
**EUROPEAN SPACE AGENCY
DIRECTORATE OF TECHNICAL AND OPERATIONS SUPPORT**

**ENVISAT FLIGHT OPERATIONS SEGMENT
MANAGEMENT INFORMATION REPORT
ENVI-MGT-MIR-26-TOS-PM**

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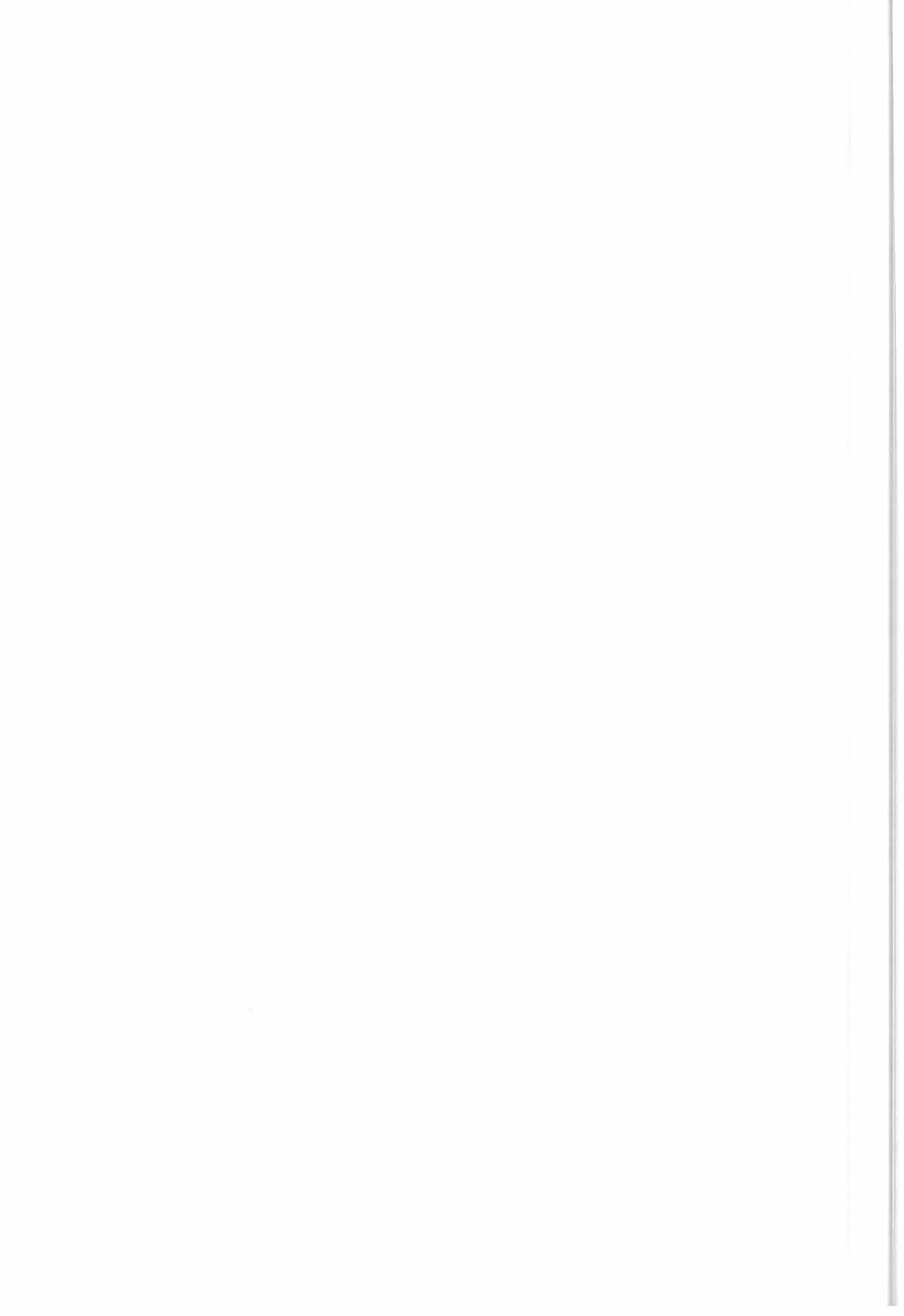
April 2000



DOCUMENT APPROVAL

Prepared by	Organisation	Signature	Date
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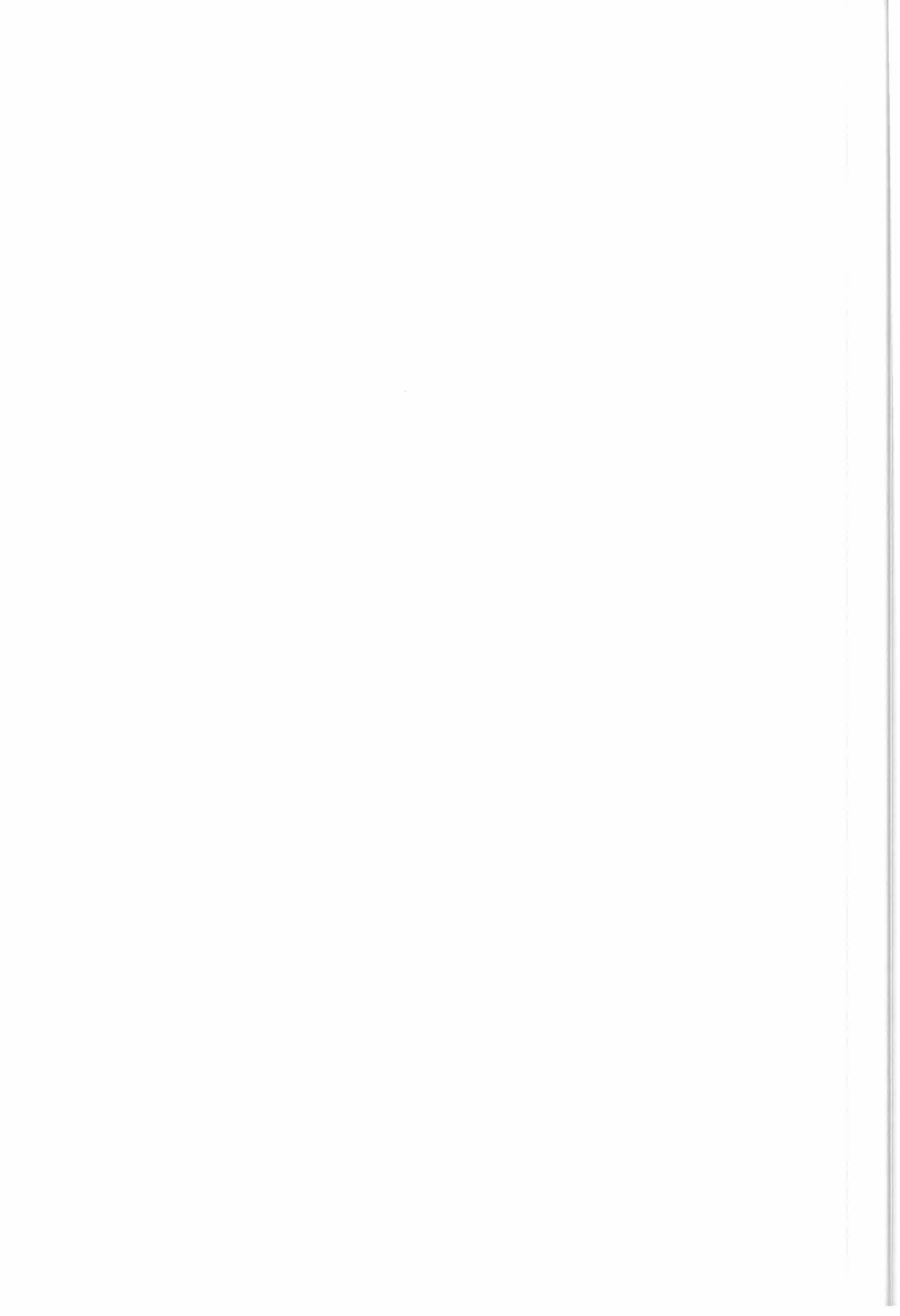
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ABSTRACT

This Management Information Report (MIR) provides a status report of the ENVISAT Flight Operations Segment (FOS) Implementation and Operations activities, under the responsibility of ESOC (part of D/TOS). This report covers specifically the technical progress from January to April 2000, and includes a detailed schedule report and current action item list.



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1 GENERAL

D/TOS is responsible for the development, implementation and operations of the ENVISAT Flight Operations System (FOS) which consists of the following elements:

- *ESOC Operations Control Centre including:*
 - ENVISAT Flight Operations Control Centre
 - Satellite Mission Planning System
 - Spacecraft Software Simulator
 - Flight Dynamics System
- *Ground Station Facilities for Routine Phase Operations comprising:*
 - Kiruna Ground Station for TTC
 - Back-up TTC (S-band) station support
- *LEOP Network.*

The ENVISAT Flight Operations Segment is currently in Phase C/D development. The ESOC schedule assumes an ENVISAT launch in June 2001.

In order to emphasise the more critical points, i.e. those potentially hazardous to schedule and/or costs, the following key is employed throughout this document:



Critical



Potentially critical

2 SYSTEM LEVEL SUMMARY

Progress:

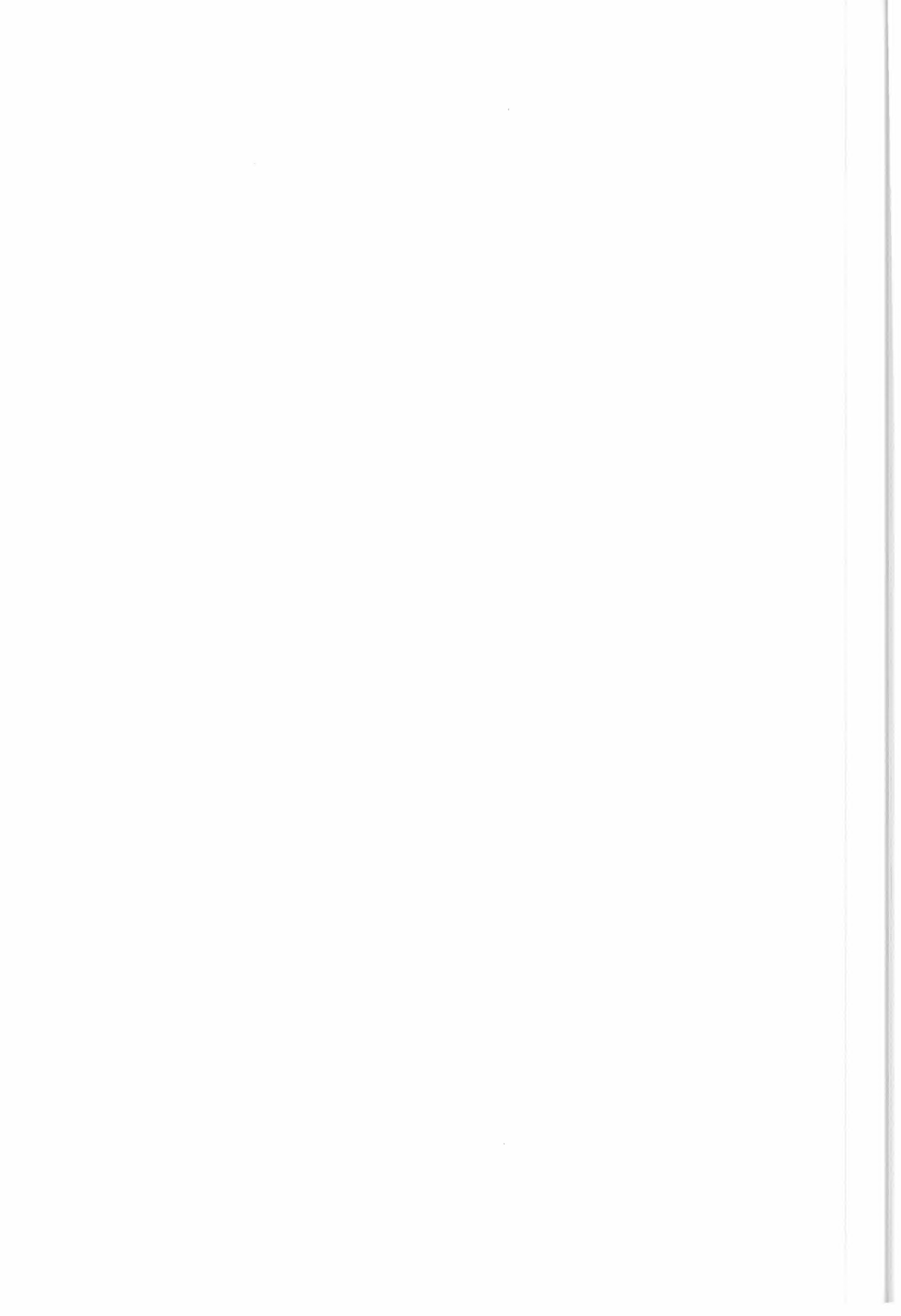
- Integration works in Kiruna completed. Station handed over to Operations in March 2000;
- Preparations for SVT-2 ongoing;
- FOCC and Simulator deliveries ongoing.
- OBSM work ongoing.
- Antenna back-up service – FAT delayed to mid May 2000;
- The extent of the mini refurbishment of the Kiruna 15m antenna may have to be re-defined, however, this will have no impact on Envisat;
- Work ongoing on new Kiruna M&O contract;
- Work on the definition of communications security is ongoing in conjunction with the Project;
- Testing programme progressing as planned;
- Updating of MIP i.e. establishment of FOS infrastructure configuration standard is ongoing.

