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SUBJECT: (Optional)

FROM

EXTENSION

NO.

Director, Foreign Broadcast  
Information Service

DATE

14 March 1986

TO: (Officer designation, room number, and building)

DATE

OFFICER'S INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

RECEIVED

FORWARDED

1. Mr. William M. Woessner  
Principal Deputy Assistant  
for European and

2. Canadian Affairs  
Room 6226 - New State

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FORM 1-79 **610** USE PREVIOUS EDITIONS

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FOREIGN BROADCAST INFORMATION SERVICE

P. O. Box 2604  
Washington, D. C. 20013

14 March 1986

MEMORANDUM FOR: William M. Woessner  
Principal Deputy Assistant for European and  
Canadian Affairs  
Department of State

SUBJECT: Establishment of FBIS Bureau in the Federal  
Republic of Germany

REFERENCE: 15 Jan 86 Memo, Same Subject

1. This memorandum requests the Department of State's concurrence in the establishment of an FBIS bureau in the Federal Republic of Germany during FY-87 and the Department's assistance in obtaining the host government's approval for FBIS operations.

2. As was indicated in the referenced memorandum, an FBIS team conducted a survey of potential sites in the Federal Republic in February. Exploratory discussions were held at that time with Embassy Bonn and Consulate Munich officials to gather information on issues relevant to the possible establishment of an FBIS bureau. On the basis of these extensive discussions and the observation of a number of potential sites, the survey team concluded that the area of Munich-Augsburg offers the best location for an FBIS Bureau. Minister Dobbins was briefed on the survey's findings on 14 February.

3. In 1985, Ford Aerospace, in a study prepared for FBIS, recommended the Federal Republic as the optimum reception site for gathering open-source intelligence information from a number of existing and planned satellites. A copy of the executive summary of the study is provided for your perusal. Our projections for staffing and space cited in the referenced memorandum were based on this study and on an internal study of the terrestrial broadcast stations monitorable from the proposed site.

4. FBIS will be pursuing parallel discussions with the Department of Defense regarding the possibility of operating on U.S. Military facilities in the Federal Republic, as it does in several other foreign locations. In the case of the Federal Republic, Bundespost restrictions on satellite antenna operations make it desirable for FBIS to locate its antennas on U.S. military land.

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SUBJECT: Establishment of FBIS Bureau in the Federal Republic of Germany

5. FBIS will seek to have the bureau affiliated with Embassy Bonn or Consulate Munich, granting the bureau chief attaché status, as is now the case at a number of FBIS posts. The impact of an FBIS bureau on Embassy/Consulate support facilities would be minimal since FBIS plans to provide the bureau with its own administrative staff. Post support would be required, however, in areas such as vouchering and contracting. In such instances, costs would be reimbursed through a standard FAAS arrangement.

6. With your concurrence, and following host government approval in principle, FBIS will proceed to make direct contact with Embassy Bonn and Consulate Munich and arrange visits to the posts by FBIS officers and engineers to initiate detailed planning discussions. FBIS plans to explore a number of alternatives for acquiring and locating the facilities for the bureau's staff and equipment. Options include purchase or lease of land or office space, leasing antenna facilities from the Bundespost, and locating the FBIS antenna field and bureau at separate locations. In the last instance, microwave communications would be employed to remotely control antennas and feed signals from the reception site, which might be on a military base, to the processing site in a nearby city. It is our understanding, based on the site survey team's discussions, that Embassy Bonn and Consulate Munich are willing to assist FBIS in identifying and acquiring such facilities and in obtaining all necessary FRG approvals.

7. FBIS is willing to provide the host government with as much FBIS-monitored material as they would like, from this bureau or elsewhere. Normally, host governments are informed that FBIS is a component of the Central Intelligence Agency but that it deals entirely with public media. The relationship is a matter of public record, and the FRG is undoubtedly aware of it.

8. Upon approval of bureau establishment, request that Department notify Embassy Bonn and authorize them to provide assistance as required.

