

ANIK-B PILOT PROJECTS ✓
DOC COMMUNICATIONS NETWORK
OPERATIONS GUIDELINES ✓
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COMMUNICATIONS RESEARCH CENTRE
DEPARTMENT OF COMMUNICATIONS
OTTAWA - CANADA

ANIK-B PILOT PROJECTS
DOC COMMUNICATIONS NETWORK
OPERATIONS GUIDELINES
ISSUE 2

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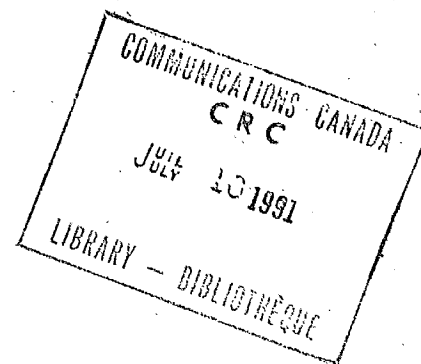
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DOC. COMMUNICATIONS NETWORK
OPERATIONS GUIDELINES

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ANIK-B PILOT PROJECTS
DOC COMMUNICATIONS NETWORK
OPERATIONS GUIDELINES

1.0 SCOPE OF DOCUMENT

The purpose of this document is to provide operations guidelines which cover the functions and activities to support the Anik-B Projects.

1.1 Summary

This document provides an overview of the operational DOC/User activities required to support the implementation of Anik-B Pilot Projects using the Anik-B satellite and associated communications systems. It is intended to provide guidelines for DOC Operations and for Users and replaces Operations Guidelines (March 1979) and Operations Guidelines for Users (July 1979).

Topics that are covered include the scheduling process and operational constraints. Procedures relevant to the real-time implementation of projects are defined according to the type of transmit terminal involved. Also included are references to priorities and pre-emptions.

Roles and responsibilities of each agency are identified and defined.

The Anik-B program is developmental in nature and new modes of operation continue to be required. In such cases, there is a need for interpretation/addition/amendments to this document. Significant changes will be processed according to Section 6.0.

1.2 Space Communications Program Office (SCOPO)

Organizational elements within SCOPO and the reporting structure within DOC as they relate to Anik-B Operations are shown in an organizational diagram (Figure 1-1).

Responsibilities relevant to the Anik-B operations are as follows:

1.2.1 Coordination

The Coordination Group is responsible for co-ordinating all aspects of the planning and implementation of Pilot Projects. One co-ordinator is designated to be the contact for each project.

Scheduling Office

One specific co-ordination function is the scheduling of satellite time and other resources. This function is performed by the Scheduling Office which consists of a Scheduling Supervisor, a Scheduler and other staff as required. The Scheduling Office is responsible for:

- planning the allocation of satellite resources for authorized activities.
- providing Users with schedules of satellite time allocations.
- generating Daily Schedules for use by
 - a) the DOG Network Control Centre (NCC)
 - b) the Telesat Satellite Control Centre (SCC)
- processing and authorizing changes to schedules
- providing liaison with Telesat Operations on scheduling and operational aspects of Anik-B usage.

1.2.2 Systems Engineering

The Systems Engineering Group is responsible for:

- specifying the communications system for use with Anik-B
- specifying technical parameters for use of the ground terminals and leased 14/12 GHz satellite facilities
- providing consultation with Users on system capabilities
- approving each User project implementation plan for interfacing with the system
- approving an Operations Plan for each project
- liaison with Telesat Engineering on transponder performance

1.2.3 Operations

The Operations Group is responsible for the implementation of the Anik-B projects in terms of installation, operation and maintenance of terminals and controlling the use of the satellite. The Network Control Centre (NCC), located at Building 46 at CRC, is manned by a designated Network Controller and Operators as required. The NCC is responsible in real time for controlling the use of the 14/12 GHz network by:

- being the sole real-time contact with the Telesat Satellite Control Centre (SCC)
- authorizing the uplink of DOC TV transmit terminals as required.
- authorizing uplink of user-operated terminals as required (see Section 5.0 for details).

The Operations Group provides for the operation of

- 9m terminal
- other terminals as identified

Operations is also responsible for

- shipping/installation of terminals
- maintenance of DOC terminals
- training of Users' operators as negotiated with Users.

1.4 Functions and Activities Overview

The Block Diagram (Figure 1-2) shows the various organizational elements required to support the User in real-time activities. The three primary functional areas identified are the Telesat operations, the DOC network control and scheduling activities, and the User networks. The dashed line depicts off-line activities and the solid line depicts real-time activities.

