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ISCAP APPEAL NO. 2009-068, document no. 174
DECLASSIFICATION DATE: February 25, 2015

NORTH AMERICAN AIR DEFENSE COMMAND

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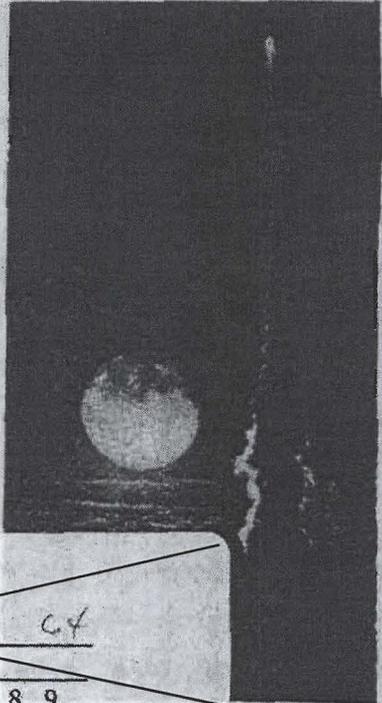
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WEEKLY INTELLIGENCE REVIEW (U)

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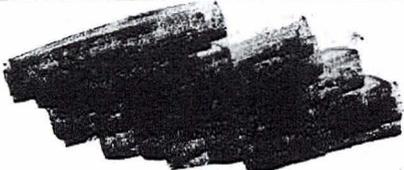
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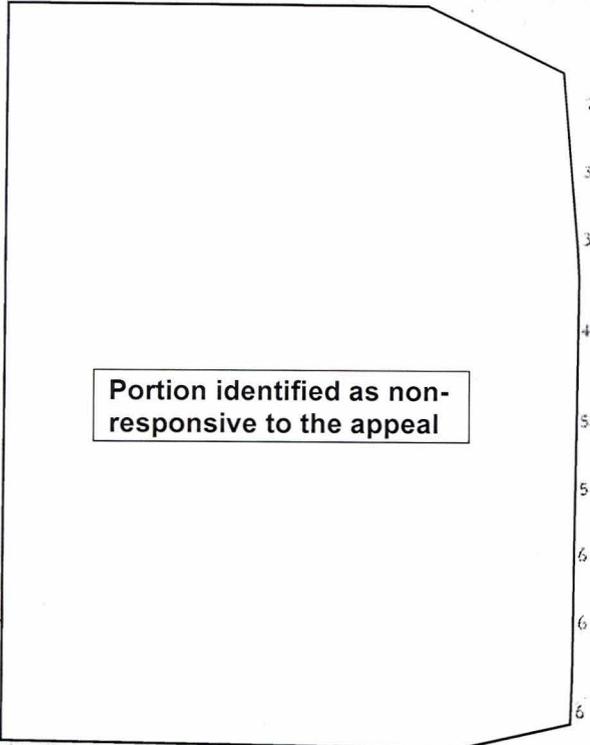
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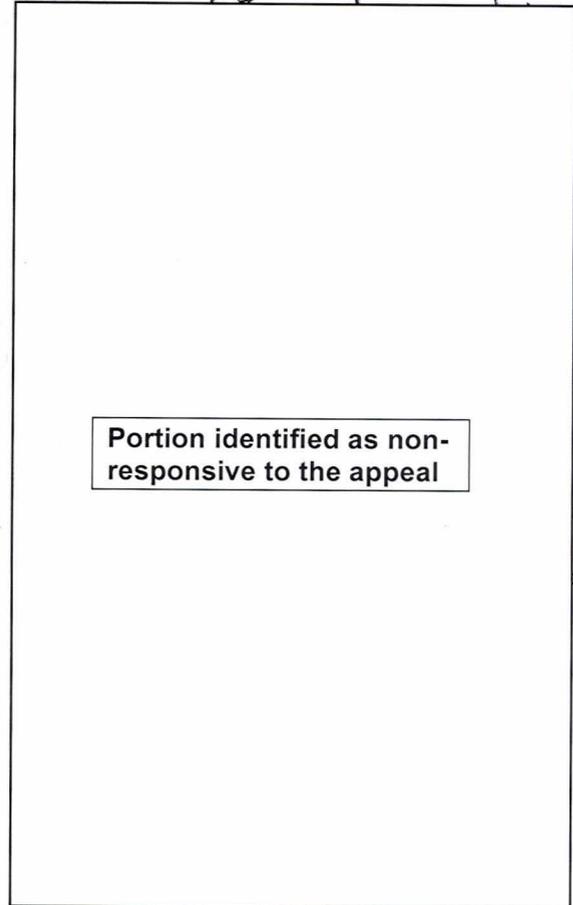
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Issue No. 17/67, 28 April 1967