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Director

Attachment

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SUBJECT: Establishment of FBIS Bureau in the Federal Republic of Germany

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DDS&T/FBIS/ESG  (6Mar86)

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ROSET MEDITERRANEAN BASIN STUDY

EXECUTIVE SUMMARY

DECEMBER 1985

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FOREIGN BROADCAST INFORMATION SERVICE (FBIS)  
RECEIVE ONLY SATELLITE EARTH TERMINAL (ROSET) STUDY  
FOR MEDITERRANEAN BASIN

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ROSET STUDY

THEORETICAL OPTIMUM ROSET SITE

- THEORETICAL PRINCIPAL MEDITERRANEAN ROSET SITE
  - WEST GERMANY OR EASTERN BELGIUM
  - = VIEW ALL BEAMS OF INTEREST, EXCEPT:
    - INTELSAT VI C-BAND ZONES 3 AND 4
    - ARABSAT S-BAND
- AUXILIARY ROSET SITE
  - CYPRUS
  - = ONLY LOCATION ABLE TO OBSERVE INTELSAT ZONE 3 AND 4 AND ARABSAT S-BAND

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ROSET STUDY

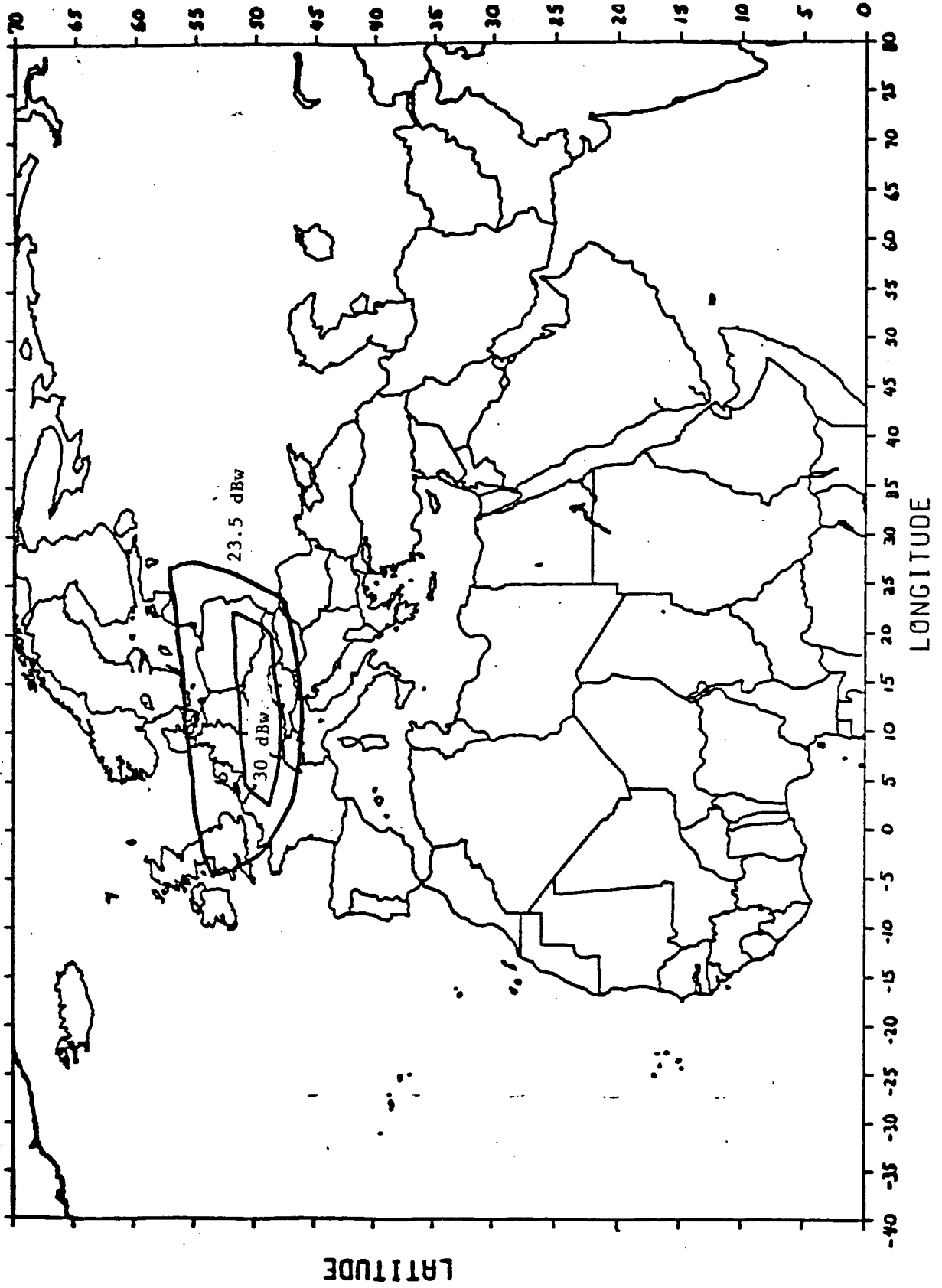
ROSET SITE SELECTION PROCEDURE

- WORST CASE EIRP CONTOURS FOR EACH SATELLITE PLOTTED ON MAP OVERLAYS
- TWO TO THREE CONTOURS COMBINED TO CREATE COMPOSITE
- SEPARATE C-BAND AND Ku-BAND COMPOSITES CREATED BY REPEATED ITERATIONS
- C-BAND AND Ku-BAND COMPOSITES COMBINED TO FORM OVERALL COMPOSITE
- AREAS WITHIN COMPOSITE ARE OPTIMUM ROSET SITES