The scheduled activities are coordinated on a planning basis at DOC by the Scheduling Office. The composite schedule is developed on a weekly basis (a week in advance) for distribution to Telesat Satellite Control Centre (SCC) and DOC Network Control Centre (NCC). Each User is sent his schedule in advance.

From the Telesat Satellite Control Centre (SCC) at River Road in Ottawa, the satellite control and health is maintained through command and control links to the Telemetry, Tracking & Command Station (TTAC) at Allen Park, Ontario. The DOC NCC is in voice communications with the Telesat SCC to effect satellite configuration changes according to the schedule. The telemetry for the 14/12 GHz transponder is available at CRC via a data link. All real-time coordination with the Telesat SCC is the responsibility of the Network Controller. He also coordinates uplinking of DOC terminals and user-operated terminals. Due to manpower constraints, the NCC is not staffed at all times. Operation procedures specific to each project are detailed in Operations Plans (See Section 5.0). As it is necessary for DOC to be fully aware and in control of the services leased by DOC from Telesat, at no time are Users to contact Telesat in connection with activity scheduling or real-time Anik-B operations.

2.0 DOCUMENTS

The following documents are relevant to the various Anik-B activities:

2.1 Pilot Projects

- 2.1.1 Defined by Project Plans approved by SCOPO.
- 2.1.2 Constrained by a Memorandum of Understanding (MOU) between DOC and the sponsoring agency. The MOU defines the scope of the Project (according to the Project Plan), and the resources to be provided by DOC (satellite time and terminals).
- 2.1.3 System specified according to "Anik-B DOC Communications System and Ground Terminal" by J.W.B. Day, CRC Technical Note No. 704-E.
- 2.1.4 Support for satellite operations according to individual Operations Plans prepared by DOC.
- 2.1.5 Pre-emption procedures - see Appendix I.

2.2 Special Events (Demonstrations)

- 2.2.1 Defined and authorized by a Special Event Request Form.
- 2.2.2 Operational requirements to be detailed in a memorandum to participants prepared by Co-ordination using a configuration defined by Systems.

2.3 SCOPO Systems Tests

- 2.3.1 Defined by Operations Plans prepared by Systems
- 2.3.2 Directed in real time by Systems with assistance from Operations.

2.4 Installation of Terminals

- 2.4.1 Loan of terminals to Users is covered by an Order in Council.
- 2.4.2 Loan of terminals is also covered by the MOU which requires a receipt to be signed by the User.
- 2.4.3 Terminals have been licensed by DOC Radio Regulations Branch.
- 2.4.4 Installation of terminals shall be by DOC installers on sites prepared by the User, with assistance provided by Users.
- 2.4.5 Plans for construction of bases are available from Systems.

2.5 Operational Phase

- 2.5.1 See Section 5 for details.
- 2.5.2 Procedures for Telesat support of DOC operations are detailed in Telesat Satellite Operations Procedures 5.1.10.

3.0 RESOURCE ALLOCATION PROCESS

3.1 Background

Projects are first "approved in principle" with one of the conditions being that acceptable commitment of resources be negotiated between DOC and the User. The project is then developed according to a Planning Format that details the resources being requested. When the planning has developed to a stage such that both parties are confident that adequate resources are available and that the project is likely to be implemented satisfactorily, a Memorandum of Understanding (MOU) (initiated by DOC, based on the Plan) is signed. Schedule 3 of the MOU details the satellite, terminal and other resources being reserved by DOC for use by the specific project.

3.2 Priorities

For operational purposes, activities will be assigned priorities in their use of the spacecraft and system. Then, in the event that there is a conflict in terms of the activities that can be supported at a given time, operations personnel will be guided by the priorities assigned. Users are therefore requested to inform the Scheduling Office of any unusual special events that are scheduled within their allotted time so that they may be accorded appropriate priority and operational attention.

3.3 Pre-emption (See Appendix I)

Pre-emption of available satellite time or confirmed time allocations is minimized so Users may plan programs with the expectation that they will be implemented as planned. Whenever possible, there will be prior consultation.

Should pre-emption of allocated time occur, effort will be made to reschedule the pre-empted event in the near future from time available on the satellite, consistent with honouring prior allocations.

3.4 Scheduling Procedure

Time allocations are negotiated with each User by the Scheduling Supervisor. These assignments are then integrated by the Scheduler into a composite Daily Schedule which includes details of time, terminals, transponder, channel, beam and mode of operation. These composite schedules form the daily operational instructions for the NCC. All changes to these instructions require appropriate authorization through the Scheduling Office during working hours.

