

~~SECRET~~

*WR*



DECLASSIFIED UNDER AUTHORITY OF THE  
INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL,  
E.O. 13526, SECTION 5.3(b)(3)

ISCAP APPEAL NO. 2009-068, document no. 218  
DECLASSIFICATION DATE: May 14, 2015

NORTH AMERICAN AIR DEFENSE COMMAND

**W O R**

*K410. 607-386*

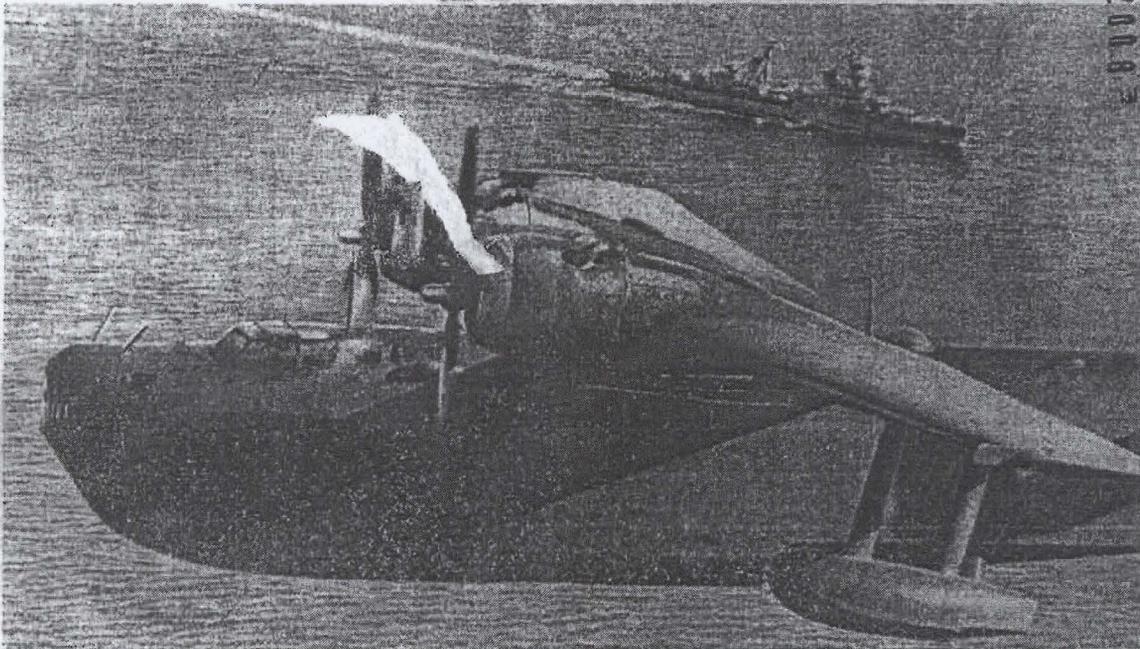
**WEEKLY INTELLIGENCE REVIEW (U)**

RAND LIBRARY

**PRIVILEGED INFORMATION**

REC'D. MAY 14 1968

SEE INSIDE COVER FOR SAFEGUARDING GUIDE



*2018*

SCANNED BY ACD

*00880850*

*10 May 1968*

**FOR OFFICIAL USE ONLY**

*REPRODUCTION BY ADM*

**SPECIAL HANDLING REQUIRED**  
This document is releasable only  
to U.S. and Canadian Nationals

~~EXCLUDED FROM AUTOMATIC  
REGRADING, DOD DIRECTIVE 5200.10  
DOES NOT APPLY~~

WIR 19/68  
10 May 68

MAY 13 1968  
Postal Registry No. *252904*

~~SECRET~~

~~SECRET~~

# NORAD

Weekly  
Intelligence  
Review

RETURN TO  
HQ USAF/DC  
MAXWELL AFB  
36112-667

K410.607-386

Issue No. 19/68, 10 May 1968

## The WIR in Brief

### Communist Military Capabilities

13 MISSILE, 13 SPACE LAUNCHES IN APRIL (S)  
Missile activity about average.

Portion identified as non-responsive to the appeal

NEW EW RADAR MAY BE BIGGER THAN 'TALL KING,'  
MAY HAVE SOME SPACETRACKING CAPABILITY (S)  
May be 50% wider than TALL KING.