ROSET STUDY

OPTIMUM ROSET SITE



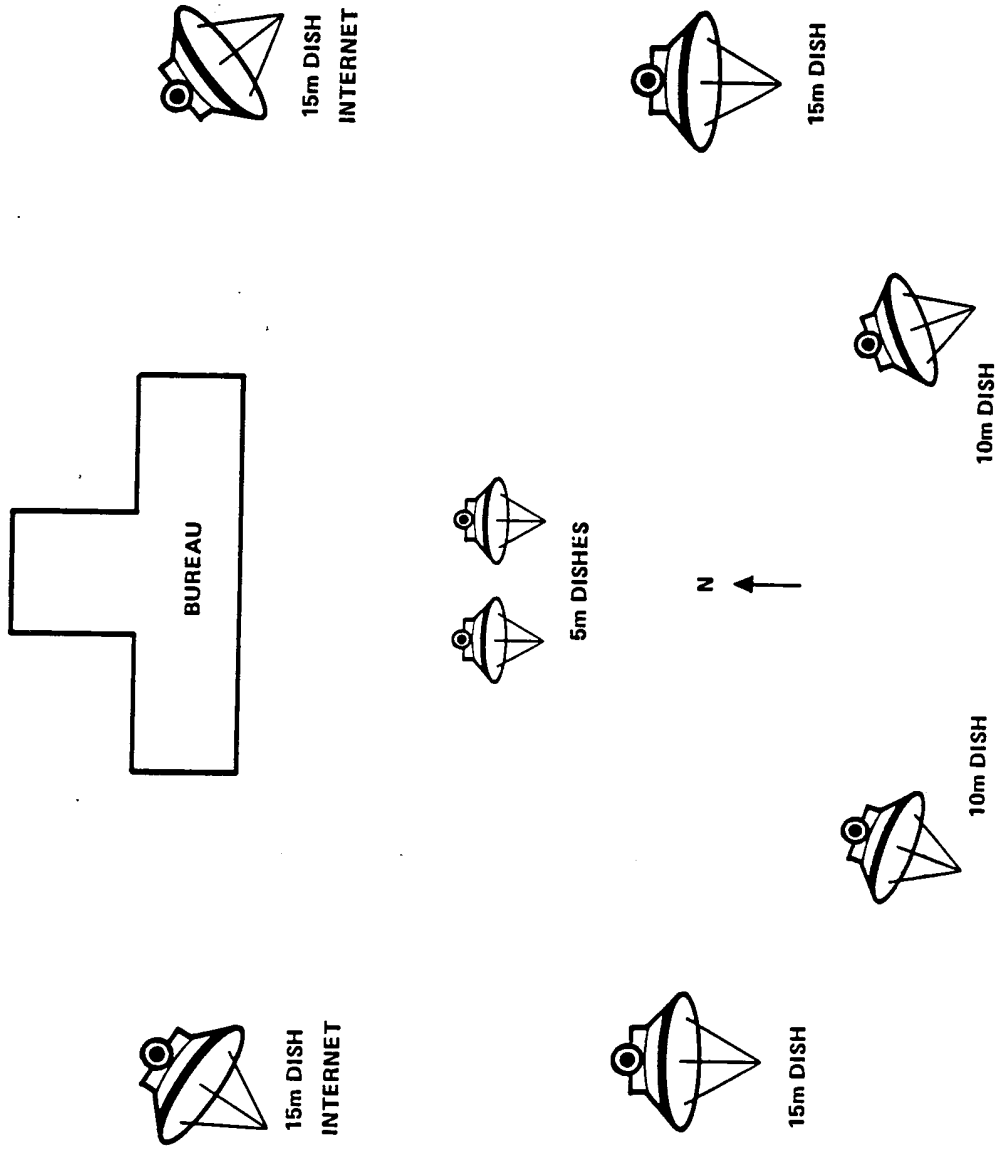
ROSET STUDY

SITE AND ANTENNA RECOMMENDATIONS

- TWO ROSETS NEEDED FOR 100 PERCENT COVERAGE
- PRINCIPAL ROSET SITE -- WEST GERMANY
  - ANTENNA REQUIREMENTS
    - = 2 x 13/15 M DUAL-BAND
    - = 2 x 5 M Ku-BAND
    - = 2 x 10 M DUAL-BAND
- AUXILIARY SITE -- CYPRUS
  - ANTENNA REQUIREMENTS
    - = 1 x 4.5 M C-BAND
    - = 1 x 2 M S-BAND