Planned changes to the allocated time including cancellations must be addressed to the Scheduling Office. The time of such notice of change is dependent on the implication of the change, e.g., is extra time available?, is time being released that could be used by others?

Schedule allocations are reserved for the User to the extent that the Project is being conducted to meet the stated objectives, and that the project is being carried out in a manner consistent with the agreed-upon Anik-B Network discipline outlined in this document and in the Operations Plan.

3.5 Satellite and System Constraints

The User's communication schedule, and in some cases the system performance, are subject to satellite constraints imposed by availability of transponders, eclipses, satellite housekeeping events and configuration changes, and system constraints associated with change-over of projects and sharing of transponders by more than one User. If the system performance is expected to be affected by satellite or DOC system factors that are likely to be logged by the NCC or Telesat, the information will be provided to the User upon receipt of a request to assist him in interpreting his data. If the data required is associated with satellite performance, it will be obtained from Telesat by DOC on the User's behalf.

3.5.1 Availability of Transponders

The contract between Telesat and DOC requires Telesat to permit access by DOC to two of the four TWTA's on-board Anik-B, and to allow use of additional transponders whenever this is technically feasible. Use of transponders is limited by the availability of spacecraft power to support both 14/12 GHz and 6/4 GHz operations, and by thermal constraints. While DOC has had access to three transponders during much of the time, the power and thermal constraints required that service be reduced to two TWTA's on 1 November, 1981. A third will be made available when conditions permit.

3.5.2 Housekeeping Events

The satellite is kept in position on the geostationary satellite orbit at 109°W longitude to within $\pm 0.05^{\circ}$. The attitude of the satellite is also closely controlled so that the satellite antennas are kept accurately pointed towards the earth. To maintain position and attitude in orbit, a number of manoeuvres are carried out regularly by Telesat including momentum dumping, North/South station-keeping and East/West station-keeping. Such manoeuvres have small effects on position and attitude. Normally, manoeuvres will have no impact on service to the User. However, if an activity is likely to be noticeably affected, the User will be advised in advance.

3.5.3 Configuration Changes

When the schedule calls for rerouting of any transponder output, the satellite receiver is turned off. This will appear as a communications outage of approximately 5 seconds duration for any transmission using the satellite at that time. Users who will be affected will be advised.

3.5.4 Ground System Reconfiguration

In scheduling all time periods, a guard time (nominally 15 minutes) is added to the start of the time allocated. It is assumed that the time requested is that needed to meet program needs. The additional time (called Set-Up time) allows for:

- (a) Satellite reconfiguration
- (b) Network reconfiguration - uplinking
- (c) Adjustment of User equipment

4.0 GROUND TERMINALS ASSOCIATED WITH ANIK-B PROJECTS

4.1 DOC Terminals

The following terminals are being made available by DOC. For detailed descriptions, see "Anik-B DOC Communications System and Ground Terminals" by J.W.B. Day (CRC Technical Note. No. 704E). In each instance where DOC provides a terminal which the User will operate, DOC expects the User to designate an individual to have responsibility for that terminal.

4.1.1 Ottawa - 9M

- Transmits-receives video
- Acts as Network Control Station (NCS) for two-hop telephony to TVT's and TVRT's
- Operated by DOC

4.1.2 TVT (TV Transmit) - Trailer Terminal

- Antenna-3m
- Transmits-receives video
- Transmits-receives one telephony channel if required
- Operated by DOC or User. For specific guidelines see 4.3.

4.1.3 TVRT-TM (TV Receive + Telephony + TV Transmit Module)

- Antenna-3.7m
- Transmits-receives video
- Transmits-receives one telephony channel (normal mode)
- Operated by the User. For specific guidelines see 4.3.

4.1.4 TVRT (TV Receive + Telephony)

- Antenna-3m
- Receives video
- Transmits-receives one telephony channel (normal mode)
- Operated by User

4.1.5 TVRO (TV Receive Only)

- Antenna-3m
- Receives video
- Operated by User

4.1.6 LCET/TVRO (Low Cost Earth Terminal)

- Antenna-1.2 and 1.8m
- Receives video (tunable)
- Operated by User

4.2 User Terminals

Some Users will own and operate their own terminals; e.g., Telesat, CN/CP. Users are required to designate contacts associated with each terminal and to provide names and telephone numbers to DOC.

