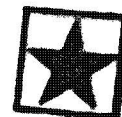


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KEYHOLE CHANNELS JOINTLY

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BYE-1254-74
SORS 11./65
30 May 1974

UNITED STATES INTELLIGENCE BOARD
SIGINT COMMITTEE

SIGINT OVERHEAD RECONNAISSANCE SUBCOMMITTEE

MEMORANDUM FOR: MEMBERS, SIGINT OVERHEAD RECONNAISSANCE
SUBCOMMITTEE

SUBJECT: Mission Description of RAQUEL, SIGINT Mission
7341

1. The National Reconnaissance Office (NRO) has provided the attached mission description of RAQUEL, SIGINT Mission 7341. This description may be detached from this cover letter and handled within the TALENT-KEYHOLE Control System. Distribution for DOD elements, other than SORS member agencies, will be made by DIA.

2. RAQUEL is a satellite ELINT intercept system designed for technical intelligence collection and general search for pulsed and continuous wave (CW) emitters over the frequency range of 4000-18,000 MHz. RAQUEL may also provide a capability for collecting certain Operational ELINT and for mapping of communications emitters.

3. The intercept system is mounted on a spin-stabilized spacecraft placed in the 275 N.M. near-polar circular orbit. RAQUEL is scheduled for launch from the Western Test Range in September 1974; mission life is expected to be 12 months.

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Exempt from General Declassification
Schedule of E.O. 11652, Exemption
Category: 5B2. Automatically Declassi-
fied On: Impossible to Determine

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Sources and Methods ~~EARPOP~~
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4. The NRO requests that mission guidance for this payload be provided as soon as possible so that final software development may be completed.

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Attachment:

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TCS-2406-74
SORS 10./198/1
29 July 1974

UNITED STATES INTELLIGENCE BOARD
SIGINT COMMITTEE

SIGINT OVERHEAD RECONNAISSANCE SUBCOMMITTEE

MEMORANDUM FOR: DIRECTOR, NATIONAL RECONNAISSANCE OFFICE
DIRECTOR, NATIONAL SECURITY AGENCY

SUBJECT: Mission Guidance for SIGINT Mission 7341

The SIGINT OVERHEAD RECONNAISSANCE SUBCOMMITTEE (SORS) recommends the following mission guidance for SIGINT Mission 7341:

I. Mission Priorities

A. The first priority is the collection of ELINT technical information and the search for new signals, specifically:

1. The acquisition of technical measurement data to satisfy applicable requirements in the SORS Priorities for ELINT Guidance (PEG- -SORS 9./75 series).

2. The detection, identification and location of new emitters/signals, particularly those associated with new/advanced Soviet and People's Republic of China (PRC) weapon systems, in order to assist in the assessment of these weapon system characteristics and capabilities.

B. The second priority is collection of data to satisfy Operational ELINT Surveillance Requirements*, primarily in the

*The Operational ELINT Requirements are those defined in the current USIB Guidance for the SIGINT NRP Program.

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12,000-18,000 MHz frequency range. This collection may be raised to first priority during crisis situations in accordance with specific SORS guidance. EOB data, primarily in the 12,000-18,000 MHz frequency range, will be derived from collection specified in A.1. and A.2. above, and Operational ELINT collection.

C. The third priority is the mapping of COMINT emitters.

II. Collection Priorities

A. During the first 90 days of operation, collection efforts will emphasize search for new signals according to the following priorities:

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COMINT CHANNELS JOINTLY

TCS-2406-74

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3. The remaining collection capability should be allocated to search and the measurement of technical parameters, described in paragraph B.

4. During the initial 90-day period, as many technical parameters of discovered signals as possible should be measured. However, continuation of the search scheme has priority over repeated acquisition of a discovered signal for parameter refinement.

B. Routine Collection

1. Routine collection for technical measurement data should be conducted in accordance with the priorities specified below. Routine search should be conducted in accordance with the following target area priorities and the same specified frequency priorities.

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COMINT CHANNELS JOINTLY

TCS-2406-74

a. Frequency priorities

(1)

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First: 12,000-18,000 MHz

Second: 8000-12,000 MHz

Third: 4000-8000 MHz

(2) CW signals

4000-18,000 MHz

b. Geographic area priorities

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2. Operational ELINT collection will routinely be limited to target emitters in the 12,000-18,000 MHz frequency range.

