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E.O. 13526, SECTION 5.3(b)(3)
ISCAP APPEAL NO. 2009-068, document no. 47
DECLASSIFICATION DATE: December 5, 2014



NORTH AMERICAN AIR DEFENSE COMMAND

W O I R

WEEKLY INTELLIGENCE REVIEW (U)

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REVIEW DATE JUN 97 REVIEWER 64
REFER TO NORAD
EXEMPTION(S): (1) 2 3 4 5 6 7 8 9

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41-62
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Weekly
Intelligence
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MAINTENANCE
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361125678

K410.607-182

Issue No. 41/64, 9 October 1964

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COVER: ASM on BADGER (OFFICIAL USE ONLY)
NOTE: Pages 26, 28, 29, 32, and 33 of this issue are blank.

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portion

Missile Range Firing Log Presented

US radar detected the following Soviet missile launches between 2400Z, 28 September, and 2400Z, 6 October 1964:

<u>Time & Date</u>	<u>Type</u>	<u>Launch Site</u>	<u>Range</u>
0929Z, 30 Sep	SS-4 MRBM	Kapustin Yar	1,050 n. m.
0335Z, 2 Oct	SS-10 ICBM	Tyuratam	3,400 n. m.
0700Z, 6 Oct	Cosmos 47	Tyuratam	Orbital

(Shemya & Diyarbakir RADINT)

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space

significant
intelligence
on space
developments
and trends

Cosmos 46 De-orbited 8 Days After Launch

Cosmos 46, which was launched from Tyuratam at about 1204Z, 24 September, was de-orbited on 2 October during the early portion of revolution 129. The de-orbit followed the pattern of recent recoverable Cosmos vehicles which, with the exception of Cosmos 45 (see WIR 39/64) have remained in orbit approximately 8 days. Cosmos 46 was probably a photo-reconnaissance vehicle and was the third Tyuratam Cosmos launched on a 51-degree inclination in contrast to the more common 65-degree inclination launches. Utilizing the 51-degree inclination, the majority of the ascending passes of Cosmos 46 over North America were in good light for photoreconnaissance. The vehicle's altitude varied from 113 to 128 n.m. while it was over this continent.

(SPADATS; NORAD)

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USSR Tests New Satellite Orbiting Techniques

Several recent Soviet satellite launchings tested new and varied orbiting techniques suitable for a number of specialized space systems. The satellites -- Cosmos 38 through 44 -- are probably not recoverable and, with the exception of Cosmos 44, are transmitting little information. Soviet announcements have not disclosed their missions, but this Soviet testing of new orbiting techniques may mark the inauguration of a program of diversified satellite applications, including geodetic, navigation and communications, weather, and ELINT payloads.

The technique of placing three satellites into the same orbit with a single booster (Cosmos 38, 39, and 40) will probably be used for simultaneous orbiting of multiple scientific payloads, navigation and communications satellites, or ELINT collectors.

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A new orbiting technique was also used on Cosmos 41, which was injected into a highly elliptical orbit from a parking orbit. The telemetry systems on Cosmos 41 failed shortly after injection into the elliptical orbit, and the satellite's mission cannot be determined.

The technique tested on Cosmos 41 -- and several earlier failures of the same system -- could be intended as an alternative method for placing Elektron satellites in highly elliptical orbits or for placing satellites in synchronous orbits. Synchronous satellites can be used in communications systems or possibly advanced ELINT or early warning systems.

Cosmos 42 and 43, a double payload launched from Kapustin Yar, were probably scientific satellites, although they do not appear to be transmitting any data. The absence of standard orbital telemetry -- although at least one has a beacon -- suggests either that the payloads malfunctioned or that the primary purpose of the operation was to test a multiple launch technique for scientific programs.

Cosmos 44 was placed directly into a higher orbit than previous Cosmos satellites.

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Its orbit would be suitable for a solar laboratory, a weather satellite, or ELINT collection.

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Cosmos 44 is apparently considerably lighter than standard singly launched Tyuratam satellites.

During the past year, a number of other new space programs have been initiated at Tyuratam, including the Polyet maneuverable satellites, the Elektron scientific satellites, and a higher resolution photographic reconnaissance system in a new, heavier capsule.

(CIA)
(SECRET)

Soviets Orbit Magnetic-Field Survey Satellite, World's First for IQSY

The USSR was the first nation to launch a satellite to measure the Earth's magnetic field during the IQSY (International Quiet Sun Year -- 1964-1965). Cosmos 26, which was launched from Kapustin Yar on 18 March 1964 and operated until at least 8 April 1964, successfully measured the Earth's magnetic field with total-field type magnetometers. The Soviets have already published data recorded during 4 orbits of 19 March. If data of comparable quality were obtained for the entire period of operation, the Soviets' knowledge of the Earth's magnetic field would be enhanced considerably.