4.3 Uplink Transmit Responsibilities

All Anik-B Users who own and/or operate their own terminals have two areas of responsibility regarding uplink transmissions. These responsibilities require the User to exercise close control over the uplink transmitter period of operation and output power.

4.3.1 Users shall not cause interference during another User's satellite time. See section 5 for procedures.

4.3.2 Users who operate their own transmit terminals are responsible for controlling uplink EIRP within the values defined for the project. The Operations Plan prepared for each Pilot Project will provide details relevant to the specific Project.

4.3.3 Operation of the TV Transmit Terminals

In all cases of terminals loaned by DOC, the User is required to designate a person to be responsible for the terminal. In this case, in which the terminal has a TV transmit capability, a person shall also be designated to be the operator of the terminal and only the authorized person shall operate the terminal in the video uplink mode. This responsibility shall not be delegated without the agreement of the DOC Systems Engineering Group. DOC will ensure that adequate training is provided to the operator. Again, Section 4.3.1 applies.

5.0 STANDARD OPERATIONS PROCEDURES

This section details those operational procedures that can be generalized relevant to the use of the 14/12 GHz Anik-B transponders.

5.1 NCC - SCC Communications

5.1.1 Start of Daily Operations

At the beginning of daily operations, the Network Control Centre will inform the Telesat Satellite Control Centre of the start of operations. The NCC will also check with the SCC that the S/C transponder configuration is as stated in the Anik-B Transponder Configuration Schedule.

The NCC Network Controller (NC) will confirm that all video/audio inputs and telephony switching are as stated in the Daily Schedule. Telephony operations will commence operations according to schedule.

5.1.2 Anik-B Transponder Configuration Changes

Whenever a transponder configuration change is scheduled, the NCC will first verify that all TVT/TVRT-TM terminals have powered down. When power down has been confirmed, the NCC will contact the SCC requesting that the configuration change be made and confirm that the change has taken place.

SCC operations require that the S/C transponder receiver be turned off before transponder switching is executed. Therefore, if there is an overlap in scheduled Projects on other channels, a temporary interruption in transmission of a few seconds will be observed in the working channel(s).

The NCC cannot determine the Gain Mode of S/C transponder TWT's by observing the Anik-B Video Monitor. Gain Mode must be confirmed by SCC before proceeding with operations.

NOTE: Even though a transponder configuration change has been scheduled, the SCC will not execute such a change until so requested by the NCC.

5.1.3 End of Daily NCC Operations

The NCC shall notify the SCC that scheduled NCC operations have ended, and which projects are continuing.

5.2 Definitions of Times used in Daily Operations

SET-UP is a guard time (nominally 15 minutes) in the NCC Daily Schedule during which downlinks are confirmed, satellite switching takes place, and uplinking is authorized in preparation for START. Set-up time is normally scheduled between activities using the same uplink terminal or the same satellite channel.

START is the scheduled time provided to the User and unless otherwise notified, the User may assume that a SET-UP period precedes his allocated START.

END of User's time: all standard wrap-up of User's program shall have taken place before END, such that downlinking may take place at END.

5.3 Communications Network Operations

Procedures are developed relative to transmit modes and are broken into two categories - telephony and all other transmissions. To supplement these general procedures, an individual Operations Plan is prepared based on the User's Project Plan. The Operations Plan details the system and associated procedures pertinent to the specific project for the guidance of the Network Control Centre (NCC) at Ottawa and of the field terminal operators.

5.3.1 Telephony Operations

5.3.1.1 Carrier transmission for the terminal will be possible only when the NCC has been configured to transmit a pilot carrier in the appropriate spot beam and channel. Pilot carriers will be transmitted by the 9m terminal in accordance with the Daily Schedule and Project Operations Plan. No contact with the NCC is required to authorize uplink or downlink in the telephony modes.

5.3.1.2 Approximately 20 minutes prior to the START of the pilot project each day, the TVRT transmitter shall be switched on.

5.3.1.3 At the scheduled END of the pilot project each day the TVRT transmitter shall be turned off. Note that the receiver shall be left on at all times.

5.3.2 Operations Procedures for all Transmissions Other than Telephony

5.3.2.1 When the NCC is not manned specific procedures are defined in the Operations Plan of each Project.

5.3.2.2 When the NCC is manned (normally 12 - 16 hours/day, Monday to Friday) uplinking in all modes other than telephony must in all cases be authorized by the NCC. The procedures to be followed are illustrated by the following normal sequence of events which occur during changeover from Project A to Project B. Operator A and Operator B refer to transmit terminal operators and may be DOC operators or User operators.

