TOP SECRET

16 Jan 62

Event	Coverage Bands				
GREB#1 1.					2600 - 3250
Greb#2 2.		550 - 620		810 - 920	
3.	165 - 185				2600 - 3250
4.	192 - 237	300 - 380	595 - 770		1600 - 2000
5.	230 - 300	490 - 600	665 - 855		3600 - 4400
6.	172 - 216	380 - 490	575 - 710	830 - 1080	
7.	250 - 320	595 - 770		1080 - 1350	2000-2700
8	200 - 250		1300 - 1650	3000- 3650	4950 - 5050

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JAN 16 1962

Event	Coverage Bands				
1.					2600 - 3250
2.		550 - 680		810 - 920	
3.	165 - 185				2600 - 3250
4.	192 - 237	300 - 380	595 - 770		1600 - 2000
5.	239 - 300	490 - 600	665 - 855		3600 - 4400
6.	172 - 216	380 - 490	575 - 710	830 - 1080	
7.	250 - 320	595 - 770		1080 - 1350	2000 - 2700
8.	200 - 250		1300 - 1650	3000 - 3650	4950 - 5050

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2 of 2 1999

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TOP SECRET JAN 16 1962

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8.	200 - 250		1300 - 1650	3000 - 3650	4950 - 5050

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PROBLEM

Current National Intelligence requirements place highest priority on the collection of data on the Soviet anti-missile defenses. Two indicators of the Soviet capability in this field are: (1) the radars used during Soviet Missile tests at the Tura Tam and Kapustin-Yar ranges; and (2) the actual radars used in detection of large U. S. Satellite systems which are essentially the same carriers as those which will be used for operational Intercontinetial Ballistic Missiles.

SOLUTION

1. By launching a small specially instrumented satellite on an orbit to pass directly down the Soviet Missile ranges during a Soviet firing a complete documenstration of all the radars used by the Soviets for missile detection and tracking could be accomplished. Readout from this satellite would be in real time at the existing ELINT collection stations located on the periphery of the Soviet Union. Others U. S. ELINT stations could be added during the Soviet long range missile launches involving their ships near the terminal end. Such a satellite launch to beam the correct orbit would have to be made from a point in the Atlantic Ocean off the southern portion of the African Continent. Guidance for these launches would have to be furnished from sources.

NAVY'S UNIQUE LAUNCH CAPABILITY

In attempting to solve these important intelligence requirements, the Navy has a unique operational capability for the solution, which can be brought to bear on the problem. By means of its surface and sub-surface missile launching capability the Navy can launch on any desired orbit. By choosing portions of the ocean far from the regular shipping lanes the launch from a submerged submarine can be undetected. Also by properly choosing the proper launch position the first and second stages of the missile can be made to drop in the ocean far from any point of land. Also the Navy can time its firing to take place at any time and if necessary can hold on position for weeks if necessary. The Navy will be launching practice

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firings of Polaris Missiles from its submarines so the actual launching of these satellite vehicles could be a normal part of the practice firings by submarine crews, without the crews even suspecting that anything unusual was being launched.

SATELLITE PARAMETERS

Any of the existing configurations of minimum rocketry is capabile of putting a fifty pound satellite into orbit. Since the life of the satellite would only have to bea matter of hours, a unit of this type would be powered with batteries designed to only last this short period of time. Since batteries and solar cells are the major weight and configuration problems in a satellite, this unit would be the essence of simplicity. Several frequency bands could be covered simultanesouly and as knowledge of the Soviet defenses is developed, electronic instrumentation to pinpoint discrete system parameters would be developed as part of the program objectives. Since no more than one partial orbit would be ordinarily required, the satellite could be programmed so as to return to the earth's atmosphere and hence would burn up after its vital mission is accomplished, leaving no "telltale" "space junk" to indicate its former mission. Basic configurations already a part of designs built by the Naval Research Laboratory would serve as the initial units of this program. This "inhouse" capability of the Navy at the Naval Research Laboratory would assure tight control of security and preclude the possibility of security leaks in the program. U. S. ELINT stations already engaged in this sensitive collection effort would be utilized to receive the data thus further assuring the secutity of the project.

OTHER INTELLIGENCE PRODUCTS

1. During the launching of Soviet ICBM's the probability of collecting intelligence on the electronic guidance during launch is a definite possibility. Since the ranges at which this guidance would have to be supplied is on the order of hundreds of miles, the possibility, that it consists of some type of high power pulse groups being modulated in a unique manner is a definite possibility. These guidance systems could be associated with the high power radar systems such as is used by certain U. S. Guidance systems. These signals would be heard by the proposed satellite system.

2. Data on the guidance for reentry and recovery projects in the Soviet Satellite program could be obtained with careful programming. By launching the ELINT satellite to pass over the recovery area concurrent with the recovery times this data could be collected.

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3. Coverage of the Missile ranges used for testing Soviet submarine missiles during firing could be effected. A known range for this activity exists in Eastern USSR extending from Olga (north of Vladivostok) northward now about 200 miles. Extension of this range into the Sea of Okhotsk and beyond in the near future is expected. Coverage of this range is not now possible and the proposed program would fill this vital gap.

4. Soviet programs for testing Anti-Ship missiles have been underway for some time in two areas, off the southern Crimea and in the Northern Caspain Sea. Coverage of these areas could also be provided by this program.

5. Should a serious political crisis develop, it would be expected that special efforts would be made to protect the two electronic development centers in the USSR where 80% of the production and 95% of the research is done. A pass over these two centers could be easily arranged during any real political crisis.

6. Coverage of the Atomic Bomb test areas at Semipalitinsk and in the Kara Sea could readily be covered by a single orbit. Should Soviet testing be resumed this vehicle could be used to advantage in collecting data in this important scientific field.

7. Coverage now provided by peripherical Ferret missions could be effected in a much much more normal electronic atmosphere. Ferret flights are quickly detected and this leads to the shutting down of certain sensitive and important defensive radar systems and the alerting of other defensive measures such as fighter commands. A provocation exists and the normal defensive arrangement is not observed in this situation. A satellite , such as proposed, would not excite provocation and hence would provide valuable data on the normal defenses of the USSR.

8. Should a rift occur between the USSR and Red China then a careful look at the border defenses of each of these nations could be quickly provided by this satellite system.