CENTRAL INTELLIGENCE AGENCY

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

SOURCE: [redacted]

1. On the evening of 4 October 1957, there was a reception for the conference delegates at the Soviet Embassy in Washington. Dr. Lloyd Berkner made an announcement saying, "I wish to congratulate our Soviet colleagues on their success in launching the world's first earth satellite vehicle". This announcement appeared to be the first news the Soviets had regarding the launching, as a moment later a member of the Soviet embassy staff entered the room with what appeared to be yellow sheets from a teletype machine.

2. Source commented that as the Soviets have been able to launch an 184 pound satellite, they have an advanced, adaptable capability in space research. He feels that the satellite was launched from an ICBM and that the Soviets have a definite capability in this field. As the Soviets are optimistic about the life span of the satellite in radio, and must have adequate temperature compensation to keep it going, it appears that the Soviets have solved the thermal problem.

3. Although the Soviets state that this satellite has only temperature measuring devices, it appears that the satellite could carry camera equipment, and source noted that the four cameras described for the meteorological rocket looked like military equipment. The Soviets have indicated that after they got their first satellite orbiting, they have a regular program for the improvement of their satellites. Camera-equipped satellites can be expected, even if this one is not so equipped.

4. The Soviets at the conference stated formerly that they believe this satellite carried two radio transmitters, a heavy load of batteries, and devices for measuring temperature. They indicated that this was the only material in the satellite since the first one was to be as simple as possible.

5. On the question of whether data from the satellite as well as data obtained from ground observations will be made available to all IGY participants by the Soviets, source said, "Yes, if the Soviets keep agreements already made." He noted that the Soviet announcement contained all agreed-upon scientific data on the orbit except for the estimate on the location of apogee and perigee. Also, Blagonravov said that he had sent a cable to Moscow for additional information which would be made public when available. This remains to be seen, but so far one cannot criticize the Soviet announcement.

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STATE	X	ARMY	X	NAVY	EV	AIR	EV	X	FBI		AEC		OSI/EV	x	ORR/EV	x

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6. The telemetering frequencies of the satellite appear to be as announced by the Soviets, subject to Doppler shifts, measurements of which in both the northern and southern hemispheres will give the key to the apogee. On the question of memory storage, source stated that temperature measurements may be conveyed to earth simply by the length of key, but he did not rule out other instruments and the possibility of special transmitters operating only upon interrogation when in the vicinity of the USSR. If an additional telemetering transmitter of the storage type is involved, memory circuits may be used.

7. The orbit selected for the satellite is a logical one for this time of year as it affords the best visibility for observers in the USSR. (Note that they used a 65 degree orbit, although Soviet delegates to this conference said it would not be less than 70 degrees.) A 65 degree orbit gives the Soviets some launching gain and they were obviously shooting to get the satellite as high as possible for a number of reasons:

   a. So that it would stay up longer;

   b. To permit less horizontal error on launching; and

   c. To permit observation for the greatest number of revolutions.

   (Note that a 65 degree orbit, presuming launching in the neighborhood of 50 degrees, means it was launched in very nearly an east-west direction, giving them as much advantage of the earth's rotation as they could get.)

8. On the question of the large antennae reportedly used on this satellite, both Blagonravov and Poloskov were asked how this was managed. They said they did not know as they were not close enough to the technical details.

9. It is significant that the Soviets stated at this conference that they will launch satellites at regular intervals throughout the IGY, presumably every month or two, and that their techniques and experiments will steadily improve and become more sophisticated as time goes on. At this conference, the Soviets made it clear that their primary objective is interplanetary travel. All of their work so far can be considered [illegible] of interplanetary travel and Blagonravov has spoken of it [illegible]

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