PROJECT CHANGEOVER SEQUENCE RELEVANT TO TRANSMISSIONS
OTHER THAN TELEPHONY (SEE FIGURE 1-2)

Under normal circumstances;

- Project A is on-line with the satellite; Operator A is in voice contact with NCC
- Network B is brought into final readiness by Operator B. Operator B reviews the scheduled network configuration.
- Approximately 10 minutes prior to the scheduled end of Project A, the NCC contacts Operator A and reminds him of pending termination of operations.
- NCC establishes voice contact with Operator B. A brief review of the scheduled activity occurs. Operator B confirms that his network is ready to commence operation and reviews the network configuration with the NCC.
- Project A program ends. The NCC requests Operator A to "power down" his transmitter at scheduled "END". (See (ii) below).
- Operator A confirms that his transmitter is down (carrier off).
- If required, the NCC requests that the SCG configure the spacecraft for User B.
- The NCC informs Operator B that he may bring up network B for conduct of Project B.
- Operator B remains in contact with the NCC while the network comes up. Should User difficulty be experienced, Operator B will report the failure with an estimate of downtime.
- If no difficulties occur, Project B is on-line with the Anik-B satellite, Operator B is in voice contact with NCC.

Since the necessary communications may sometimes be difficult to complete, for clarification, the following guidelines will apply:

- i) If the NCC is unable to contact field operators, all scheduled transmission from field terminals is delayed until authorization is obtained or is cancelled for the scheduled operational period.
- ii) Unless otherwise authorized by NCC, operators shall downlink at scheduled END. The downlink shall take place as scheduled even if the operator has not been contacted by the NCC.

6.0 NON-STANDARD OPERATIONS PROCEDURES

Standard procedures adopted within DOC are approved by each SCOPO group with relevant responsibility. Changes to standard procedures and procedures for non-standard situations will be processed through appropriate channels, e.g.:

- i) Changes to Procedures - to be approved by SCOPO Operations, Systems, Coordination and Scheduling groups with final approval by the SCOPO Director.
- ii) Changes to Operations Plans - to be authorized by Systems and Coordination after appropriate consultation with the User.
- iii) Schedule Changes - to be processed through the Scheduling Office for authorization appropriate to the situation.
- iv) Installation of Terminals - according to a plan developed by Operations using a system approved by Systems and according to a schedule coordinated with the User by the Scheduling Office.
- v) Trouble Shooting of Field Terminals - by Operations with approval by Systems.
- vi) Special Events - to be detailed in a memorandum to participants by Coordination with a system defined by Systems.

7.0 REPORTING

7.1 Daily Logs

Users shall keep logs of daily operations which will include: transmit time, pilot receive level, signal quality, weather conditions. A sample format is shown in Figure 1.3.

7.2 Trouble Reporting

7.2.1 Real-Time

i) Satellite Problems

If the Telesat SCC becomes aware of a satellite problem which may affect service, this will be reported immediately to the DOC NCC and the NCC will inform any User whose project may be affected.

If DOC or Users encounter problems which cannot be isolated to the ground environment, such will be reported by the NCC to the Telesat SCC at the earliest opportunity, so that the satellite link can be investigated.

Users are not to make direct contact with Telesat regarding use of the satellite.

ii) System Problems

If DOC encounters problems which are likely to affect the User's activities, such will be reported to the User at the earliest opportunity, either directly or via the TVT operator as appropriate.

Users shall report problems with DOC equipment, or serious difficulties that they encounter using their system to the NCC or to the TVT operator as appropriate.

7.2.2 Off-Line

NCC shall distribute Discrepancy Reports generated by operations personnel and detailing on-line problems to:

- Operations for action as appropriate
- Systems for action as appropriate
- Coordination for information and follow-up with Users.

Coordination shall provide the off-line point of contact with Users for follow-up of unresolved problems.