Upcoming Milestones / Open issues:

- SVT-2: this test will comprise a number of 1, 2 and 3-day/night tests over the period 7 May to 2 July 2000;
- Signature of MIP.

Problems:

- Reduced staffing levels within the FOCC software development team (TOS-GC): ●
The situation is serious as there appears to be no way to recruit the necessary permanent staff quickly and the ITT for contractor support is held-up in contracts;
- Communications security; ●
- FOCC OBSM development is on the critical path for SVT-2. Work around solutions could be found but these would de-value the overall test. Shifting some tests into SVT-3 could have an overloading effect on that test;
- NASA I/F not agreed w.r.t deployment of NDIUs.



3 ENVISAT FLIGHT CONTROL SYSTEM

The ENVISAT Flight Operations Control System is based on the use of an SCOS-1B common core system. This will run on DEC VAX machines, and use SUN workstations for the spacecraft control consoles. The dedicated Mission Planning System will run in a SUN/UNIX environment.

3.1 Data Processing Facilities (TOS-GC)

FOCC


Progress:

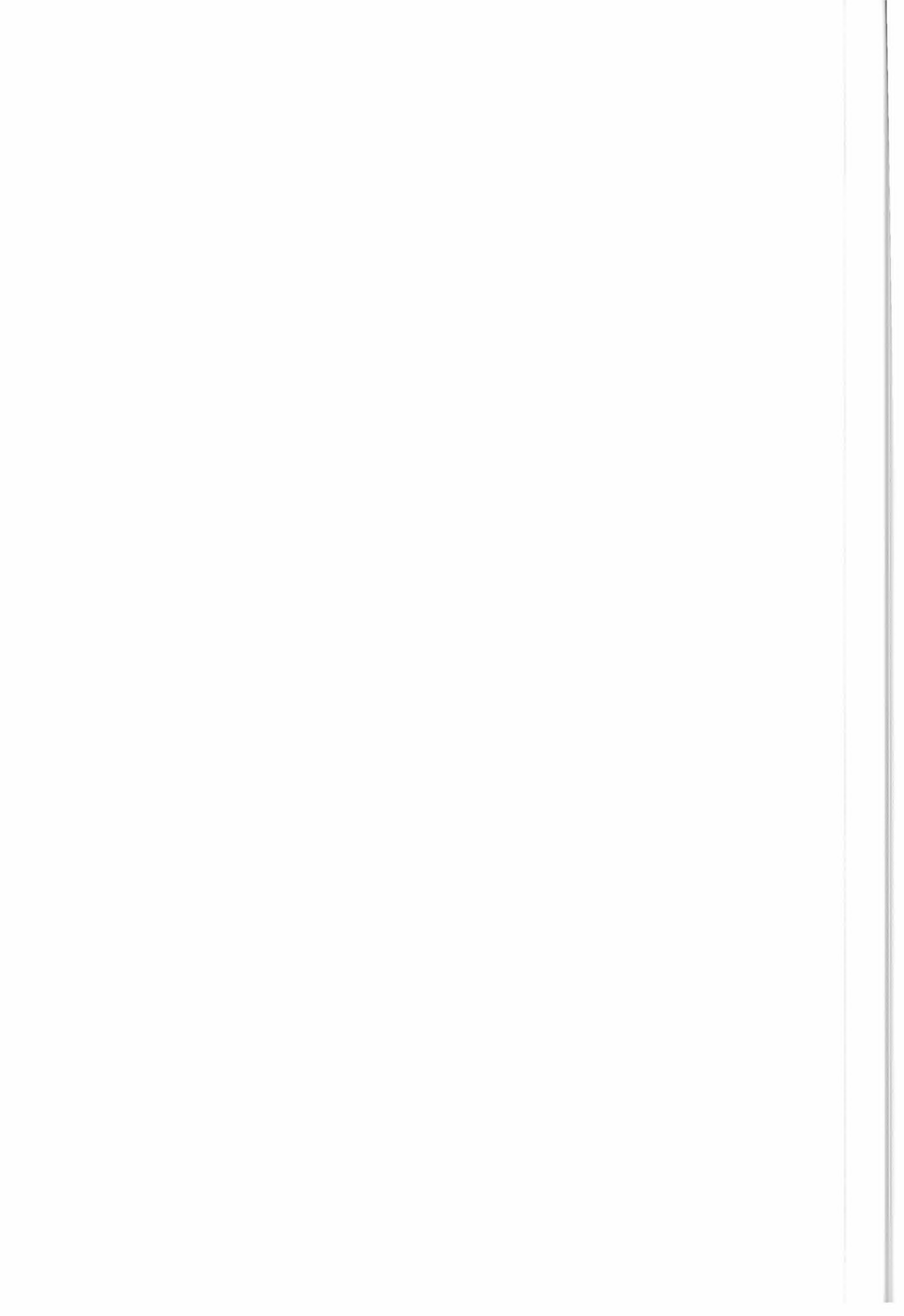
- FOCC s/w Del 5.0 (i.e. the final FOCC delivery) was accepted by ESOC;
- Anite's revised FFP proposal for the full Envisat OBSM workpackage was received at ESOC on 28 February 2000;
- Updates in FDS, OBSM and IECF interface control documents are ongoing;
- Production and submission to ESOC Contracts Division of the Envisat GCM service support RFQ;
- Installation of Scos-2000 OBSM kernel on the Envisat operational H/W configuration.

Upcoming Milestones:

- ESOC to continue with FOCC usage, problem fixing and new developments within the new contractual frame established under the contract for Envisat Pre-launch and LEOP Support with Envisat URD issue 6.0;
- ESOC to conclude with Anite contractual discussions on Envisat OBSM workpackage;
- Upgrade of the FOCC to: OpenVMS; new CPU boards; new Disk controllers; new Disks; (for VAX machines Env1C, Env1B and Env1A)
- ESOC to complete FOCC/FDS and FOCC/instrument-data interface tests;
- Continue to monitor closely the development of the Envisat OBSM software w.r.t. delivery plans.

Problems:

- Reduced staffing levels within TOS-GC: The situation is serious as there appears  be no way to recruit the necessary permanent staff quickly and the ITT for contractor support is held-up in contracts;
- OBSM development very tight schedule for SVT-2 support. The OBSM development will be based on SCOS-2000 kernel infrastructure. Sequential deliveries from the developer (Anite) are planned starting early April but it is not certain that the schedule will be met.



MPS

Progress

- MPS S/W Del 2.0a has been accepted (December 1999);
- Anite made a proposal to address all changes in MPS URD (December 1999);
- Review of SRD 2.2;
- Review of FOCC-MPS ICD;
- MPS S/W Del 2.0b has been installed at ESOC on 14th March 2000 to support the SVT-2.

Upcoming Milestones:

- ESOC to perform acceptance testing of FMPS s/w Del 2.0b;
- MPS 2.0b is the baseline for SVT2, consequently two deliveries are planned to meet the requirements of the two tests involving the MPS:
 - Delivery (DMS) planned for end of April
 - Delivery (Instruments) planned for end of May.

Problems:

- The MPS delivery (3.0) is scheduled for October 2000. There are still requirements in the FOS-PDS ICD which are not stable (e.g. PEP, DMOP). These requirements need to be defined in order to integrate them in the final delivery (3.0).

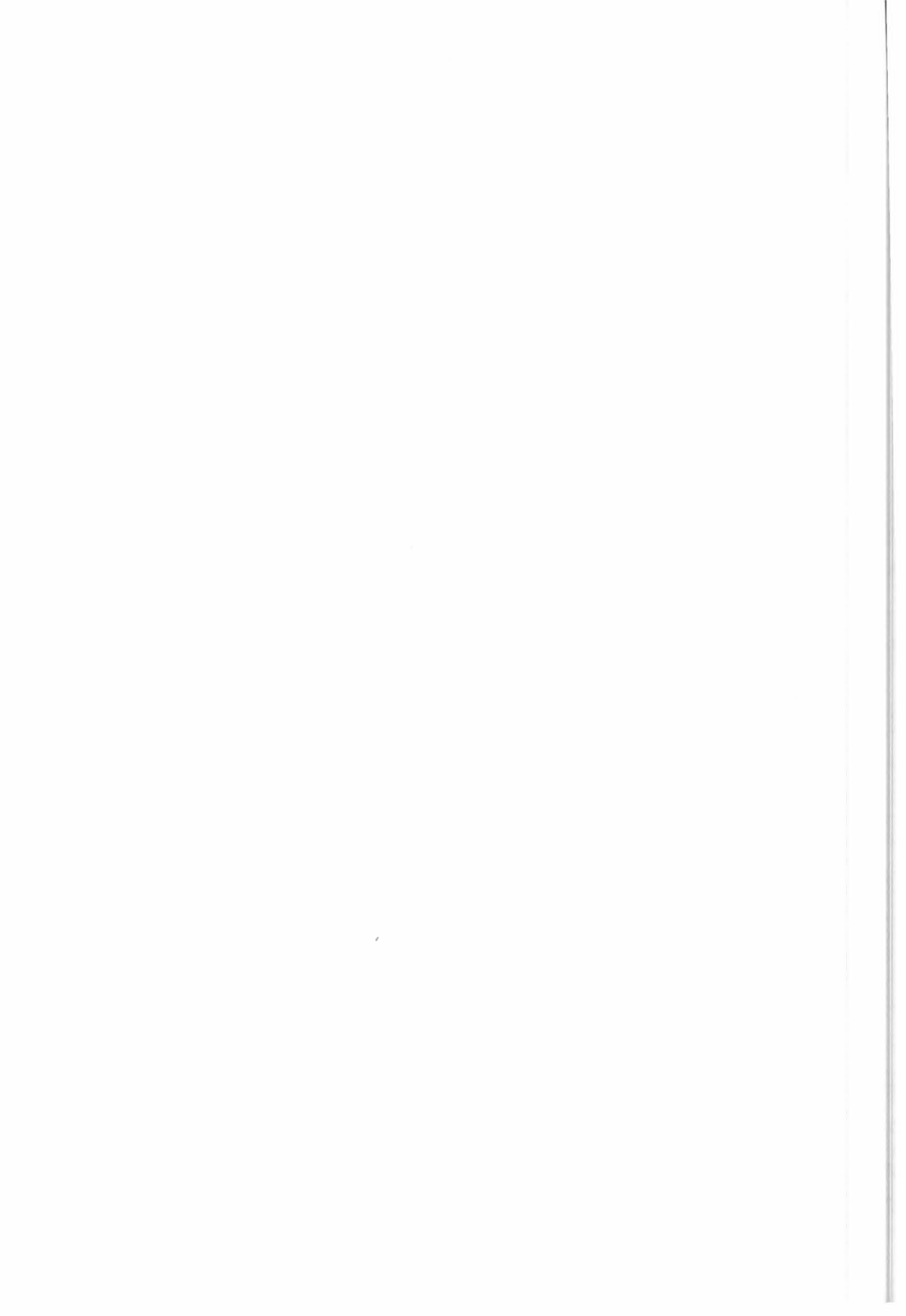
3.2 Software Simulator (TOS-GMS)