3. COMINT mapping data should be derived from ELINT TI/search collection. Specific collection tasking for the mapping of COMINT emitters uniquely available to Mission 7341 and the collection of signals to determine technical characteristics utilizing the spectrum analysis capability will be in accordance with the mission priorities established in paragraph I.

III. Time Critical Requirements

Time critical requirements will be handled in accordance with the procedures established in SORS 10./193/3, TCS-2378-74.

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COMINT CHANNELS JOINTLY

TCS-2406-74

IV. Processing and Reporting

A. Processing and reporting of data should be accomplished on an expeditious basis in accordance with PEG priorities.

B. A preliminary report on new, unusual and high priority signals is desired within one week of the intercept. A detailed report on these signals is desired within one month of the intercept provided the report adds to the information on the emitter. These reports should identify Mission 7341 as the source of the data.

C. For the Operational ELINT surveillance function, the timeliness of processing and reporting is generally within 24 hours for landbased targets and within eight hours for naval targets.

D. All geoposition ELINT data will be included in routine EOB reports.

V. The SORS requests that it be kept fully informed of the operational status and intercept success of Mission 7341. A special report by the NRO/NSA on the initial 90 day search effort is desired. This report should include a summary of the signals collected, number of collection opportunities and detection confidence level achieved against an assumed emitter/uplink at the locations specified.

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21 August 1975
BYE-10726-75
SORS 9./238

MEMORANDUM FOR: CHAIRMAN, SIGINT COMMITTEE

SUBJECT: RAQUEL Program

- REFERENCES:
- a. BYEMAN-111190-75, dated 7 Aug 1975
Memorandum from Chairman, SIGINT
Committee, Subject: Same as above
 - b. USIB Guidance for the National
Reconnaissance SIGINT Program
(FY-1976-1980) USIB-SC-10.9/271,
dated 25 March 1975

1. The SORS has reviewed the proposed collection capabilities of RAQUEL IA (TI/search, 4,000-18,000 MHz) and RAQUEL II (special TI collector, primarily power measurements, 1500-10,000 MHz). After studying the requirements contained in Tab D. Ref. b., we find that those requirements which would support a RAQUEL IA are about equal in priority with those supporting a RAQUEL II. This conclusion is somewhat confused by the language of Program Objective 2, Tab D which, while calling for the collection and measurement of precise signal parameters associated with weapon systems, seems to divide the work between "...a long dwell capability covering 100-8,000 MHz and a short dwell capability covering 8,000-18,000 MHz." One could interpret this to preclude the precise measurement of signal parameters below 8,000 MHz by low orbiting SIGINT satellites. This would be, however, an incorrect interpretation since the totality of collection requirements are not limited to the language of the program objectives. One must also consider Section D (Information/Data Requirements) of Tab D. Paragraph 1 (Technical Intelligence) refers to the Priorities for ELINT Guidance (PEG) list, which contains measurement accuracies required for meaningful emitter definition.

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EXEMPTION CATEGORY 2 DECLASSIFY
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BYE-10726-75
21 August 1975

2. Having done so, we find that precise measurements of ERP and polarization which require access to main beam radiation [REDACTED]

RAQUEL

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II offers an opportunity to satisfy a number of high priority technical intelligence requirements which have defied collectors for years. Many of the emitters associated with these requirements are in the top 50% of the PEG, and, based on recent study, present a high-to-good probability of intercept of satellite collection by the RAQUEL II configuration.

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4. At this point in time, the SORS finds itself on the horns of the dilemma posed by the "either/or" situation.

a. DIA, Army, Air Force, and NSA stand for RAQUEL II. These agencies believe that the need to tackle long-standing, technically challenging requirements of the type purportedly susceptible to RAQUEL II, takes precedence over surveillance and collection of known, postulated, and unknown emitters in the 12-18 GHz band.

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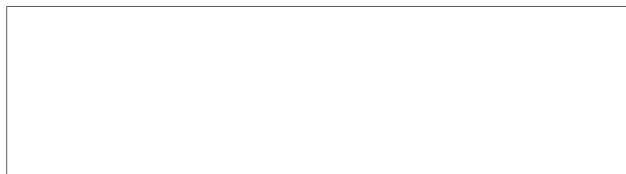
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BYE-10726-75
21 August 1975

b. CIA and Navy disagree with this position, believing that not only is it of greater importance to maintain cover of the 12-18 GHz band, but that any gap in coverage of this frequency range is unacceptable. Of significance is the apparent deflation by Navy and CIA of the criticality of precision measurements for ERP, polarization, etc., traditionally supported by all agencies. Additionally, the CIA view has been tempered by the relaxation of previously stringent SALT verification requirements.

c. State Department has abstained from expressing a choice at this time.