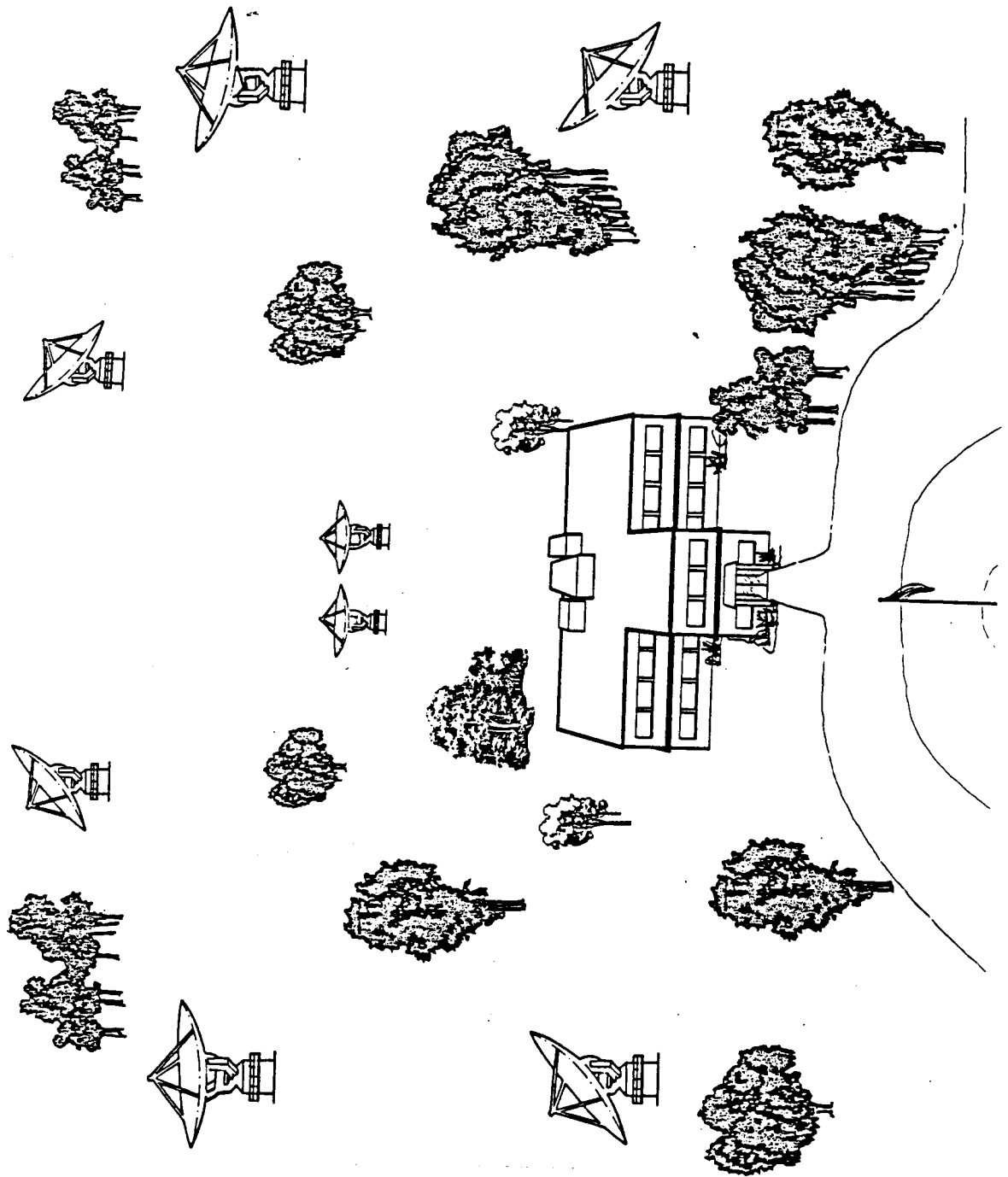
ROSET STUDY

LAYOUT OF PRINCIPAL ROSET SITE



ROSET STUDY

ARTIST CONCEPTION OF PRINCIPAL ROSET SITE



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ROSET SITE

TRADE-OFFS

AUSTRIA

- AUSTRIA VIEWS ONE LESS BEAM THAN WEST GERMANY AND BELGIUM
- CANNOT VIEW THE FOLLOWING:
  - ARABSAT S-BAND
  - INTELSAT VI C-BAND ZONE BEAMS
  - NORDSAT
- UNSUITABLE LOCATION FOR LARGE PRINCIPAL ROSET SITE

ITALY

- SOUTHERN ITALY VIEWS TWO LESS BEAMS THAN OPTIMAL LOCATIONS
- CANNOT VIEW:
  - NORDSAT
  - INTELSAT VI EAST SPOT BEAM (OBSERVABLE IN NORTHERN ITALY)
  - INTELSAT VI C-BAND ZONE BEAMS

ROSET SITE

TRADE-OFFS [CONTINUED]

SPAIN

- UNSUITABLE ROSET SITE
- SATELLITE VIEWING CAPABILITY LIMITED
- CANNOT RECEIVE:
  - NORDSAT
  - INTELSAT V AND VI EAST AND WEST SPOTS
  - EUTELSAT EAST SPOT
- ALL ABOVE CAN BE MONITORED AT OPTIMUM ROSET SITES
- FOUR SITES REQUIRED IF SPAIN CHOSEN AS PRINCIPAL ROSET

LONDON

- Ku-BAND RECEPTION SIMILAR TO BELGIUM & WEST GERMANY (OPTIMUM SITES), EXCEPT CANNOT RECEIVE:
  - EUTELSAT F-1 EAST SPOT
- LESS C-BAND CAPABILITY. UNLIKE OPTIMUM SITES, CANNOT EFFICIENTLY MONITOR:
  - ARABSAT 1 AND 2
  - INTELSAT V AND VI 60° GLOBAL AND ZONE 3 BEAMS

ROSET SITE

TRADE-OFFS [CONTINUED]

CYPRUS

- POOR CHOICE AS PRINCIPAL ROSET SITE
  - POOR Ku-BAND RECEPTION
  
- REQUIRED AS AUXILIARY ROSET
  - ONLY SITE WHICH RECEIVES INTELSAT VI C-BAND ZONE BEAMS 3 AND 4 AND ARABSAT S-BAND
  
- CYPRUS AND BELGIUM/WEST GERMANY TOGETHER RECEIVE 100 PERCENT OF SATELLITE BEAMS CONSIDERED IN STUDY

ROSET STUDY

ANTENNA RECOMMENDATION FACTORS

DECISION DEPENDS ON:

- NUMBER OF SATELLITES AND BANDS COVERED
  - TBD: SIMULTANEOUS COVERAGE, SPECIFIC NEEDS
- ECONOMIC AND LOGISTIC FACTORS
  - TOTAL COST OF VARIOUS OPTIONS
  - ABILITY TO ACCOMMODATE NUMBER/SIZE OF ALTERNATE ANTENNA PACKAGES
- FUTURE EXPANSION
  - ABILITY TO COVER FUTURE SATELLITES
- PERFORMANCE TRADE-OFFS
  - MAY NOT NEED SIMULTANEOUS COVERAGE OF ALL SATELLITE BEAMS
  - RAIN MARGIN
  - S/C TRACKING AND POLARIZATION CONTROL
  - SPECIAL OPTION PERFORMANCE
  - = DUAL-FREQUENCY FEEDS