The main tool used in support of mission preparation activities will be a software satellite simulator developed by ESOC, which will be used in particular for:

- training of staff involved with spacecraft operations
- validation of operational procedures (nominal and contingency)
- validation of ground systems hardware and software

Progress:

- D1 Status:
 - In the Maintenance Phase;
- D2 Status:
 - Provisionally accepted;
- D3 Status:
 - Provisionally accepted. However, there are problems with the Payload Instrument modeling that have been identified, affecting deliveries v.5.1 (SVT-2 delivery - March 23) and v.5.2 (PEB & Instrument parts - April 13). These problems have led to an agreement being made between TERMA and ESOC that the warranty



phase will not start until after acceptance of the v.5.2 delivery. The Warranty period (for the PEB and Instrument parts of the simulator) will therefore start at the earliest 13 May 2000.

- No further support from the Project is expected unless additional simulator functionality is requested, in which case more information may be required.

Upcoming Milestones:

- Further improvements (e.g. typically after SVTs) will now be made either under the existing maintenance agreement or by negotiated CCN.

Problems:

- None. Deliveries 5.1 and 5.2 should be sufficient to verify MOD FCPs prior to SVT-2. The most critical outstanding SPRs should be fixed at del. 5.2.

3.3 Flight Dynamics (TOS-GF)

The ENVISAT Flight Dynamics System will be implemented by the Flight Dynamics Division (TOS-GF) on the basis of previous project experience, specifically with re-utilisation of the ERS-1/2 project support on SUN/ ORATOS and with the standard Flight Dynamics Subsystems. New elements will include the Star Tracker and a more complex model for spacecraft surface forces.

Progress:

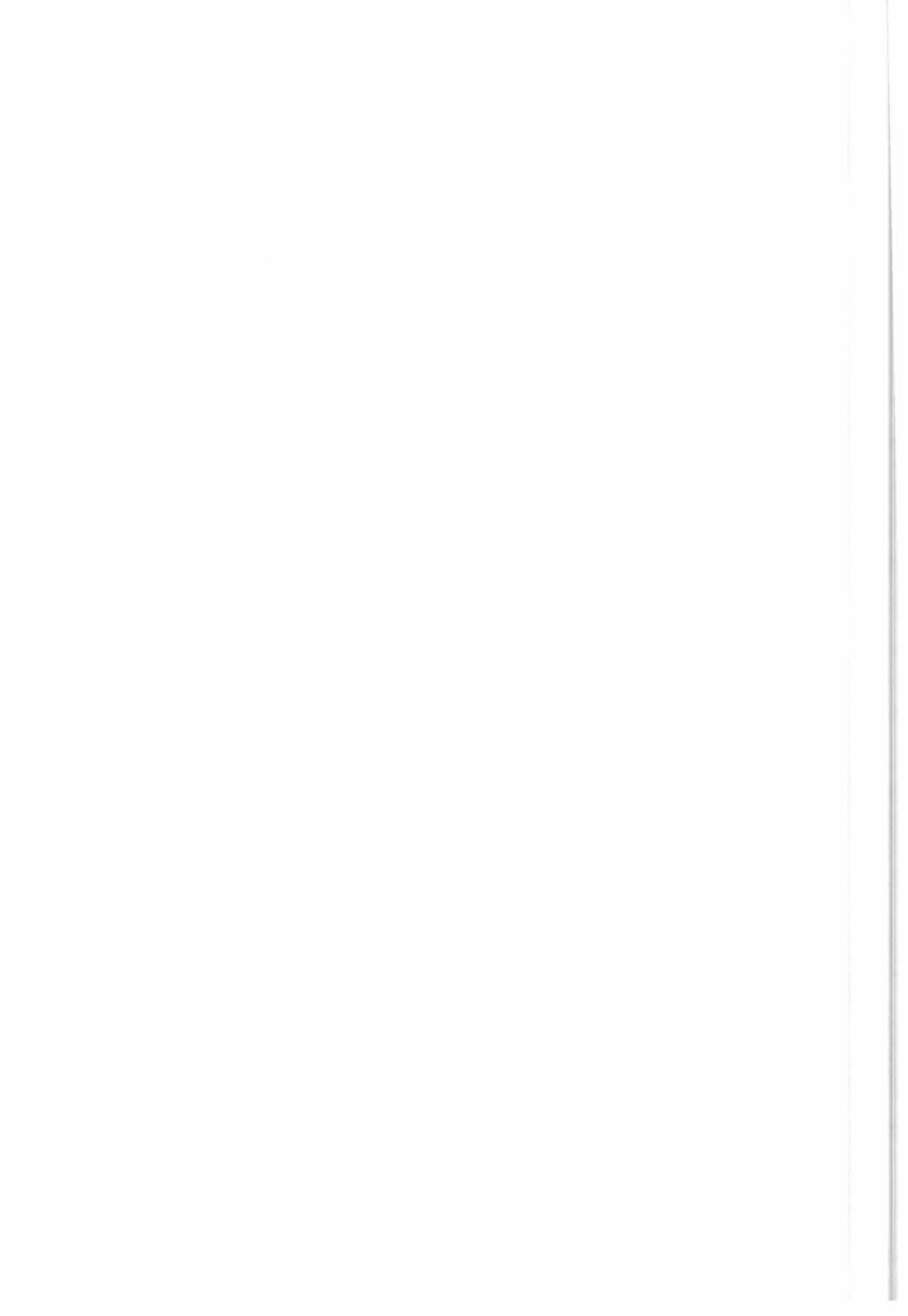
- HPTDG tool is complete except for CMD/TM interfaces;
- Single testing of orbit subsystem is ongoing;
- Test with FOCC & MPS Artemis interface performed on orbit information items;
- Further evaluation of CNES star catalogue (supported by CNES);
- S/C FOM review.

Upcoming Milestones:

- Continuation of orbit subsystem single testing;
- Further FDS - FOCC interface tests;
- Start development of Star Tracker Module performance tools;
- Start development of AOCS in-flight verification tools.

Problems:

- None.



3.4 Computer Services (TOS-ONC)

Progress:

- ENVISAT FOCC Computer Hardware Configuration Document released at issue 2;
- CPU and memory upgrade for ENV1A, ENV1B, ENV1C;
- ENV1C installed with VMS 7.1;
- ENVPAS machine configured but not yet in operation;
- ENV Proxy PCs and Proxy software on order;
- OPPLAN Security Server in place.

Upcoming Milestones:

- ENV1A and ENV1B systems update to OpenVMS 7.1 with Oracle 7.3;
- Operation of ENVPAS (Alpha) disk backup strategy.

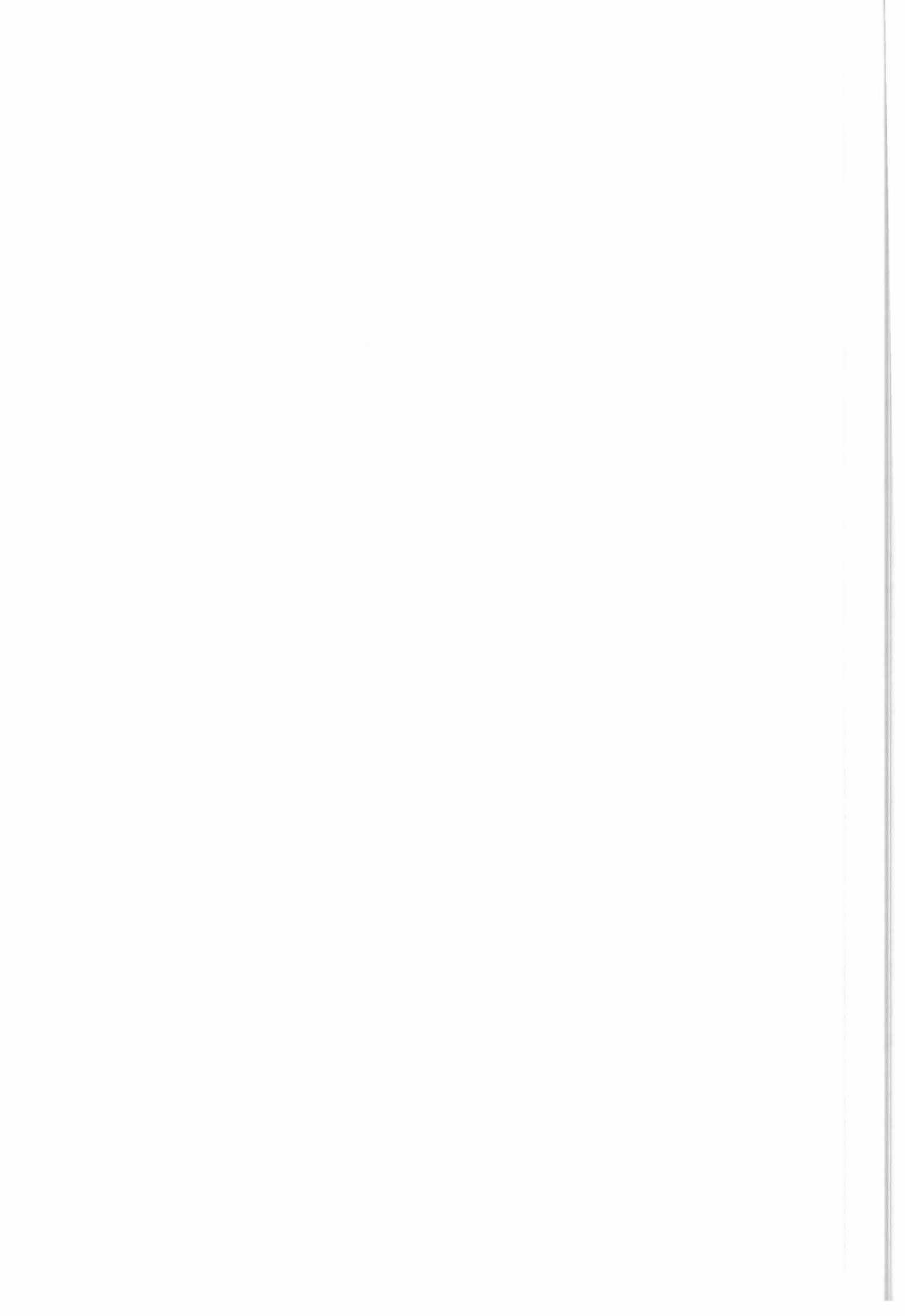
Problems:

- Disk splitting proposal to be discussed;
- Security issue with ADM/I for internet access to the PAS system;
- The internet access bandwidth required for PAS data is still TBD;
- Long delay for PC purchase due to administrative overhead.