Portion identified as non-responsive to the appeal

### Space

SOVIETS STILL NOT MEETING TERMS OF AGREEMENT  
ON PASSING WEATHER SATELLITE DATA (U)

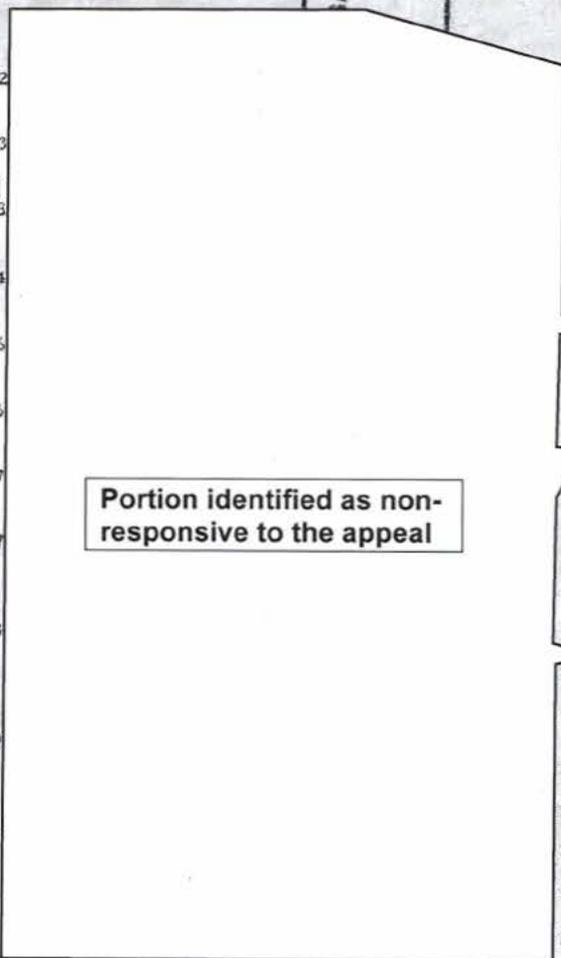
Data usually 9-30 hours old when received.  
RENDEZVOUS/DOCKING MAY ENABLE SOVIETS TO  
BYPASS HYDROGEN-FUELED STAGE FOR MANNED  
MOON LANDING (S)

50X1 and 3, E.O.13526

First switching of this type noted.  
13 SPACE LAUNCHES IN APRIL A RECORD FOR  
MONTHLY FIRINGS BY SOVIETS (S)

Military-related launches predominated.  
COSMOS 220 A NAVOID SATELLITE (S)

Portion identified as non-responsive to the appeal



Portion identified as non-responsive to the appeal

COVER: MADGE flying boat (from Red Star)  
(OFFICIAL USE ONLY)

NOTE: Pages 30, 31, 34, 35, 38, and 39 of  
this issue are blank.

17  
17  
18  
18  
19  
20  
21  
23  
23  
24  
25  
25  
26  
26  
27  
27  
28

00880850

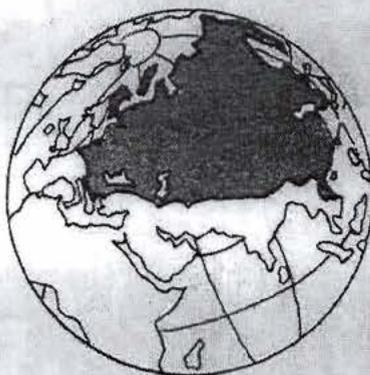
FOR OFFICIAL USE ONLY

-1-

~~SECRET~~

REPROFILMED BY ADAM

# COMMUNIST MILITARY CAPABILITIES



current  
developments  
and trends in  
the armed forces  
of the  
Communist World

## 13 Missile, 13 Space Launches in April 1968 (S)

Over-all launch activity at Soviet missile test ranges and complexes was about average during April 1968. (Listing on p. 29.) However, a new high was reached in the number of space launches:

	<u>March</u> <u>1968</u>	<u>April</u> <u>1968</u>	<u>April</u> <u>1967</u>
Space Launches	9*	13	5
Missile Launches	15	13	17#
Vertical rocket firings from Kapustin Yar	<u>7</u>	<u>0</u>	<u>5</u>
	31	26	27

\*Includes 1 high-apogee vertical launch from Tyuratam.