8.0 ABBREVIATIONS

ADM	Assistant Deputy Minister
CRC	Communications Research Centre
DG	Director General
DOC	Department of Communications
EIRP	Effective Isotropic Radiated Power
ELT	Eastern Local Time
EST	Eastern Standard Time
GHZ	Gigahertz
LCET	Low Cost Earth Terminal
m	metre
MOU	Memorandum of Understanding
NCC	Network Control Centre
NCS	Network Control Station
S/C	Spacecraft
SCC	Satellite Control Centre
SCOPO	Space Communications Program Office
TTAC	Telemetry, Tracking & Command
TVT	TV Transmit
TVRT-TM	TV Receive + Telephony + TV Transmit Module
TVRT	TV Receive + Telephony
TVRO	TV Receive Only
TWTA	Travelling Wave Tube Amplifier

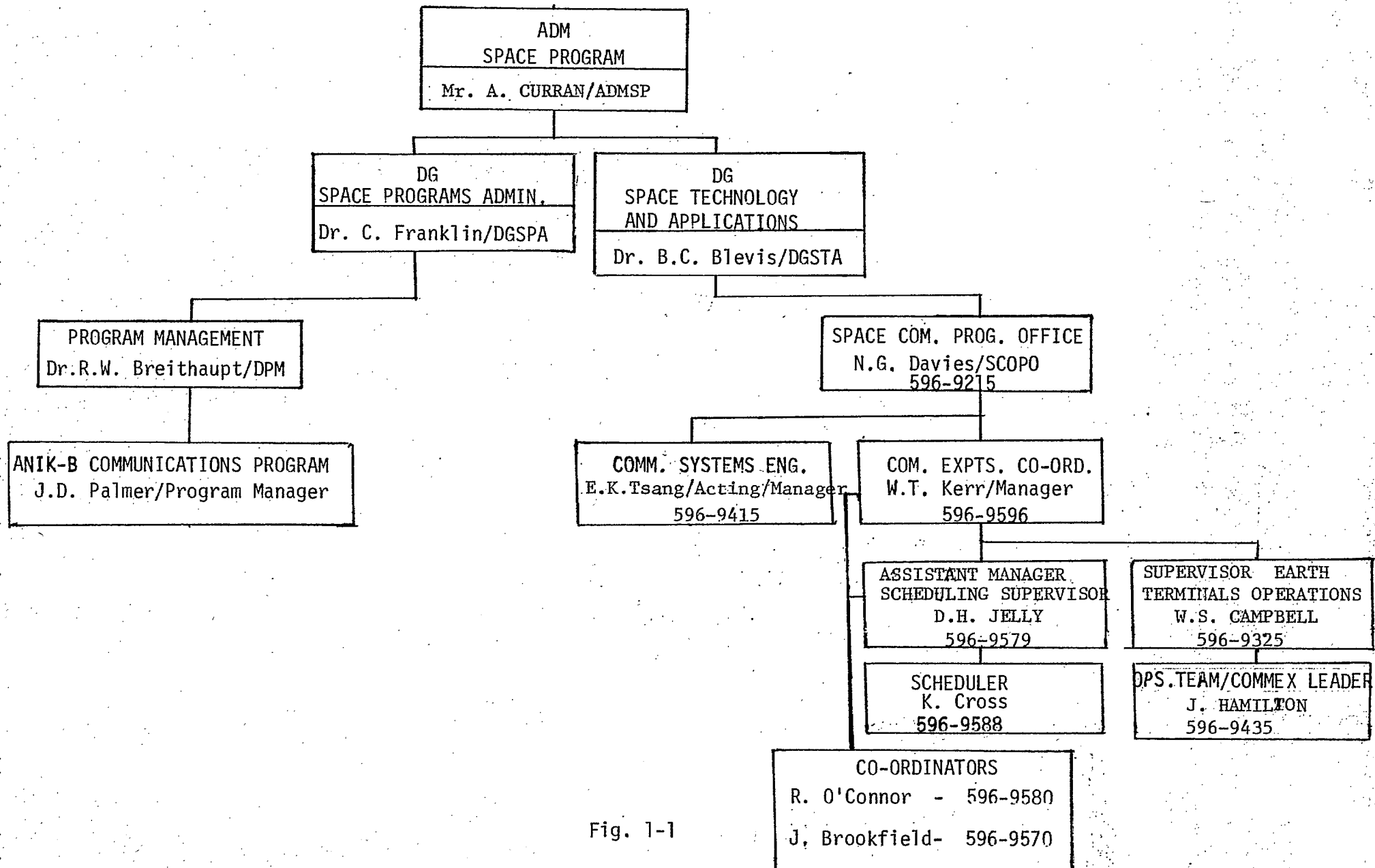


Fig. 1-1