3.5 Communication Networks (TOS-ONC)

Progress:

- Work is ongoing to optimize the Envisat communications configuration within the framework of an ESA-wide network strategy, which has still to be finalised. Of paramount importance is the issue of network security and the work to-date has been carried-out with the following objectives:
 - Limitation of host exposure to:
 - access to resources that should not be available to external users;
 - access to sensitive data stored in the host;
 - access to a host which has special privileges (i.e. OPSNET internal servers access the host and retrieve sensitive data stored there);
 - potential use of the host to attack other ESA facilities;
 - Data: integrity, authentication, confidentiality and non repudiation:
 - Integrity: to ensure that the data content are what they should be;
 - Authentication: to ensure that the data comes from the correct source;
 - Confidentiality: to ensure that the data cannot be read by parties not entitled to read them;
 - Non repudiation: to have a mechanism that allows for evidence of who




produced or requested something.

Upcoming Milestones:

- Finalisation of an ESA-wide communications network strategy;
- Assess the impact upon the User Community of the eventual network configuration.

Problems:

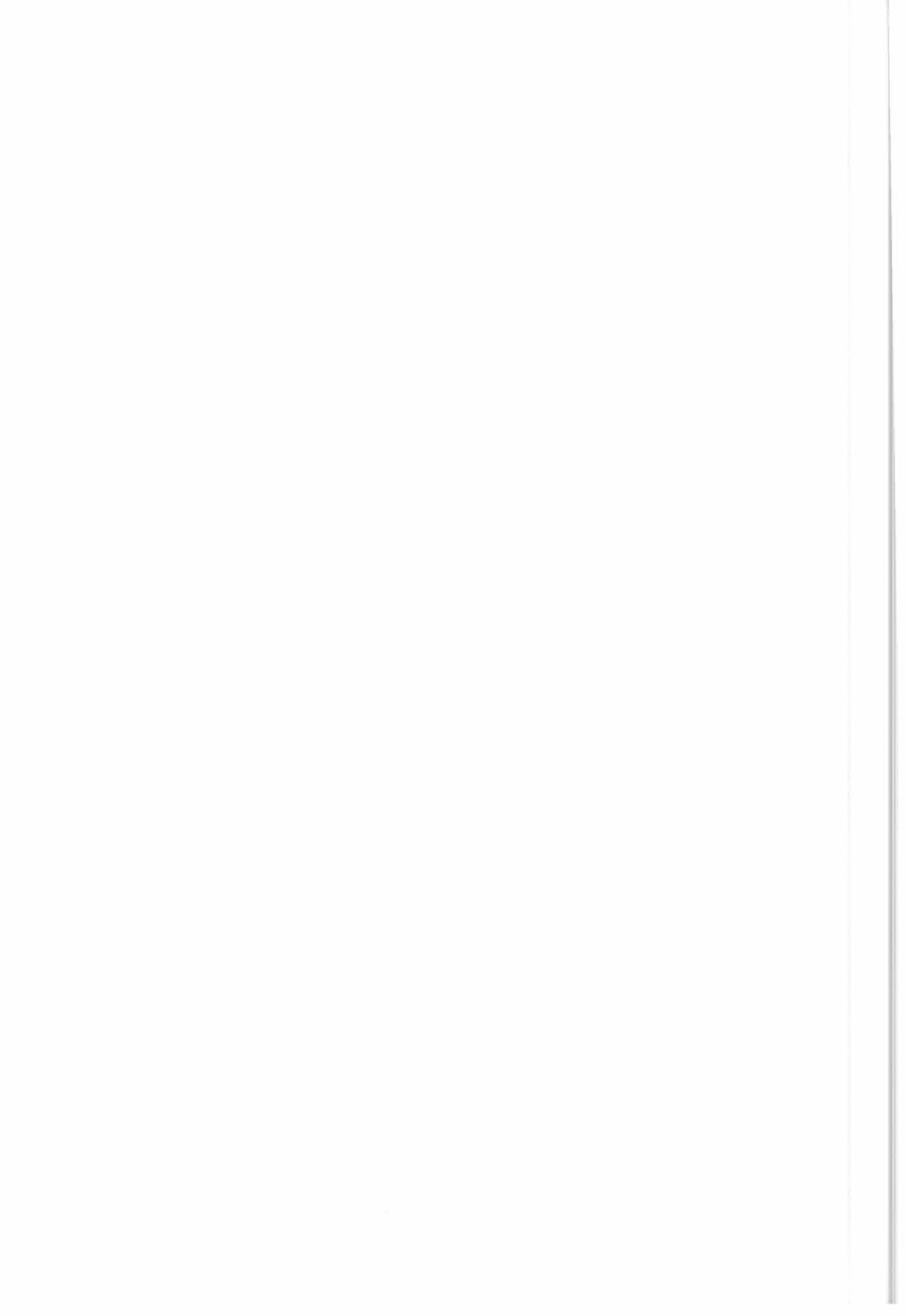
- The ESA-wide communications network strategy needs to be defined as soon as possible. 

4 Operations Preparation (TOS-O)

Operations preparation and execution activities fall under the responsibility of ESOC Mission and Operations Department (TOS-O). During the reporting period the principal activity has been the continued preparation for SVT-2. The team has in parallel continued to support preparation activities concerning the Payload Module, Mission Planning System and Overall System Testing.

Progress:

- SRDB:
 - SRDB V4A (21-Dec-1999) and V5 (6-Mar-2000);
 - All identified problems reported and discussed with MMS-B;
 - V5A (last delivery before SVT-2) delayed slightly to 10-Apr-2000;
 - Some important problems (not critical for SVT-2) need to be addressed in V6;
 - ICU reports format generation almost complete.
- SVT-2 preparation status:
 - SVT-2 DTBP Is.2.1 released 10-Mar-2000;
 - SVT-2 schedule iterations.
- MPS:
 - MPS2.0b delivered mid-Mar;
 - Acceptance Test ongoing.
- Others:
 - Various SVT instrument operations and IOM meetings supported;
 - Various SVT schedule meetings supported.
- FOP:
 - SM Vol.5 procedures progressed;
 - PEB Vol.6 procedures progressed;
 - Vol.1 ongoing;
 - Next major steps: LEOP, P/L operations and P/L first switch-on.
- Documentation Progress:



- SVT-2 DTBP Is.2.1;
- GFURD Is.1;
- Draft SVT-2 procedures for PEB (80%) and some instruments sent for review;
- ASAR deployment procedure is being completed;
- SM TK still to be written (small test);
- SVT-2 procedure generation schedule needs to be aligned to SVT-2 test schedule, in general procedures available at test date -4 weeks at the latest.

Upcoming Milestones:

- P/L first switch-on plan (draft) needs further discussion;
- SVT-2 tests defined by project needs further discussion;
- SVT-2: this test will comprise a number of 1, 2 and 3-day/night tests over the period 7 May to 2 July 2000.

Problems:

- FOCC OBSM development is on the critical path for SVT-2. Work around solutions could be found but these would de-value the overall test. Shifting some tests into SVT-3 could have an overloading effect on that test.
- Readiness of instrument procedures and MPS;
- SCIA CTI vs. database mapping problem (SCIA provides engineering values, database defines raw only). MOD will make it clear to the SCIA AO developers that their CTIs must be compatible with the PMTD e.g. raw values, or else they will be excluded from SVT-2.

5 ENVISAT FOS GROUND STATIONS (TOS-ONS & TOS-GS)

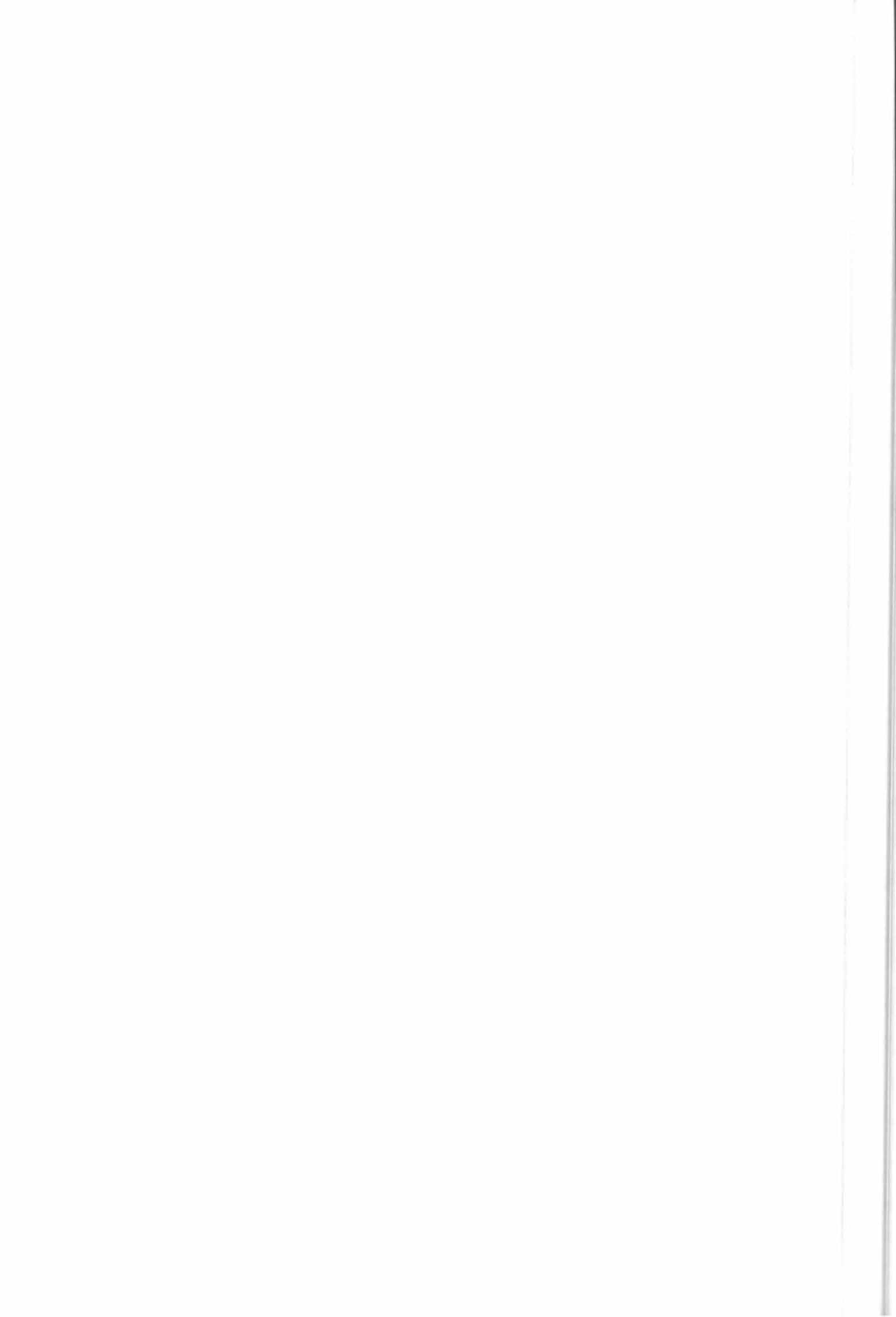
5.1 Ground Stations

The ENVISAT related station preparations (engineering and operations) are carried out under the responsibility of the ENVISAT-Station and Facilities Manager within TOS-ONS. The engineering tasks are delegated to TOS-GS. The major preparation tasks are:

- Enhancement of the Kiruna G/S with additional payload data reception chains and a new M&C system.
- Refurbishment of the existing Kiruna 15m antenna to enable reliable support throughout the ENVISAT-1 mission. During the refurbishment period, support from a Back-Up Antenna (BUA) procured by the Swedish Space Corporation (SSC) will be provided.
- Provision of the following stations for LEOP:

ESA stations:

Vilspa



Kourou

Perth

Kiruna

External stations:

Fairbanks (Poker Flats)

Wallops

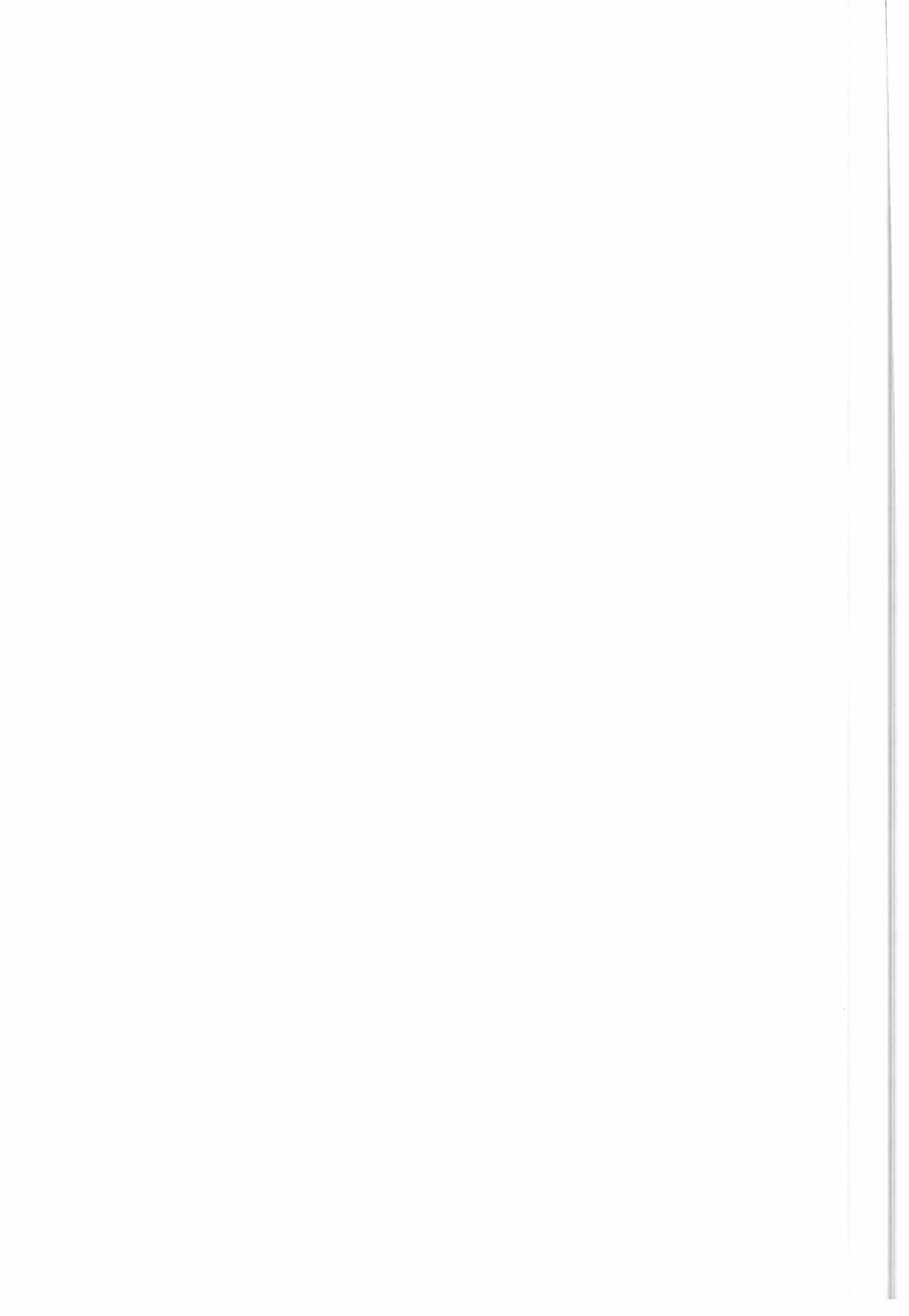
Santiago

Kerguelen

- Station system engineering and co-ordination.
- Compatibility testing

Progress:

- Kiruna Station Upgrade:
 - Station hand-over to TOS-ON took place on 3 March 2000.
- Kiruna Central Station Monitoring Computer:
 - Formal hand-over to Operations has taken place. CSMC operationally used for ERS since Dec '99;
 - Delivery of version 1.2 and operator/tailoring training is ongoing;
 - URD for ENVISAT enhancement (13-m front-end, simplified information exchange via TCP/IP) is being prepared;
 - Industrial team and work will change to new company.
- SSC Back-up Antenna:
 - ICD for interfacing CSMC to commercial FEC is available;
 - Date for front-end FAT is currently mid May 2000;
 - On-site installation in summer 2000;
 - Extensive operational validation;
 - Readiness 1st February 2001.
- Refurbishment of existing 15m Antenna Front-end:
 - In view of the intense future utilisation of Kiruna the scope of the upgrade is being reassessed;
 - Refurbishment activities before L-3 months or after L+6 months;
 - Generation of formal requirements and corresponding procurement documentation to start.
- NDIU:
 - NDIU for SVT commissioned at ESTEC and handed over to Operations;
 - NDIU now under formal configuration control;
 - NDIU is ready to support SVT.
- ESTRACK Network (LEOP):
 - ESTRACK network upgrade is completed. Stations are usable for ENVISAT.
- CNES LEOP Support:



- Enhancement of CNES/ESA Passerelle for ENVISAT support is ready;
- RF compatibility test with (retrofitted) suitcase is confirmed for week 26. Availability of RF suitcase is a pre-requisite;
- End-to-end interface validation tests between FOCC and Kerguelen are earmarked for week 27 (possible resource conflict with SVT).
- NASA Support:
 - Project Service Level Agreement (PSLA) based on deployment of NDIUs is being worked out.
- Ground Communications:
 - Requirements for ground communications (LEOP and routine phase) are being reassessed;
 - Comms for SVT have been established. Apart from some minor difficulties with voice codec, the system is ready.

Problems:

- None.

6 FOS SYSTEM TESTING (TOS-OGE)

Progress:

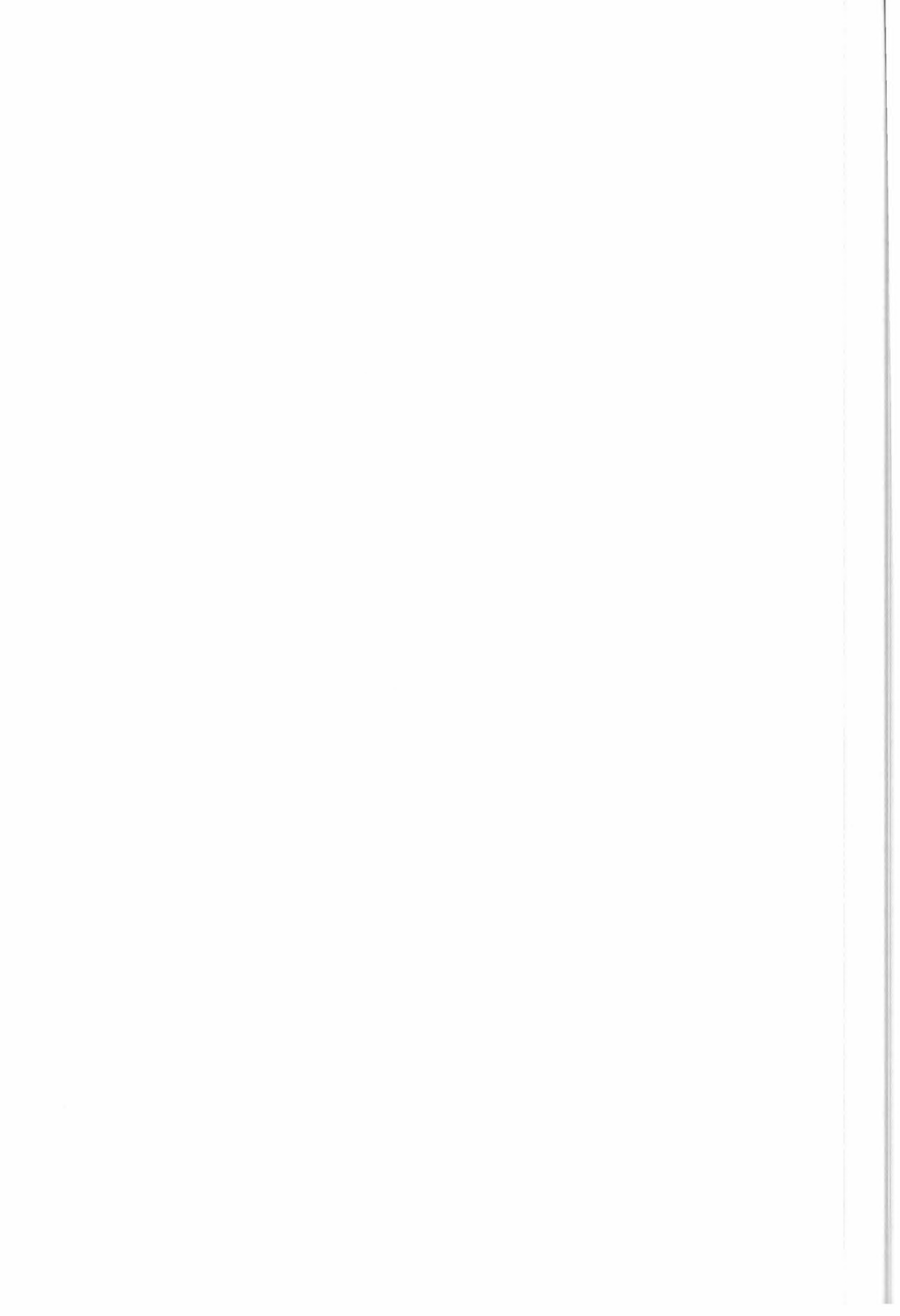
- FOS Component testing well underway.
- FOS Internal testing proceeding as expected.
- FOS External testing underway.