ROSET STUDY

ANTENNA RECOMMENDATIONS -- PRINCIPAL SITE EQUIPMENT

- TWO 13/15M DUAL-FREQUENCY ANTENNAS
  - PRIMARY COVERAGE: INTELSAT ATLANTIC AND INDIAN OCEAN
  - ADEQUATE RECEPTION OF WEAKEST BEAM, THE GLOBAL, MARGIN AGAINST FADING FOR ALL OTHERS
  - ALTHOUGH ALL EIGHT INTELSATS CANNOT BE COVERED SIMULTANEOUSLY, TIME-SHARING WITH SMALLER ANTENNAS PROVIDES ADDED C-BAND AND INTELSAT KU-BAND COVERAGE
- TWO 10M DUAL-BAND ANTENNAS
  - PRIMARY COVERAGE: TELECOM I, EUTELSAT
  - BACK-UP COVERAGE: INTELSAT, OTHERS
- TWO 5M KU-BAND ANTENNAS
  - COVERAGE: EUTELSAT, NORDSAT, DFS
- 13/15M C-BAND ANTENNAS REQUIRE PELTIER-COOLED LOW NOISE GaAs FET PREAMPS
- KU-BAND PREAMPS SHOULD BE UNCOOLED GaAs FETS
- ROOM SHOULD BE LEFT FOR ADDITIONAL 5M ANTENNAS AS REQUIRED

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ROSET STUDY

ANTENNA RECOMMENDATIONS -- AUXILIARY SITE EQUIPMENT

- ONE 4.5M C-BAND ANTENNA WITH UNCOOLED GaAs FET PREAMPS
  - COVERAGE: ARABSAT
- ONE 2M DUAL-BEAMS S-BAND
  - COVERAGE: ARABSAT TV

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ROSET STUDY

ANTENNA RECOMMENDATIONS

- DEVELOP DUAL FREQUENCY FEED
  - ASSURES OPTIMUM PERFORMANCE WITH FEWEST ANTENNAS
- STUDY SHARED SATELLITE COVERAGE
  - PROVIDES FLEXIBILITY FOR BEST ANTENNA USAGE
- DIVERSIFY ANTENNA SIZES
  - LARGE FOR MINIMUM SIGNALS
  - SMALLER FOR HIGHER SIGNALS, HIGHER BANDS

ROSET STUDY

APPENDIX 1

SATELLITES INCLUDED/EXCLUDED FROM STUDY

## ROSET STUDY

OPERATIONAL C-BAND SATELLITES INCLUDED IN STUDY

ORBIT	LAUNCH DATE	NAME	CUSTOMER
34.5°W	1980	INTELSAT V*	SPANISH, INTERNATIONAL
27.5°W	1982	INTELSAT V	INTERNATIONAL
24.5°W	1982	INTELSAT V	INTERNATIONAL
18.5°W	1983	INTELSAT V	FRANCE, INTERNATIONAL
14.0°W	1983	GORIZONT 7	RUSSIA
8/5°W	1984	TELECOM 1 (2)	FRANCE DOMESTIC/REGIONAL TV, TELEPHONE, DATA
19/26°E	1984, 1985	ARABSAT 1,2 (2)	ARAB LEAGUE COUNTRIES;TV,TELEPHONE,TELEGRAPH
53.0°E	1984	GORIZONT 9	RUSSIA/INTER-SPUTNIK TV RELAY
57.0°E	1981	INTELSAT V	NIGERIA, OMAN
60/63/66°E	1982, 1983	INTELSAT V (3)	FRANCE, INTERNATIONAL

\*INTELSAT V AND VI ARE C-/Ku-BAND HYBRID SATELLITES. C-BAND USED FOR TELEPHONY, GLOBAL SERVICES. Ku-BAND FOR TELEPHONY, BUSINESS SERVICES, NON-VOICE, CABLE TV.