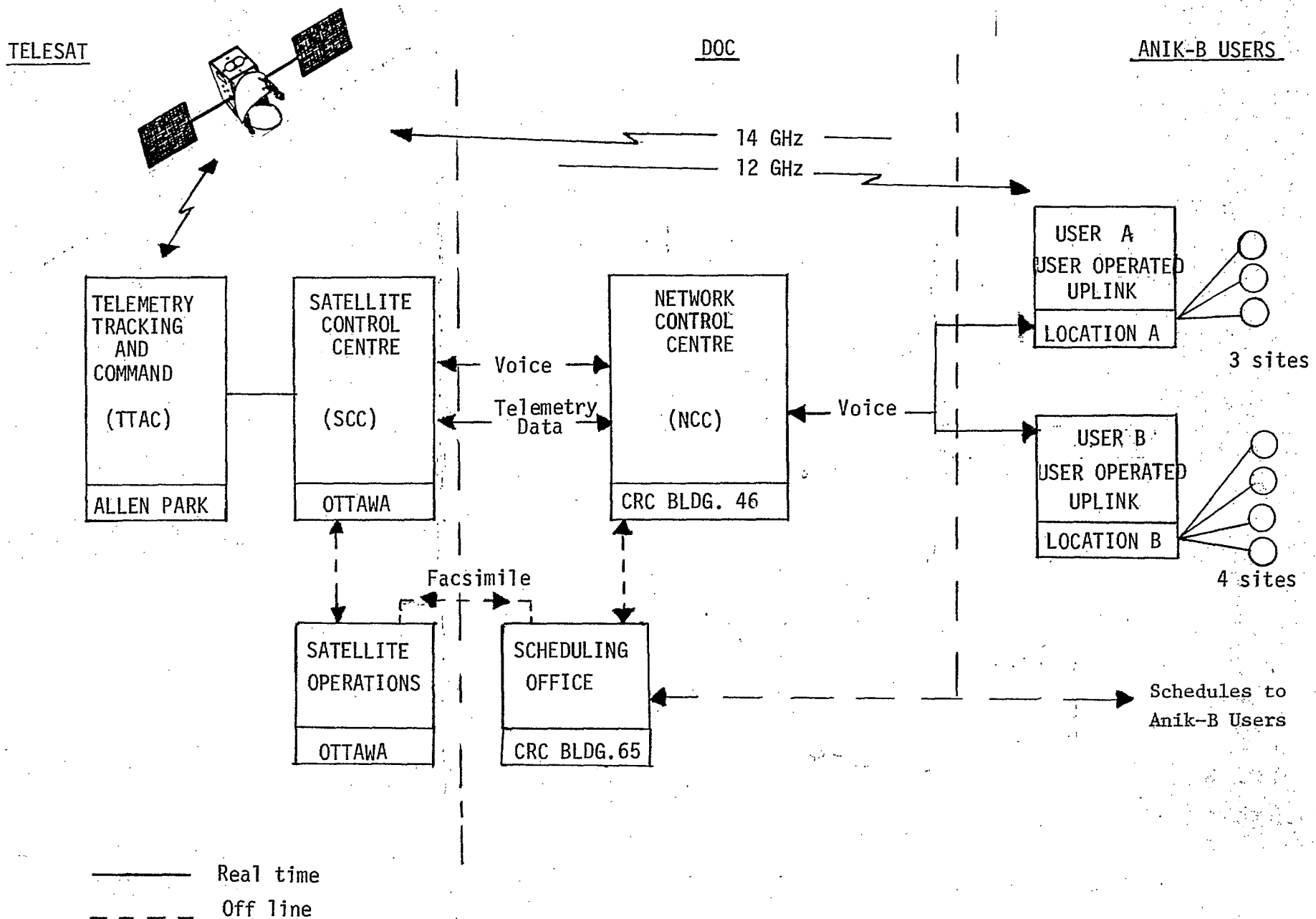


FIGURE 1-2 ANIK-B NETWORK OPERATIONS AND CONTROL

ANIK-B GROUND TERMINAL LOG

TERMINAL TYPE TVRT-TM
 TERMINAL LOCATION WEST JUNCTION
 TERMINAL OPERATOR H. GILBERT

DATE	TIME ELT	ACTIVITY	PILOT RX LEVEL	RX SIGNAL	WEATHER*	COMMENTS**
1979 1 Aug.	0900	Telephony On	50	OK	Clear	
	1450	NCC OK's Video Tx		N/A	Clear	
	1455	Video Up				Video reported noisy by Deep Bend. Corrected Studio feed.
	1655	Video down				
	1700	Telephony Off				
2 Aug.	0900	Telephony On	50	OK	Cloudy	
	1000	Video Rx		Noisy	Heavy Showers	
	1200	Video Off				
	1546	NCC OK's Video TX			Cloudy	
	1550	Video Up				Wild River advises low audio. Adjustment required
	1630	Video Down			Clear	
	1700	Telephony Off				