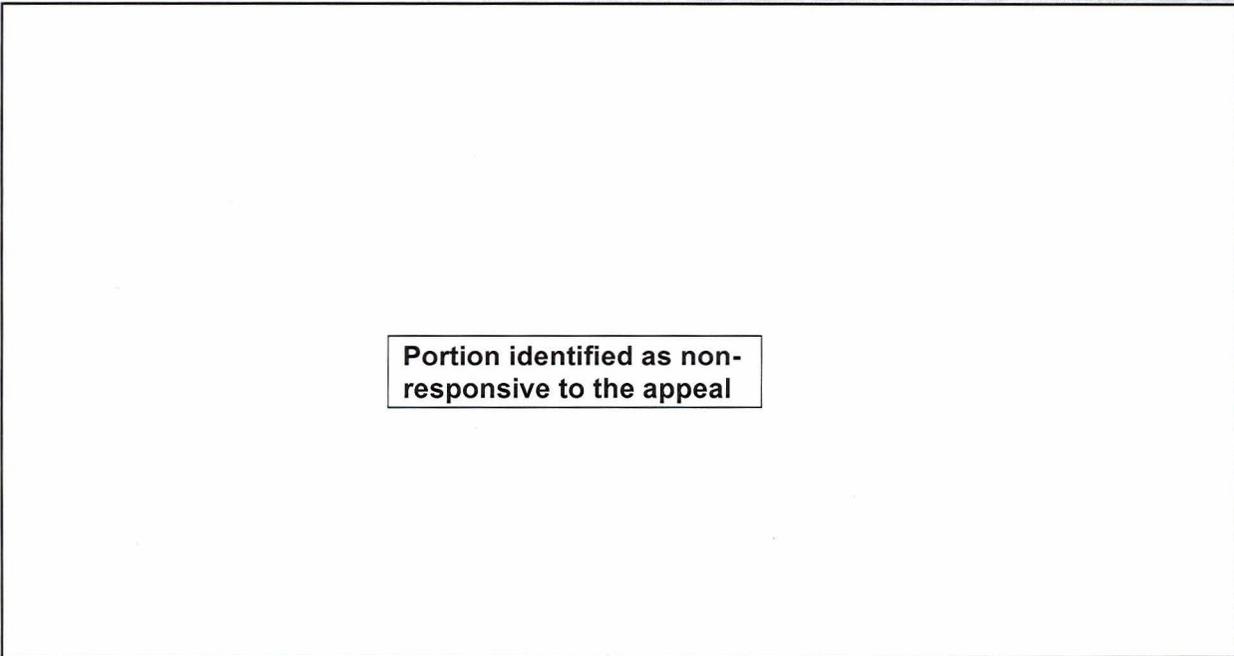
#Includes 5 SS-3 firings, part of an unexplained series of 20 launches between 28 March and 19 May 1967 of the SS-3, which is believed to have become obsolete in 1962.

### Noteworthy features of the April 1968 launches:

- The 13 space launches attempted in one month set a new record for the Soviets (see Space section, this WIR).
- There were no SS-5 IRBM launches in April (or in March).
- There were no launches in April 68 of the KY-6 and KY-8 R&D missiles.

(NORAD)

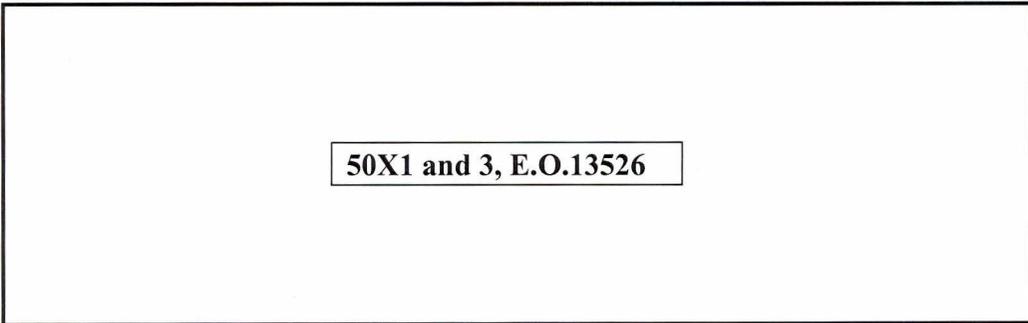
~~(SECRET)~~



Portion identified as non-responsive to the appeal

### New EW Radar May Be Bigger than TALL KING, May Have Some Spacetracking Capability (S)

The CANUKUS nickname SHOCK SING has been assigned to a newly observed Soviet long-range early-warning (EW) radar which may be even larger than TALL KING, heretofore the Soviets' largest EW radar. The size of SHOCK SING's antenna is not known, but the horizontal dimension is probably 50% greater than that of TALL KING, or about 48.8 meters (160 feet) wide.