The WIR in Brief



Portion identified as non-responsive to the appeal



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Space

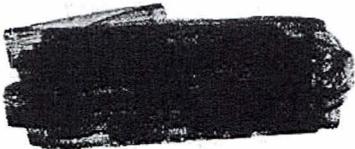
RECCE COSMOS 155 DE-ORBITED
 Almost exactly 8 days after launch.

DIFFICULTIES WITH SOYUZ 1 CAUSE ABORT OF SCHEDULED SPECTACULAR
 Main mission probably was to transfer cosmonauts.

LAUNCH WINDOW FOR VENUS OPENS IN MAY: SOVIET LAUNCH(ES) DEBATABLE
 Mars window bypassed earlier this year, for first time since 1960.

COVER: Soviet rocket after breaking through cloud cover (Soviet press) (OFFICIAL USE ONLY)

NOTE: Pages 18, 20, 21, 24 and 25 of this issue are blank.



WIR to be Smaller Temporarily

Budgetary restrictions on printing forces the WIR to pare down its size for the rest of the fiscal year, which ends 30 June 1967.

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significant
intelligence
on space
developments
and trends

Recce Cosmos 155
De-orbited

Cosmos 155, a high-resolution military reconnaissance satellite which the Soviets launched from Tyuratam at about 1052Z, 12 April, was de-orbited during the early part of Revolution 129, almost exactly 8 days after launch. Impact in the USSR is believed to have occurred at about 1049Z, 20 April.

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Difficulties with Soyuz 1 Cause
Abort of Scheduled Spectacular

The Soviet manned spacecraft Soyuz 1 was launched from Tyuratam into a relatively low orbit of a nominal 52 degrees inclination at about 0035Z, 23 April, and was de-orbited almost 27 hours later, impacting in the USSR at about 0315Z, 24 April. The Soviets report that its only occupant, pilot-cosmonaut Komarov, then making his second space flight, was killed when the parachute of his spacecraft failed to deploy properly after re-entry.

The circumstances suggest that the craft was brought down without having completed its main mission, probably because of difficulties encountered in flight. It seems most unlikely that, following the successes of their 3-man Voskhod 1 in November 1964 and their 2-man Voskhod in March 1965, the Soviets' next manned flight would consist only of orbiting one man for one day. There is probably much substance to the Moscow rumors which reached the US press before the launch of Soyuz 1 to the effect that the Soviets were planning to orbit two manned spacecraft with 4-6 men aboard and that an attempt would be made to transfer some of the cosmonauts from one craft to the other. Soyuz apparently was the craft to which the cosmonauts were to be transferred and in which they would later be de-orbited. Contrary to press speculation, however, it is unlikely that the two craft would dock in space; it is believed, rather, that the cosmonauts would move between the two craft using a tether.

Also contrary to press speculation, Soyuz 1 was not an extraordinarily large spacecraft by Soviet standards. Soyuz 1 was launched by the SS-6

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booster-sustainer and injected into orbit by a modified Venik upper stage -- a combination which probably could orbit a payload of 7-8 tons.

