSR has made this large investment primarily for missile targeting purposes. Strategic missile systems require precise information on the geodetic relationship of the target to the launch point, particularly in the case of hardened targets. The precise targeting information needed on the hundreds of targets in the US is only obtainable by satellite photography.



11. Despite the USSR's comparatively easy access to much information on military weapons and installations in the US it has requirements for military reconnaissance satellites beyond those for targeting data.

a.



12. In view of Soviet activity in the reconnaissance satellite field, Moscow may be more tolerant of similar US programs than it has been in the past. Khrushchev's recent open acknowledgment of both US and Soviet efforts tends to bear this out. Although his immediate objective in these remarks has been to secure a cessation of U-2 flights over Cuba, they suggest a desire on his part for a tacit understanding with the US on reconnaissance satellites.

13. We believe that the Soviets intend to develop an antisatellite capability. [REDACTED]

[REDACTED] In our view, however, the existence of a Soviet reconnaissance satellite program tends to reduce the likelihood of a Soviet attempt to destroy or neutralize a US satellite.

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