50X1 and 3, E.O.13526

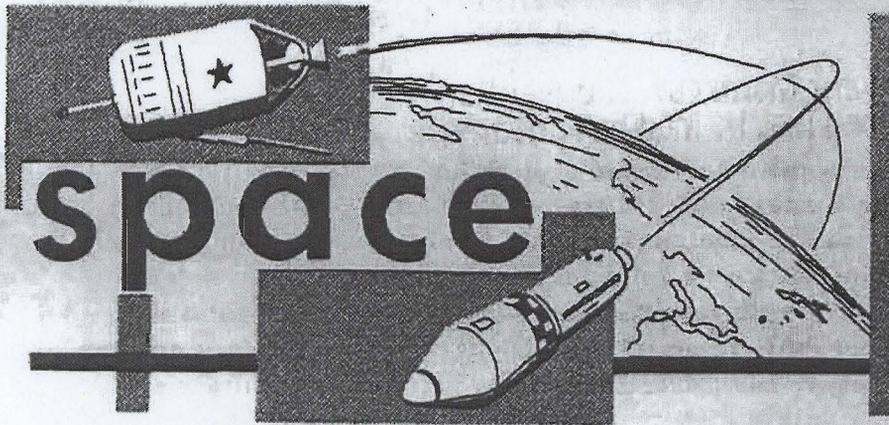
This radar should have a greater range capability than TALL KING. At these ranges the altitude coverage is higher than altitudes flown by manned aircraft. With such capabilities it may be able to provide some coverage against near-earth or reentering earth satellite vehicles. Pulse compression techniques are probably used to obtain greater range resolution than that indicated by the 45-55 microsecond pulse duration.

(DIA; NORAD)

~~(SECRET)~~



~~SECRET~~



significant  
intelligence  
on space  
developments  
and trends

### Soviets Still Not Meeting Terms of Agreement on Passing of Weather Satellite Data (U)

Data from Soviet weather satellites is still arriving in Washington 9-30 hours after it is collected -- too old to be useful in preparing weather forecasts. The US-USSR bilateral agreement on the exchange of operational weather-satellite data specifies that it be received within 6 hours after collection.

It has been suspected that these delays have been occasioned by passage of this data from regional meteorological centers to a central facility at Obninsk over ordinary weather-communications circuits; weather data collected by conventional means apparently gets priority on these circuits over satellite-collected data, since the former could affect safety of aircraft traffic within the USSR (p. 10, WIR 49/67).

If this is the problem, it could be aggravated if the Soviets should keep 4 or 5 weather satellites orbiting simultaneously, as Soviet Academician Boris Petrov recently said should be done.

(CIA)

~~(SECRET)~~

### Rendezvous/Docking May Enable Soviets to Bypass Hydrogen-Fueled Stage for Manned Moon Landing (S)

A critical part of the US's Apollo (man-on-the-Moon) program was the development of a high-performance third stage (one with high thrust in relation to weight) fueled by liquid hydrogen. This is the stage which, after being placed in Earth-parking orbit by the Saturn booster, will send the manned payloads -- orbiter and lander on their journey to the Moon. The US went to great trouble to solve the problems of fueling a rocket stage with hydrogen, because the use of any of today's conventional rocket fuels would have increased the weight of this stage considerably; this increase would, in turn, require the development of a booster much larger even than the Saturn,

-9-

WIR 19/68 10 May 1968

~~SECRET~~



now the world's largest. The development of such a booster would have delayed the Apollo program significantly.

The failure of the Soviets to demonstrate a hydrogen-fueled rocket stage to date has led some people to believe that the Soviets' man-in-the-Moon program is lagging behind seriously. This may not be the case. The Soviets intend to follow another path. Their successes in rendezvous and docking of Cosmoses 186 and 188 last October and Cosmoses 212 and 213 in April 1968 may have enabled them to dispense with a high-performance upper stage. Soviet technical literature is replete with references to assembling propulsion stages which have been orbited separately, particularly for interplanetary flights. (The Soviets often refer to lunar probes as "interplanetary stations.") In view of their successes with automatic rendezvous and docking of orbiting payloads, the Soviets may find it more expedient in their initial attempts to land men on the Moon to use the assembly-in-space technique than to develop high-performance upper staging. With upper staging and payloads injected separately into parking orbit, boosters larger than the Saturn would not be required.

It may be significant that the Ye. O. Paton Institute of Electric Welding in the USSR has for some time been conducting research on cold welding. The institute director said in 1965 that the purpose of this research was to perfect techniques for assembling interplanetary rockets. Members of this institute, in reporting in 1966 on their work, seemed to be convinced that cold welds for fabrication can be accomplished easily in space, with very little deformation resulting.

(NORAD; FTD)

~~(SECRET)~~

50X1 and 3, E.O.13526

Cosmos 215, a geophysical satellite which the Soviets launched from Kapustin Yar (KY) on 18 April,

50X1 and 3, E.O.13526

This is the first time that a Kapustin Yar satellite is known to have done this type of switching. It is not known why the Soviets equipped Cosmos 215 to transmit on two different frequencies;

KY-launched satellites usually carry geophysical or astrophysical payloads.