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Copy
BYE-6815-75
SORS 10./198/12
20 October 1975

MEMORANDUM FOR: DIRECTOR, NATIONAL RECONNAISSANCE OFFICE
DIRECTOR, NATIONAL SECURITY AGENCY

SUBJECT: Mission Guidance for RAQUEL 1, SIGINT Mission
7341

The SIGINT OVERHEAD RECONNAISSANCE SUBCOMMITTEE (SORS)
recommends the following mission guidance for RAQUEL 1, SIGINT
Mission 7341:

I. COLLECTION PRIORITIES

A. Collection should be conducted to provide:

1. Directed Search for location and technical
parametric measurements of signals listed in the PEG
from 12,000-18,000 MHz

2. General Search for location and technical
parametric data on new/unusual CW signals from 4000-18,000
MHz and pulsed signals from 12,000-18,000 MHz.

3. Directed Search for location and technical
parametric measurements of signals listed in the PEG from
4000-12,000 MHz.

4. General Search for location and technical
parametric data on new/unusual pulsed signals from 4000-
12,000 MHz.

B. Collection of Operational ELINT data on pulsed emitters
from 12,000-18,000 MHz and CW emitters from 4000-12,000 MHz, the
search for satellite uplink signals and the mapping of COMINT

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KEYHOLE/COMINT CHANNELS JOINTLY

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emitters in the USSR and the PRC should normally be accomplished in conjunction with the collection recommended in paragraph A above.

C. On an overall basis, application of the total RAQUEL capability should be apportioned approximately as follows:

Priority A1 - 35%
Priority A2 - 30%
Priority A3 - 25%
Priority A4 - 10%

II. COLLECTION GUIDANCE

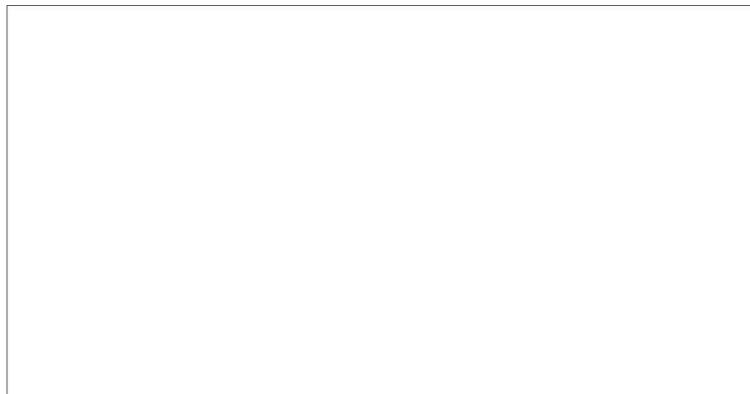
A. Directed search should be optimized to provide coverage of geographic areas of previous intercept and/or areas in which the host weapons systems are tested or operated. Collection should be planned and conducted to exploit fully all opportunities which offer increased probability of intercept, such as

activity. PEG priorities should be used to resolve any conflicts in tasking.

B. General search for new and unusual ELINT and COMINT signals associated with Soviet and PRC weapons systems should be optimized for coverage of the

offering the highest potential of intercept.

C. Specific target areas of interest are listed below in four priority groups. Specific target areas within each group are not in priority order nor are they all inclusive; however, it is anticipated that new/modified electronic emitters would first appear in the areas listed.



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1. Other areas as directed

III. TIME CRITICAL REQUIREMENTS

Time Critical Requirements (TCR) will be handled in accordance with the procedures established in SORS 10./193/3, TCS-2378-74.

IV. PROCESSING AND REPORTING

A. Processing and reporting of data should be accomplished on an expeditious basis in accordance with PEG priorities.

B. A preliminary report on new, unusual and high priority signals is desired within one week of the intercept. A detailed report on these signals is desired within one month of the intercept provided the report adds to the information on the emitter. These reports should identify RAQUEL 1, Mission 7341, as the source of the data.

C. For the Operational ELINT surveillance function, the timeliness of processing and reporting is generally within 24 hours for land-based targets.

D. All geopositioned SIGINT data will be included in routine reports.

V. The SORS request that it be kept fully informed of the operational status and intercept success of RAQUEL 1, Mission 7341.

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EXECUTIVE SECRETARY

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