This new type spacecraft was probably man-rated when the Soviets successfully orbited two vehicles of the same apparent type but without any cosmonauts aboard: Cosmoses 133 and 140. These two craft were launched on 28 November 1966 and 7 February 1967, respectively, from Tyuratam by the same type propulsion system that launched Soyuz 1, they transmitted essentially the same type of electronic emissions, and each was de-orbited two days after launch. Both vehicles performed orbital maneuvers, a fact which tends to support the theory that Soyuz 1 would rendezvous with another vehicle.

The eventual missions of the Soyuz-type spacecraft may be that of a shuttle bus for a Soviet MOSS (manned orbiting space station) of the future and a training aid for Soviet manned lunar flights in which cosmonauts may have to transfer between spacecraft in open space, using tethers.

Possibly related to these programs are Cosmoses 146 and 154, large spacecraft which were launched 10 March and 8 April 1967 by the SL-9 (the propulsion system which launched the 12.2-metric-ton Protons) and an added third stage. A mission relationship is suggested by similarities in telemetry and by the fact that all the vehicles involved -- Cosmoses 133, 140, 146, and 154 and Soyuz 1 -- were injected into 52-degree orbits.

The Outlook. The Soviets, if they have another craft of the Soyuz 1 type on standby, conceivably could make another attempt to complete the original mission within a few weeks, following a check of Soyuz 2 systems. As a precedent, it may be recalled that the 2-man spacecraft Voskhod 2 was launched only 24 days after its precursor vehicle, Cosmos 57, exploded in flight. A launch of Soyuz 2 and a companion spacecraft and an exchange of cosmonauts between them in the near future would go far in restoring to the Soviets any prestige which they may have lost with the failure of Soyuz 1.

If, however, Soyuz 1's inflight troubles are deemed extensive -- aside from the failure of the parachute to deploy properly -- the Soviets may decide to make a thorough re-evaluation of all Soyuz-associated systems, similar to that being made in the US of the Apollo. Such a course could set the Soviet man-in-space and lunar programs back by several months.

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**Launch Window for Venus Opens
in May; Soviet Launch(es) Debatable**

The launch window for Venus -- the period during which energy requirements for launch of a probe to that planet are at their minimum -- opens early in May for a two-month period.

It is not known whether the Soviets will try to launch one or more probes to Venus during this window opening. Until recently, the Soviets have launched from one to three probes each time the "window" has opened for





either Mars or Venus (see chart on page 23), but they apparently did not launch or even try to launch a probe when the window for Mars last opened (early December to early February 1967).

The Soviets could reap a good propaganda harvest in time for use during the 7 November celebration of the 50th Anniversary of the Bolshevik Revolution if they launched a Venus probe in the near future and if the probe proved successful. They may not, however, have a payload ready: they may have bypassed preparations for a Venus shot in favor of preparing for coming complex manned and circumlunar events of still greater propaganda value. Failure to launch might also indicate that the new Soviet leadership has decided that, after 16 interplanetary probe failures, more probe attempts cannot be justified until it can be shown that the prospects for success have much improved.

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Soviet Attempts to Probe Venus and Mars vs. Available Launch Windows

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YR \ MO	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1960									▨	○		
1961	▨	○										
1962						▨	▨	▨	▨	▨		
1963												
1964			▨	○							▨	
1965							+			▨	▨	
1966												▨
1967	▨	?			▨	▨						
1968												▨
1969	▨	▨	▨	▨	▨							
1970						▨	▨	▨				
1971				▨	▨	▨						
1972			▨	▨								
1973							▨			▨	▨	
1974												
1975					▨	▨			▨			

FTD

Legend

○	LAUNCH SYSTEM FAILURE
□	PARKING ORBIT EJECTION FAILURE
△	SPACECRAFT FAILURE
●	MISSION SUCCESS
▨	MARS LAUNCH WINDOW
▨	VENUS LAUNCH WINDOW

NOTES:

All 16 probes of Venus and Mars launched by the Soviets to date have failed.

Neither the US nor the USSR has undertaken a probe of any of the other planets.

✦ Zond 3 -- a deep-space probe sent into planetary orbit but not aimed at any planet. Photographed other side of Moon and sent video to Earth from various distances.

? The first launch window since 1960 during which the Soviets apparently did not launch probes.

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