Upcoming Milestones:

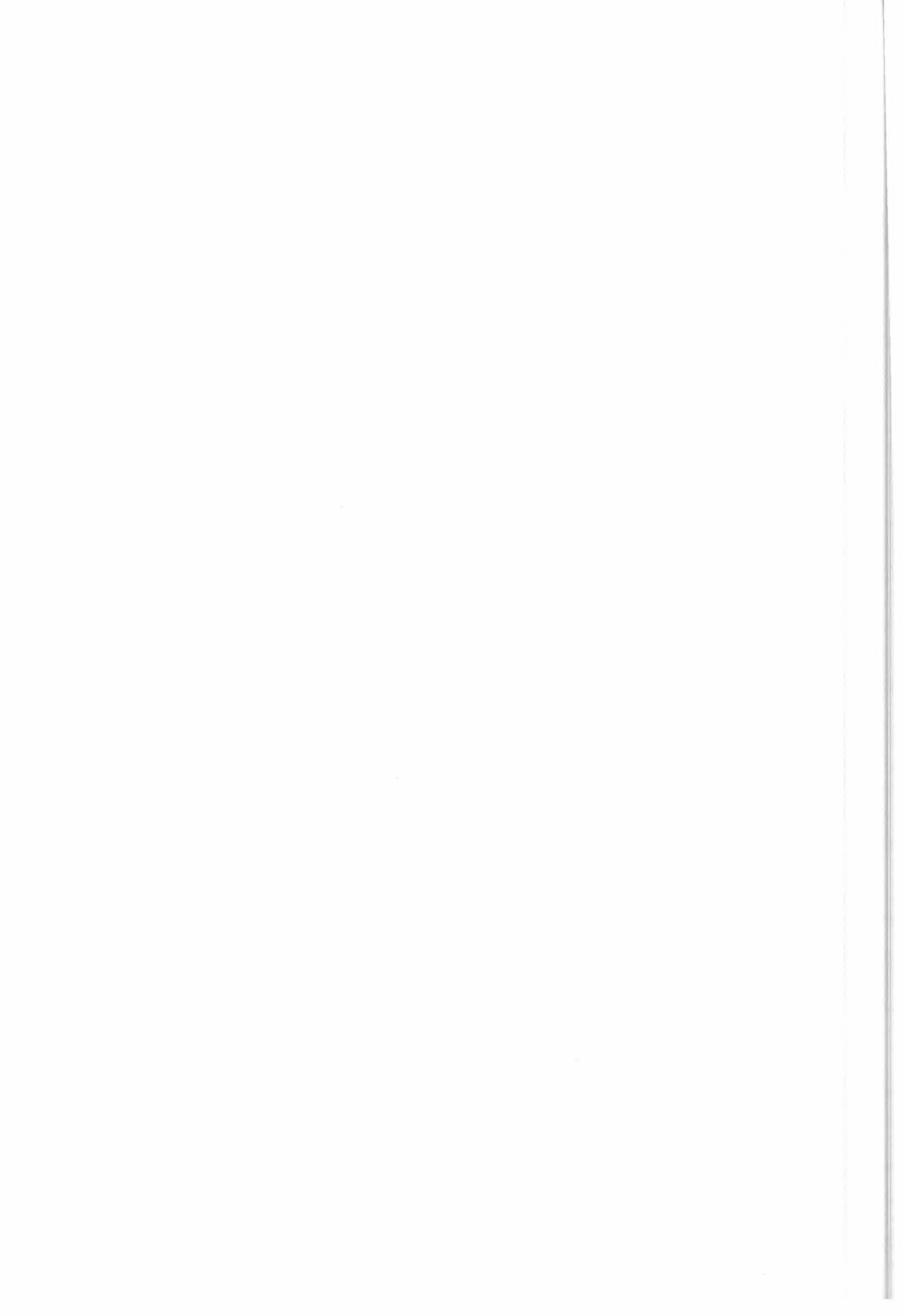
- Continuation of above;
- Detailed planning to be published in separate document.

Problems:

- None.



7 FOS DEVELOPMENT SCHEDULE





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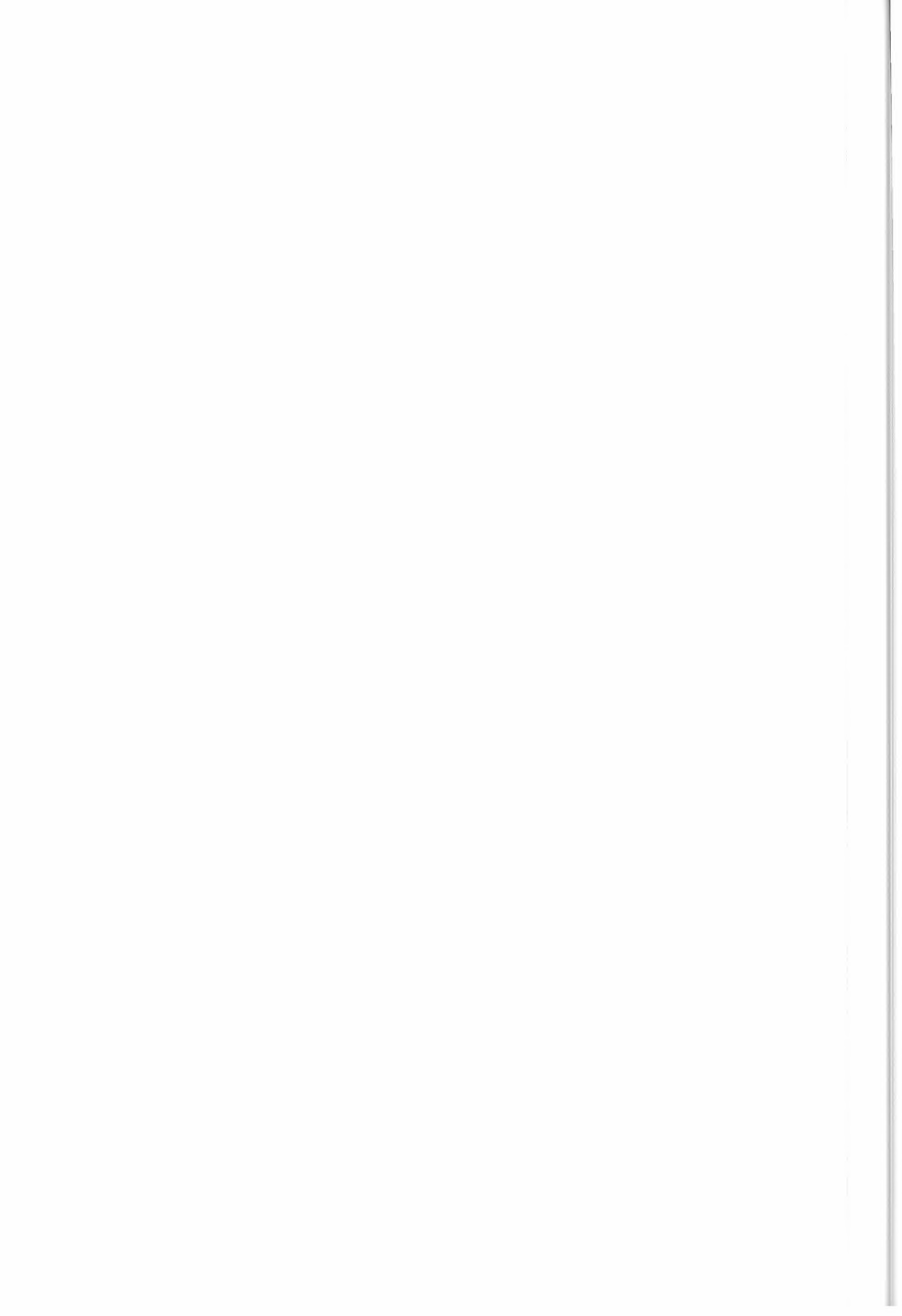
ENVISAT FOS OVERALL SUMMARY SCHEDULE

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Activity Legend:
 Planned (not started) ▽
 In Progress ▽
 Completed ▽
 External Interfaces ▽
 Other Interfaces ▽
 Baseline ▽

Milestones:
 Planned (not started) ▽
 Completed ▽
 External Interfaces ▽
 Other Interfaces ▽
 Baseline ▽

Title	1999	2000	2001	Comments
	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	
MAIN MILESTONES	01 1519 FOSIR SVT 1	02 12 SVT-2 07 OBSM 1	03 01 SVT-2 2328 LRR LEOP MCR	SVT-2: a series of 1, 2 & 3 day/night tests
FLIGHT CONTROL SW AND MPS	SW 4.0 MPS 1.B FOCC detailed design	SW 4.1 MPS 2a MPS 2b MPS 3 FOCC Final Acc. Test, Trans. Phase & Post D.5.0 Supp. (warranty)		
SIMULATOR	D3 v.4.3 rejected 15 v.4.2 Simulator detailed design	05 SIM Del v.5.0 (complete sim incl. SSR, SRDB & flight SW updates) 23 13 SIM Del v.5.1 23 13 SIM Del v.5.2 (Final - PEB & Instruments) Final Acc. & Warranty		
FLIGHT DYNAMICS		SW Development	System Tests/Sims	LEOP & COMMISSIONING
GROUND STATIONS	Ready for ERS & ENV (Old 15m Antenna) Kiruna Station upgrade	03 Establish SSC BUA Service	01 SSC BUA Ready for Service Ready for ERS & ENV (Refurbished 15m Antenna) 15m Antenna Re-furb. Final Sys Test	
OPERATIONS PREPARATION	ESA LEOP STATIONS ESA LEOP stns Ready STC II SW Depl to all 3 stns	Upgrade NDIUS	EXT LEOP STNS Ext stns Ready	COMMISSIONING
	EB (SVT-1)	SDOH sat (SVT-2) FOCC db ops prep	SDOH (SVT-3) SDOH (launch)	
	1 Proc.	07 SVT 2 FCP Final Mission Mgt FOP (draft) S/C & FOS System FOP (draft) Instrument FOP (draft) FOP	25 SVT 3 FCP Final Mission Support Procs (draft) 30 LEOP Ops. FOP (draft) 30 P/L Switch-on FOP (draft)	
TRAINING SIMULATIONS		LEOP TRAINING SIMULATIONS PAYLOAD SWITCH ON TRAINING SIMULATIONS ROUTINE OPERATIONS TRAINING SIMULATIONS		COMMISSIONING





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ENVISAT FOS

TOS-OGE (Mission Operations)

