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STATUS OF THE SOVIET SPACE SATELLITE PROGRAMINTRODUCTION

Soviet interest in space travel and earth satellite vehicles dates back to the time of Tsiolkovsky's writings (1903) and has continually increased to the present time as indicated by numerous unclassified publications in Soviet journals, popular science magazines and in the Soviet press. The main source of our information on Soviet intentions in the earth satellite vehicle field comes from Soviet announcements concerning the Permanent Interagency Commission for Interplanetary Communications, and statements of an official nature such as those by high level government officials or leading scientists and engineers. Soviet capabilities to create and successfully launch a satellite vehicle are derived mainly from estimates of Soviet capabilities in the guided missile field, particularly in the propulsion and guidance areas. Soviet missile capabilities along with their demonstrated interests in space travel and earth satellites and Soviet statements of intent provide the major basis for estimating Soviet satellite vehicle developments.

1. SOVIET INTEREST IN EARTH SATELLITES

1. Soviet interest in rockets and space travel began in 1903 with the publication of "Investigations of Universal Space by Means of Rocket Devices" by K. E. Tsiolkovsky. Included in this article was a proposal for a "permanent observatory orbiting around the earth for an indefinitely long time".

2. In 1926, V. F. Glushko (primarily responsible, since 1946, for the development of the 100 ton Soviet propulsion unit for Soviet missiles) published an article entitled "Satellites Outside the World", in which he reviewed the purposes of an artificial satellite. Apart from its use in space travel, the satellite was conceived as a major factor affecting the life on earth by diverting solar energy to specific areas, by creating a communications center, and by utilizing it for military purposes.

3. During the 1930's, Soviet rocket societies were formed where interest was confined to an attack of the engineering problems involved in rocketry. Such leading personalities as V. F. Glushko, G. P. Sviridov, Ye. Pukhovskiy, and M. I. Tikhonravov were active in these societies. Articles on satellites were generally based on the earlier proposals of Tsiolkovsky.

4. In 1930, the Soviets initiated the publication of the journal "Questions of Rocket Technology" in which Russian articles concerning missiles, space flight and satellite vehicles are translated for dissemination to interested Soviet scientists and engineers. Publication of this journal continued at least through 1935.

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EO 13526 3.3(b)(1)>25Yrs

5. In October 1953, V. P. Glushko and G. P. Korolov were elected corresponding members to the Academy of Sciences, Department of Technical Science. It is believed that these awards were given in recognition of success for achievements in the field of guided missiles or related developments possibly associated with earth satellites.

6. In November 1953, A. N. Kosygin, President of USSR Academy of Sciences, was quoted as having said that science has reached such a stage that the creation of an artificial earth satellite is becoming practical.

7. In March 1954, the General Secretary of the Central Air Club (Dobro) stated that the fundamental goal of the (Astronautics) Section is to disseminate knowledge on astronautical problems, including cosmic flight, to the Soviet people.

8. In September 1954, the President of the USSR, Academy of Sciences, instituted a Gold Medal in the name of Volkhovsky to be awarded for important work in the field of interplanetary travel.

9. In November 1954, V. G. Fessenden, Director of the Astronomical Institute of the Leningrad Branch of the Academy of Sciences, referred to the "recent" formation of the Interplanetary Communications Commission. Fessenden also stated that work was being conducted actively on the use of atomic energy for cosmic travel. Fessenden reported that starting in 1955 a periodical on astronautics would be published in Moscow.

EO 13526 3.3(b)(1)>25Yrs
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10. The first official Soviet announcement concerning the formation of the Interplanetary Commission for Interplanetary Communications was made by Nikita Khrushchev on 15 April 1955. At this time, the names of six members of the Commission were given as well as the statement that one of the first tasks of the Commission would be to organize work for the creation of an automatic laboratory for scientific research in cosmic space. The six members listed are among the leading scientists in the USSR, and have internationally recognized competence in such fields as astrophysics and nuclear energy research. The scope of this Commission is believed to extend beyond the Astronomical Council of the Department of Physics-Mathematical Sciences of the Academy of Sciences with which it is associated. This organization is now believed to be composed of members on a Ministerial level thus implying an organization capable of directing activities beyond theoretical considerations to the stage of active development of a satellite project.