* Include precipitation (light or heavy rain, light or heavy snow), cloudiness, and extremes of temperature or wind speed

** Report any operating anomalies.

Figure 1.3 Sample of User's Log

APPENDIX I

DEPARTMENT OF COMMUNICATIONS

OTTAWA, CANADA

ANIK-B PILOT PROJECTS

ANIK-B SCHEDULE PRE-EMPTION PROCEDURES

Background

It is anticipated from previous experience with communications satellite experimental programs that instances will occur when regularly scheduled, on-going project programming will need to be pre-empted.

The aim of this document is to specify procedures to be followed in those cases which require immediate or near-immediate decisions and action and which do not allow sufficient time for review and decisions by the appropriate authorities.

Pre-Emptive Categories

Five pre-emptive categories, of the type that would impact project activities, are anticipated. These are:

Category I: Situations and conditions which endanger the health and safety of the spacecraft

- Since Telesat carries the responsibility for Anik-B operations, pre-emption in this category will be a unilateral decision.

Category II: Medical emergencies which involve potential loss of life or limb

- This category is intended to include medical emergencies that occur within the scope of medical projects that have been so defined;
- Pre-emption under this category is not intended where adequate alternate communications exist;
- If project to be pre-empted cannot itself be displaced without a hazard to human health, scheduled project is not pre-empted.

Category III: Emergencies generated by natural or man-made disasters which involve potential loss of life or limb or potential destruction of the quality of life

- This category is intended to include other emergencies, medical and otherwise;
- Pre-emption under this category is not intended where adequate alternate communications exist;

- If project to be pre-empted cannot itself be displaced without a hazard to human health, scheduled project is not pre-empted.

Category IV: Unique and possibly non-recurring situations which either seriously jeopardize the conduct of a particular project, or provide an opportunity to enhance a particular project, or the Program by involvement in, or observation of, a unique natural or man-made phenomenon.

Category V: Intervention by a higher authority, originating outside the Anik-B Program

- This category is intended to include special demonstrations of communications requirements in the national interest.
- This category cannot pre-empt projects in which health hazards are involved.

Authorities

Authorities to institute the request for pre-emption and to implement the pre-emption are identified in Table 1. Each instance of pre-emptive action will be subject to post factum review of the appropriate officials. A post factum review report, countersigned by officials, will be issued to cover each pre-emption within ten days of the incident. The first level of post factum review will normally be one level higher than the decision authority for the particular pre-emption category. The Program and Project Managers, DGSTA and DGSPA will regularly review all pre-emption incidents for adherence to policy. The appropriate level of reviewing officials for each category of pre-emption is listed in Table 1.

The Users, operations personnel, Project and Program personnel will need to be fully informed of the procedures instituted by this document in order to prevent inadvertent abuse. While this document is aimed at preventing abuse, decision-makers should recognize the implications of having to live with the consequences when a valid pre-emption request is disapproved.

Issued By: _____

N. GEORGE DAVIES
Director
Space Communications Program Office
Department of Communications
Ottawa, Ontario

TABLE 1

CATEGORY	AUTHORITY TO REQUEST PRE-EMPTION	DECISION AUTHORITY TO IMPLEMENT PRE-EMPTION	FIRST LEVEL OF POST FACTUM REVIEW
I S/C HEALTH & SAFETY	TELESAT	TELESAT	PROJECT MANAGER CONTRACT AUTHORITY TELESAT
II MEDICAL EMERGENCIES	PROJECT LEADERS, PHYSICIANS, PARAMEDICS PARTICIPATING IN SPECIFICALLY IDENTIFIED PROJECTS	SENIOR OPERATIONS STAFF MEMBER	PROJECT MANAGER PROGRAM MANAGER
III DISASTER GENERATED EMERGENCIES	AS APPROPRIATE: EMERGENCIES IDENTIFIED THROUGH DOC OFFICIALS	SENIOR OPERATIONS STAFF MEMBER	PROJECT MANAGER PROGRAM MANAGER
IV UNIQUE PHENOMENA	PROJECT LEADERS	SCOPO DIRECTOR	PROGRAM MANAGER
V HIGHER AUTHORITY REQUESTS	AS APPROPRIATE: HIGHER AUTHORITY EXTERNAL TO THE PROGRAM	SCOPO DIRECTOR	PROGRAM MANAGER DGSTA, DGSPA