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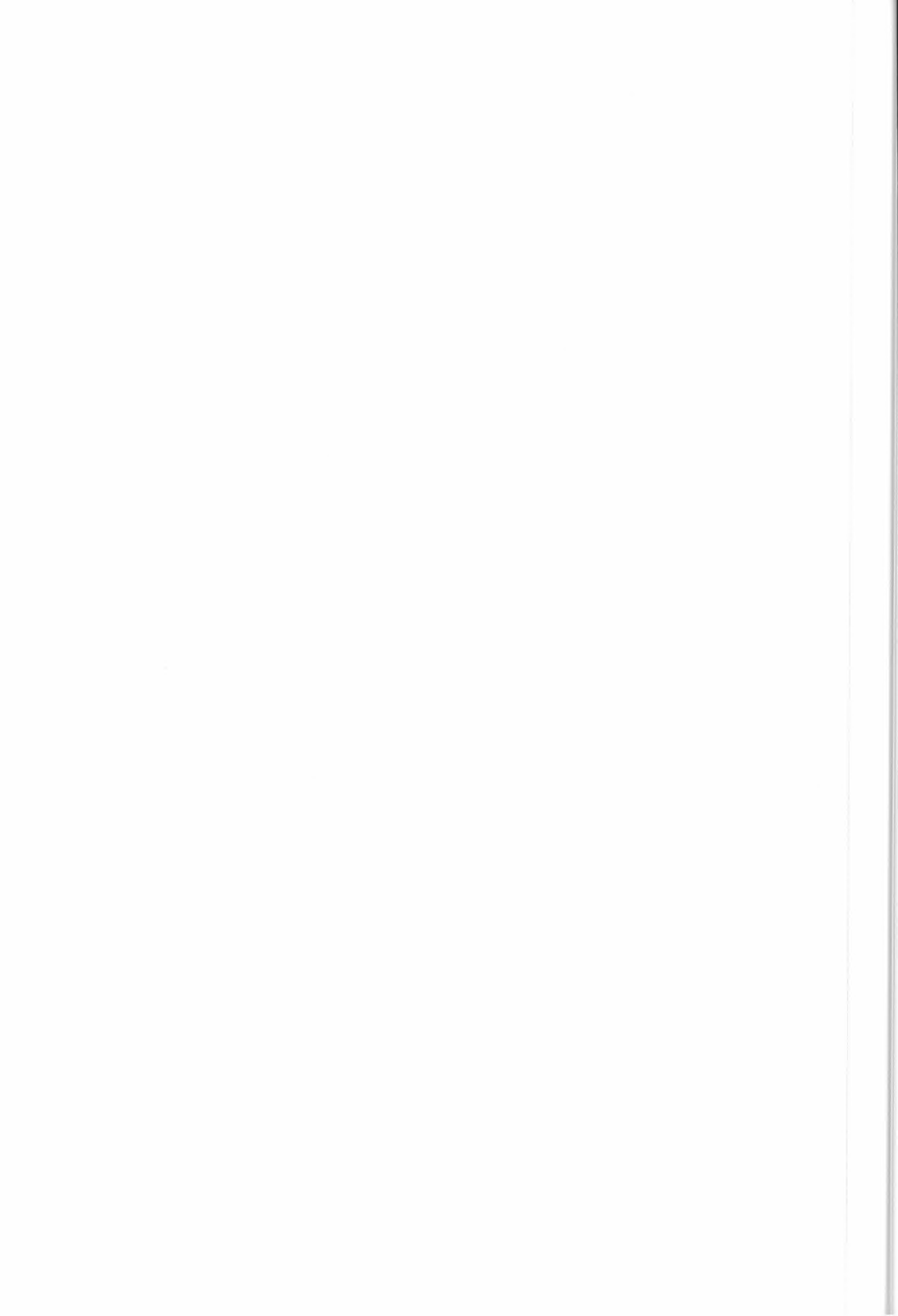
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- Planned (not started)
- In Progress
- Completed
- External Interfaces
- Other Interfaces
- Baseline

Milestones:

- Planned
- Completed
- External Interfaces
- Other Interfaces
- Baseline

Title	1998	1999	2000	2001	Comments
	J A S O N D	J F M A M J	J A S O N D	J A S O N D	
DESIGN REVIEWS					
FOCC+MPS ACCEPTANCE TESTING		01 FOSIR SVT 1 1519 x months	26 MPS Delta 1.A Acc. tests	SVT-2 07 02 SVT 3 2328 LRR 30 JUN LAUNCH	SVT-2: a series of 1, 2 & 3 day/night tests
Simulator Acceptance Tests		14 FOCC Del. 3.4 & 3.2 re-del. (OBSM) FOCC SW 3.3 FOCC Del. 4.1 FOCC Del. 5.0 (final)	26 MPS Del. 2a Acc. tests 14 MPS Del. 2b Acc. tests 01 MPS Del. 3 Acc. tests		
Ground Facilities		07 v.4.1 (v.4.0 + SPR fixes) v.4.2 (SPR fixes for SVT-1) RA-2 & AATSR) Move to MMCA	05 SIM Del v.5.0 (complete sim incl. SSR, SRDB & flight SW updates) 23 SVT-2 Del v.5.1 13 SIM Del v.5.2 (Final - PEB & Instruments) Acc. tests		Multi-Mission Control Area (MMCA).
FOCC DATABASE		01 SRDB Iss 3.B (SVT-1 Final) 03 SRDB Iss 4 (FM SM, PEB & Instr.) 11 SRDB v.4(a) 21 SRDB v.4(a) FOCC s/c DB ops prep	06 SRDB Iss 5 10 SRDB Iss 5A 01 SRDB Iss 6 01 SRDB Iss 7		
SMF/SVF FACILITIES		SDOH SM + EM PEB (SVT-1) SDOH Sat (SVT-2) SDOH (launch)			Further items to be added Further items to be added





TOS-PM

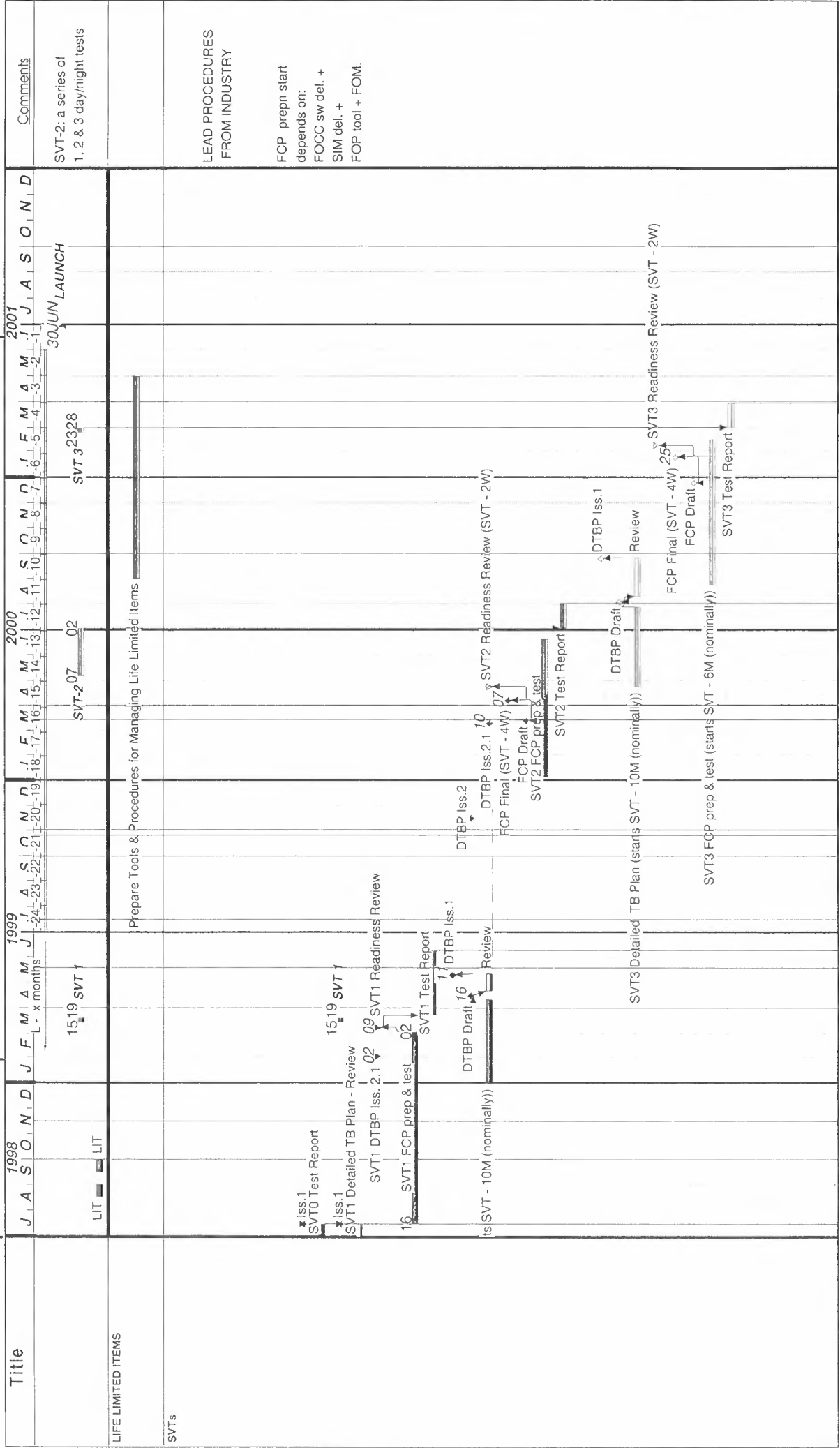
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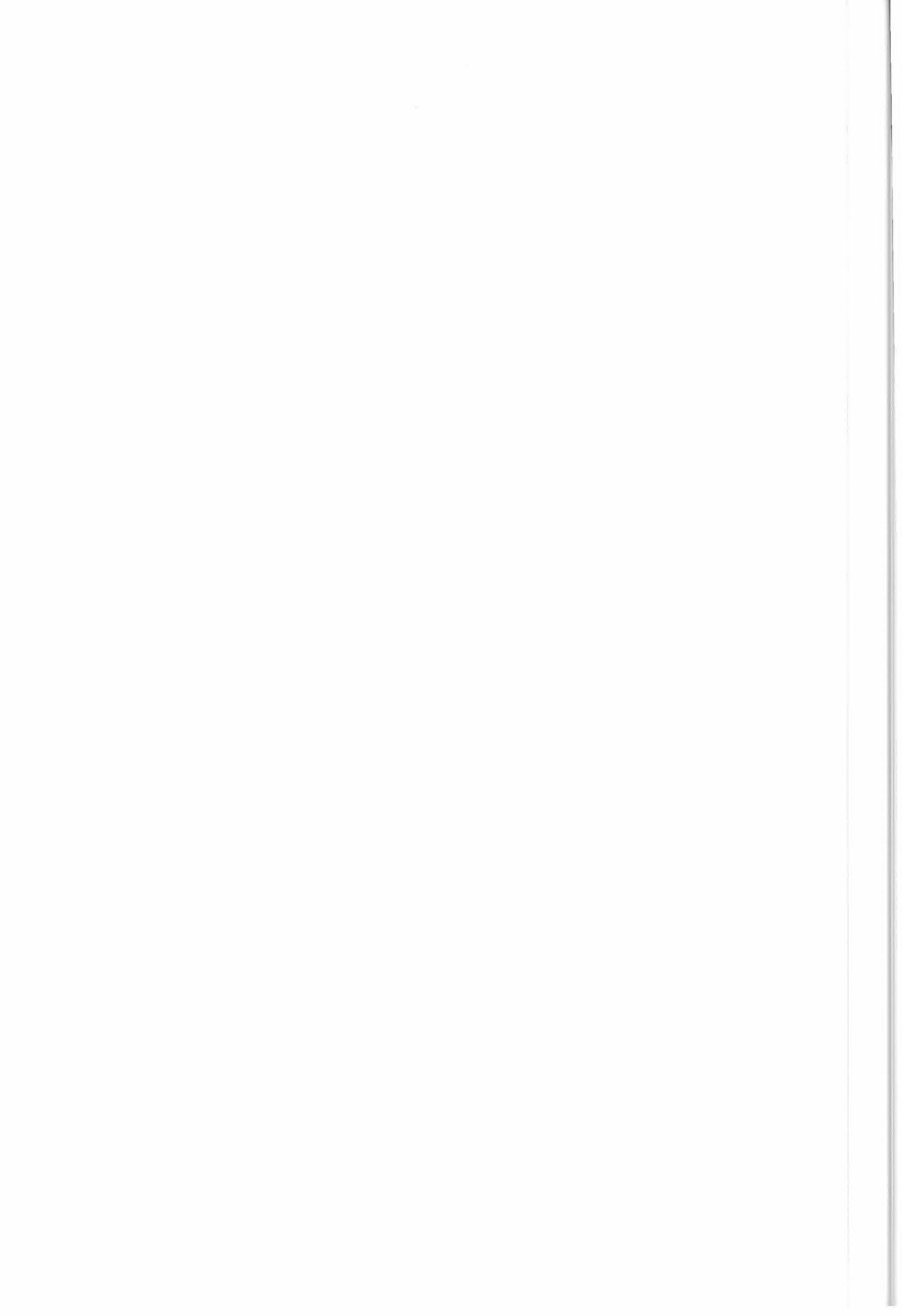
ENVISAT FOS