(2) - NUMBER OF SATELLITES

ROSET STUDY

OPERATIONAL Ku-BAND SATELLITES INCLUDED IN STUDY

ORBIT	LAUNCH DATE	NAME	CUSTOMER
34.5°W-18.5°W	1980, 1982, 1983	INTELSAT V (4)	INTERNATIONAL
14°W	1983	LOUTCH*	RUSSIA
5°W/8°W	1984	TELECOM 1 (2)	FRANCE
6.5°E/10°E	1984	EUTELSAT 2	WEST EUROPE
13°E	1984	EUTELSAT 1	WEST EUROPE CABLE
53°E	1984	LOUTCH*	RUSSIA
57°E-63°E	1981, 1982, 1983	INTELSAT V (3)	INTERNATIONAL

\*Ku-BAND TRANSPONDERS ON GORIZONT 7 AND 9

ROSET STUDY

PLANNED Ku-BAND SATELLITES INCLUDED IN STUDY

ORBIT	LAUNCH DATE	NAME	CUSTOMER
19°W	1986, 1987	TDF-1 (2)	FRANCE DBS
19°W	1987	TV SAT	GERMANY DBS, RADIO
19°W	1987	L-SAT (ESA)	DBS, DATA, EXPERIMENTS; BEAMS ON FRANCE, UNITED KINGDOM, ITALY, SPAIN, SCANDINAVIA
3°E	1986	TELECOM I (3)	FRANCE DOMESTIC/REGIONAL TV, TELEPHONE, DATA*
5°E	1987	TELE-X, NORDSAT (2)	SCANDINAVIAN DBS
7°E	LATE-85	EUTELSAT 3	WEST EUROPE TV, CABLE
23.5°E	1987	DFS-1 (POSTSAT)	GERMAN TELEPHONE, TELEGRAPH, DATA, TV
28.5°E	1988	DFS-2	SAME AS DFS-1 (IN ORBIT SPARE)
60°E	1988	INTELSAT VI	INTERNATIONAL TV, TELEPHONE, TELETYPE, DATA
34/5°/27.5°/ 24.5°W	1986, 1987 1988	INTELSAT VI (3)	INTERNATIONAL TV, TELEPHONE, TELETYPE, DATA

\*FOOTPRINT SIMILAR TO TELECOM I 1 AND 2

ROSET STUDY

SATELLITES EXCLUDED FROM STUDY

ORBIT	LAUNCH DATE	NAME	REMARKS
7°E, 11°W	1987	F-SAT	HYBRID C/Ka-BAND
37.5°W, 32°E	TBD	VIDEOSAT (2)	WEST EUROPE TV, DATA
TBD	1988	AFSAT	SUB-SAHARA TV, TELEPHONE, DATA
7°E	1986	ATHOS	FRENCH EXPERIMENTAL C/Ka-BAND
TBD	TBD	ZOHREH	IRANIAN. STATUS DOUBTFUL
19°W	TBD	LUXSAT (5) (GDL)	STATUS DOUBTFUL
31°W	LATE 80's	UNISAT	STATUS DOUBTFUL
37.5°W	1986, 1987	ORION	FRENCH REGIONAL
19°W	1988, 1989	SARIT	STATUS DOUBTFUL
14°W	TBD	POTOK	USSR/INTERSPUTNIK. BELIEVED DELAYED
TBD	1986, 1987	HELVESAT (TEL-SAT)	STATUS DOUBTFUL
31°W	1987	EIRASAT	DATA UNAVAILABLE
13°E	1987	INTELSAT	STATUS DOUBTFUL

\*FOOTPRINTS UNAVAILABLE FOR ALL ABOVE SATELLITES



## ROSET STUDY

SATELLITES EXCLUDED FROM STUDY [CONTINUED]

ORBIT	LAUNCH DATE	NAME	REMARKS
1°W, 31°W, 40°W, 59.5°E, 21.5°W	1974-1977	INTELSAT IVA SERIES (FIVE SATELLITES)	SEVEN YEAR DESIGN LIFE
15°W	1980	RADUGA 7	TWO-FOUR YEAR DESIGN LIFE
35°W	1981	RADUGA 9	
74°E	1979	GORIZONT 2	TWO-THREE YEAR DESIGN LIFE
38°E	1979	GORIZONT 3	
21°W	1980	GORIZONT 4	
65°E	1977	SIRIO	INOPERATIVE
77°E	1977	PALAPA	INOPERATIVE
5°E	1978	OTS-2	EXPERIMENTAL, PROBABLY INOPERATIVE
15°E	TBD	AMS	ISRAEL. NO DETAILS AVAILABLE
TBD	TBD	INTELSAT VI, F-1 TO F-2 (5)	LONGITUDES UNAVAILABLE
16/22°E	1987	SICRAL (2)	ITALIAN. DATA UNAVAILABLE. STATUS DOUBTFUL