(DIA)

~~(SECRET)~~

50X1 and 3, E.O.13526





## 13 Space Launches in April a Record for Monthly Firings by Soviets (S)

The USSR launched 13 spacecraft during April 1968, the most it has ever launched in a single month. One launch failed. (See page 29.)

The new record continues the escalation of pace which marked last year's space effort: it upsets the record of 12 launches set in October 1967 which, in turn, broke the record of 9 launches set in March 1967. The previous record of 8 in one month had been equaled several times.

The 13 launches in April were dominated numerically by the 5 launches of military significance. Next in number were 4 events related to preparations for manned lunar flights and manned space stations, then 3 research satellites, and 1 utilitarian satellite.

The month's launches included:

- 3 military reconnaissance satellites.
- 1 test of a FOBS (fractional-orbit bombardment system).
- 1 test of a maneuverable vehicle which probably will figure in future military systems.
- 1 lunar orbiter.
- 1 attempt to send a payload around the Moon and recover it on Earth.
- 2 payloads which rendezvoused and docked, after having been launched a day apart.
- 3 small astrophysical/geophysical research satellites.
- 1 communications-relay satellite.

The Soviets had executed 28 space launches in 1968, compared to 21 as of the end of April 1967.

(NORAD)

~~(SECRET)~~

## Cosmos 220 a Navaid Satellite (S)

Cosmos 220, which the Soviets launched from Plesetsk at about 1358Z, 7 May, is the 6th in a series of Soviet navigational-aid satellites. Earlier members of this series consisted of Cosmoses 158, 189, 192, 200, and 203. All have been launched by the SL-8 propulsion system, into nearly circular orbits with inclinations of about 74 degrees. However, differences in altitude suggest that the navaid-satellite program is still in the testing stage. The Soviets apparently are trying to determine the optimum altitude for an operational system. Altitudes of the 4 latest navaid satellites have been reported as follows by NORAD Space Defense Center:





	<u>Cosmos 192</u>	<u>Cosmos 200</u>	<u>Cosmos 203</u>	<u>Cosmos 220</u>
Apogee (Km)	771	532	1205	763
Perigee (Km)	748	516	1185	671

Signals from Cosmoes 192 and 203 normally are intercepted daily, but Cosmos 200 has been silent since 9 April.

(NORAD)

~~(SECRET)~~



Soviet Missile and Space Launches, April 1968 (U)

<u>Launch Date &amp; Time (Z)</u>	<u>Vehicle</u>	<u>Rangehead</u>
03 Apr, 0505	SS-7, ICBM	Tyuratam
03 Apr, 1100	Cosmos 210 (SL-8)	Plesetsk
05 Apr, 0410	SS-11, ICBM	Tyuratam
07 Apr, 1008	Luna 14 (SL-6)	Tyuratam
09 Apr, 1130	Cosmos 211 (SL-7)	Plesetsk
14 Apr, 1000	Cosmos 212 (SL-4)	Tyuratam
15 Apr, 0932	Cosmos 213 (SL-4)	Tyuratam
15 Apr, 0951	SS-7, ICBM	Plesetsk
17 Apr, 1311	SS-4, MRBM	Kapustin Yar
18 Apr, 0330	SS-9, ICBM	Tyuratam
18 Apr, 1030	Cosmos 214 (SL-4)	Plesetsk
18 Apr, 2232	Cosmos 215 (SL-7)	Kapustin Yar
19 Apr, 1137	SS-4, MRBM	Kapustin Yar
20 Apr, 0800	SS-7, ICBM	Plesetsk
20 Apr, 0923	SS-4, MRBM	Kapustin Yar
20 Apr, 1030	Cosmos 216	Tyuratam
21 Apr, 0420	8th Molniya 1	Tyuratam
22 Apr, 1338	SS-7, ICBM	Tyuratam
22 Apr, 2301	Lunar Failure (SL-12)	Tyuratam
24 Apr, 0415	SS-11, ICBM	Tyuratam
24 Apr, 1601	Cosmos 217 (SL-11B)	Tyuratam
25 Apr, 0045	Cosmos 218 (SL-11A)	Tyuratam
25 Apr, 1015	SS-4, MRBM	Tyuratam
26 Apr, 0443	Cosmos 219 (SL-7)	Kapustin Yar
26 Apr, 0525	SS-7, ICBM	Kapustin Yar
28 Apr, 0410	SS-9, ICBM	Tyuratam

~~SECRET~~

 WIR 19/68  
10 May 68

~~SECRET~~

~~SECRET~~