The fact that Cosmos 26 apparently carried only the total-field



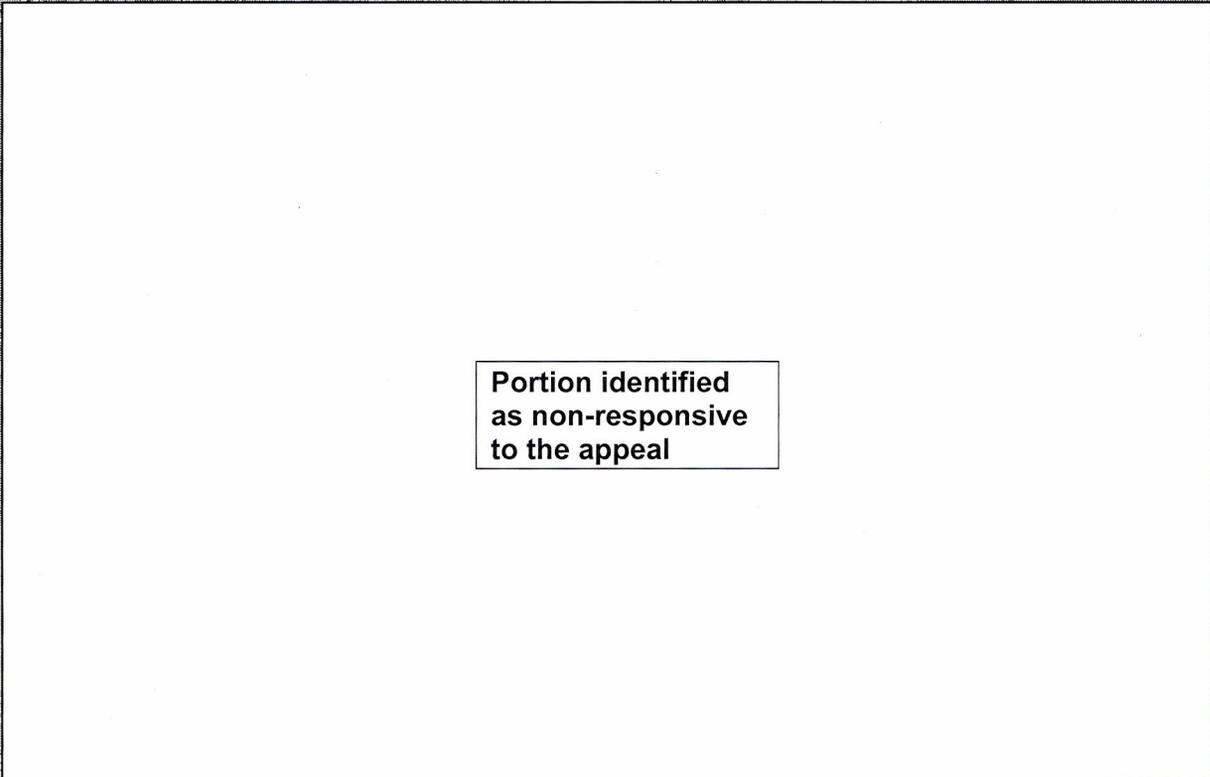


magnetometer indicates that the 300-pound weight-carrying capability estimated for this and other KY Cosmos satellites was taken up entirely by the weight of the magnetometer and its associated equipment; thus no other space phenomenon was collected for correlation with the magnetic field data. Previous Soviet measurements of the Earth's magnetic field from satellites was accomplished with component magnetometers; in these cases, measurements of other space phenomena were also made.

Cosmos 26 may be only the first in a series of magnetic-field survey satellites; the Soviets have said that they plan to launch more of them during IQSY.

(CIA)

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Cosmos 47 Launched and Recovered; May Presage Manned Operation

The Soviets launched Cosmos 47 from Tyuratam (TT) at about 0700Z, 6 October 1964. The vehicle was apparently de-orbited during the early portion of Revolution 16 with impact probably occurring between 0707 and 0712Z on 7 October 1964.

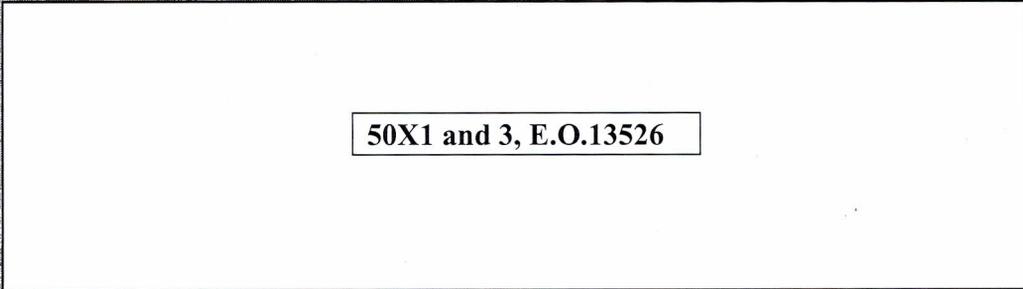




Approximately 3 hours after the launch, TASS announced that the vehicle was another in the series of unmanned space satellites in a program designed to gather information on space conditions including radiation and communications for use in future manned space flights.

Orbital parameters of the vehicle were as follows:

	<u>SPADATS</u>	<u>TASS</u>
Inclination	64.73 degrees	64.7 degrees
Period	89.63 minutes	90.3 minutes
Apogee	193.10 n.m.	223.02 n.m.
Perigee	88.67 n.m.	95.58 n.m.



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In the past the Soviets have tested their Vostok vehicles by first launching a vehicle with a dummy and then a dog before risking a cosmonaut. In view of the wide experience gained in the past, however, the Soviets may skip additional testing of what might well be a new space vehicle, and launch a manned vehicle in the near future.

(SPADATS; TASS; NORAD)

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