- 2 -

~~SECRET~~

EO 13526 3.3(b)(1)>25Yrs

~~SECRET~~

EO 13526 3.3(b)(1)>25Yrs

11. In July 1955, A. G. Karpachenko, Secretary of the Interplanetary Communications Commission, stated that Russia is prepared to send representatives to the US and other nations for cooperation in the earth satellite program of the International Geophysical Year.

12. In August 1955, Kharachkov stated that the USSR would cooperate with the American satellite program if it is in the interest of mankind.

13. In August 1955, Professor Gerasimovich, a Soviet astronomer, who had accompanied the President of the Interplanetary Communications Commission to Copenhagen, stated that the Soviet Commission had been developed as a result of popular demand about two years ago when various small groups of youths and mature individuals with interest in space flight requested government guidance.

14. [redacted] L. I. Sedov, President of the Interplanetary Communications Commission, is scheduled to give the Soviet presentation at the Stuttgart Institute for Jet Propulsion meeting in January 1956. The subject of Sedov's presentation is to be outer reporting station (RECONSTITUTION). EO 13526 3.3(b)(1)>25Yrs

11. SOVIET INTEREST - EARTH SATELLITE

15. Although the above information indicates the degree of Soviet interest in an earth satellite vehicle, the following items emphasize Soviet intentions:

15a. The formation of the Interplanetary Communications Commission about mid 1954 was the first official indication of serious intent to orbit an earth satellite vehicle.

16. In August 1955, L. I. SEDOV, President of the Interplanetary Communications Commission, stated that the Soviets plan to put up a satellite similar to that of the U.S. at about the same time and agreed that the Soviets felt it was possible to launch a large satellite as well as a small one.

17. In August 1955, Professor KULIKOV, Secretary of the Interplanetary Communications Commission, stated in PLYMA that at the present time there exist many designs for the construction of artificial satellites of varying dimensions and weight--from a few pounds to several tons. KULIKOV said that Soviet engineers and designers were well acquainted with the feasibility of such a project.

- 3 -

~~SECRET~~

EO 13526 3.3(b)(1)>25Yrs

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18. In August 1955, Major General G. I. KOROLYEV, reportedly a member of the Interplanetary Communications Commission, was quoted by TASS as having said in an interview that a number of rockets had already reached a height of 500 kilometers (about 311 nautical miles). He also stated that preparations for launching an artificial satellite were taking place in the USSR and that the preliminary stages in scientific research for making such a satellite had already been carried out.

19. In September 1955, Marshal [REDACTED] that EO 13526 3.3(b)(1)>25Yrs was chief of the U.S. in preparation for space satellites. Shushchev also boasted of Soviet strength in the guided missile field.

20. In October 1955, Professor G. G. GURGENITSI, reportedly a member of the Interplanetary Communications Commission, stated that there is every reason to hope that the Soviet earth satellite project will be realized in the not so distant future. Russian engineers believe it is possible to build larger satellites than those now being discussed in the Western press.

21. In January 1956, Major General KOROLYEV was quoted in the Soviet trade union newspaper TSS as having said that the Soviet Union will send artificial satellites into space this year (1956).

III. ESTIMATED SOVIET CAPABILITIES IN THE SPACE SATELLITE FIELD

22. In the most recent National Intelligence Estimate on the Soviet guided missile program, it is estimated that the USSR possesses the basic scientific capabilities, technical skills and other resources required to build and launch an unmanned earth satellite vehicle. A relatively uninstrumented vehicle could probably be orbited by 1956. A satellite vehicle which could be used to gather and transmit upper atmosphere scientific data would probably be within Soviet capabilities by 1961. Such a space laboratory could not only serve scientific research but also could be an invaluable aid to military operations and intelligence collection activities. No believe that the majority of the tasks of designing, fabricating, testing and launching an unmanned earth satellite vehicle could be accomplished without significant interference with high priority Soviet guided missile work.

23. From later assessments of Soviet capabilities and the foregoing indications of Soviet intentions in this field, as in 1951/52, we estimate that if the Soviets consider the psychological advantages of obtaining the world's first satellite vehicle of prime significance, and if no cost or effort is spared, the Soviet Union could launch a satellite vehicle in late 1956 or early 1957.

- 4 -

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