TOS-OGE (Mission Operations)

Activity Legend:
 Planned (not started) ▽
 In Progress ▾
 Completed ◻
 External Interfaces ◊
 Other Interfaces ◊
 Baseline ◻

Milestones
 Planned ▽
 Completed ▾
 External Interfaces ◊
 Other Interfaces ◊
 Baseline ◻







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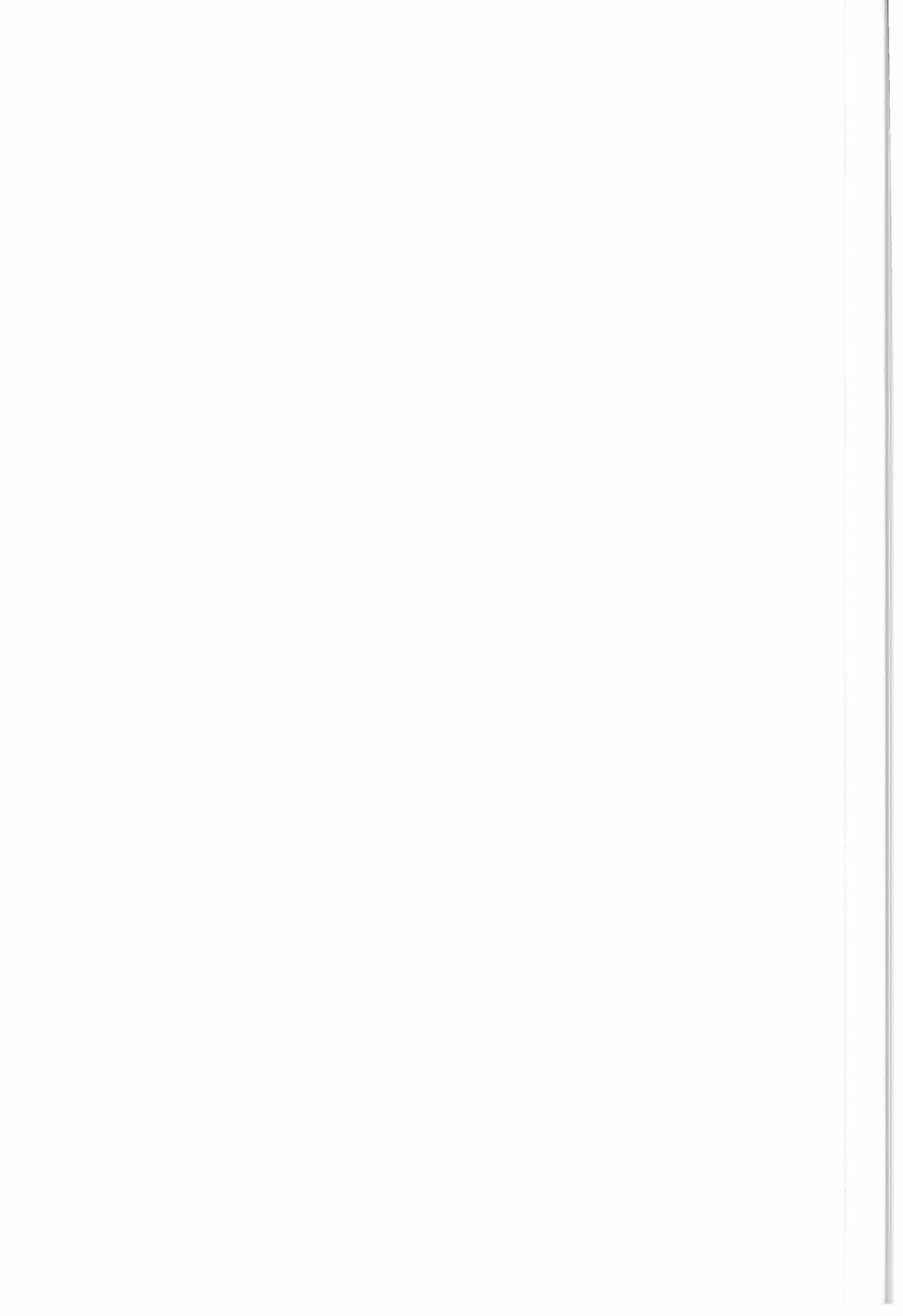
ENVISAT FOS

TOS-OGE (Mission Operations)

Activity Legend:
 Planned (not started) In Progress Completed
 External Interfaces Other Interfaces
 Baseline

Milestones
 Planned Completed
 External Interfaces Other Interfaces
 Baseline

Title	1998			1999			2000			2001			Comments						
	J	A	S	O	N	D	J	F	M	A	M	J		J	A	S	O	N	D
FOP TOOL																			
FOP PRODUCTION PLAN																			WinFOPS v.2.0 is baseline for SVT-2
FOP - VOLUME 1																			Further items to be added
FOP - VOLUME 2																			AR, PGB
FOP - VOLUME 3																			PGB, AOC, GB, TBD
FOP - VOLUME 4																			AR, PGB, GB, DM, RF
FOP - VOLUME 5																			FD & Instr. SOEs
FOP - VOLUME 6																			PGB, GB, DM
FOP - VOLUMES 7 - 14																			AOC, RF
FOP - VOLUMES 7																			AUG
FOP - VOLUMES 8																			FD
FOP - VOLUMES 9																			EB
FOP - VOLUMES 10																			AOC
FOP - VOLUMES 11																			AH
FOP - VOLUMES 12																			AUG
FOP - VOLUMES 13																			MO
FOP - VOLUMES 14																			EB





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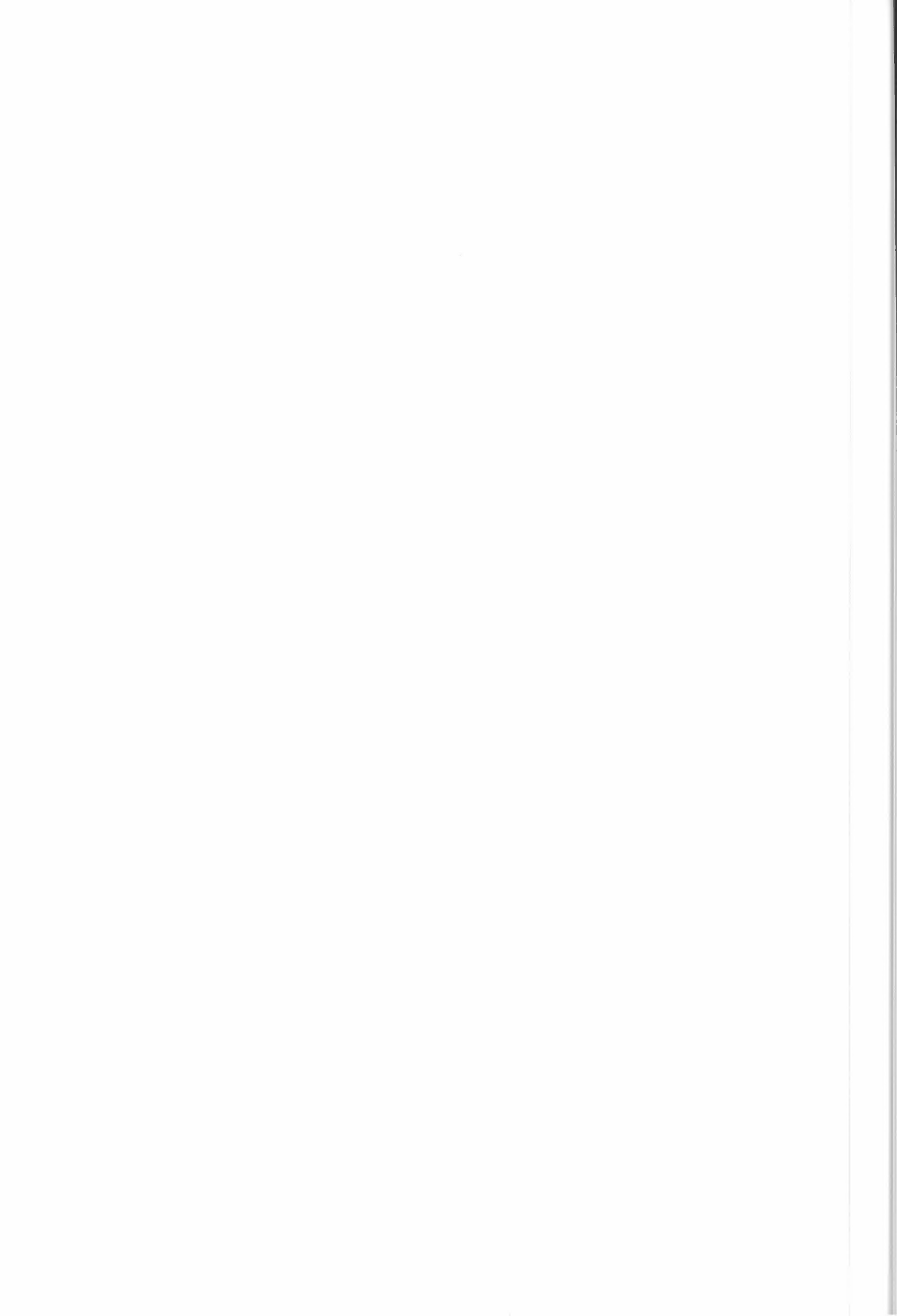
ENVISAT FOS TOS-OGE (Mission Operations)

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Activity Legend:
 Planned (not started) ▾
 In Progress ▾
 Completed ▾
 Baseline ▾

Milestones
 Planned (not started) ▾
 Completed ▾
 External Interfaces ▾
 Other Interfaces ▾
 Baseline ▾

Title	1998	1999	2000	2001	Comments
FOP - VOLUME 15	J A S O N D MPS 1 SVT0 TR	J A S O N D Remaining P/L SMFs - OVERDUE MPS 2a FOCC 4 SVT1 TR FOCC 5	J A S O N D SVT-2 07 PMC SVF delivery to ESOC - OVERDUE Delta MPS 2b SVT2 TR	J A S O N D SVT 3 2328 SVT3 TR	Further items to be added Further items to be added
Chapter 15.1			MISSION SUPPORT PROCEDURES		Drivers: SOVI/GOV Tests
Chapter 15.2			FOCC Database Management Procedures Draft	ss. 1 (L-4M)	PV, WS, MO
Chapter 15.3			FOCC Configuration Procedures Draft	ss. 1 (L-4M)	PV, WS
Chapter 15.4		Satellite S/W Maintenance Facilities Procedures Draft		ss. 1 (L-4M)	DM, RF
Chapter 15.5		Mission Planning Procedures Draft		ss. 1 (L-4M)	PB, AH
Chapter 15.6		Communications Management Procedures Draft		ss. 1 (L-4M)	AH, PB
Chapter 15.7		Flight Dynamics Interface Procedures Draft		ss. 1 (L-4M)	PGB
Chapter 15.8		Ground Station Control Procedures Draft		ss. 1 (L-4M) ss. 2 (L-4M)	AH, PB, PV
Chapter 15.9		External Interface Procedures Draft		ss. 1 (L-4M)	FD, PB, AH
TRAINING SIMULATIONS			Mini-FOCC Procedures LEOP TRAINING SIMULATIONS PAYLOAD SWITCH ON TRAINING SIMULATIONS ROUTINE OPERATIONS TRAINING SIMULATIONS		AOC, PV





TOS-PM

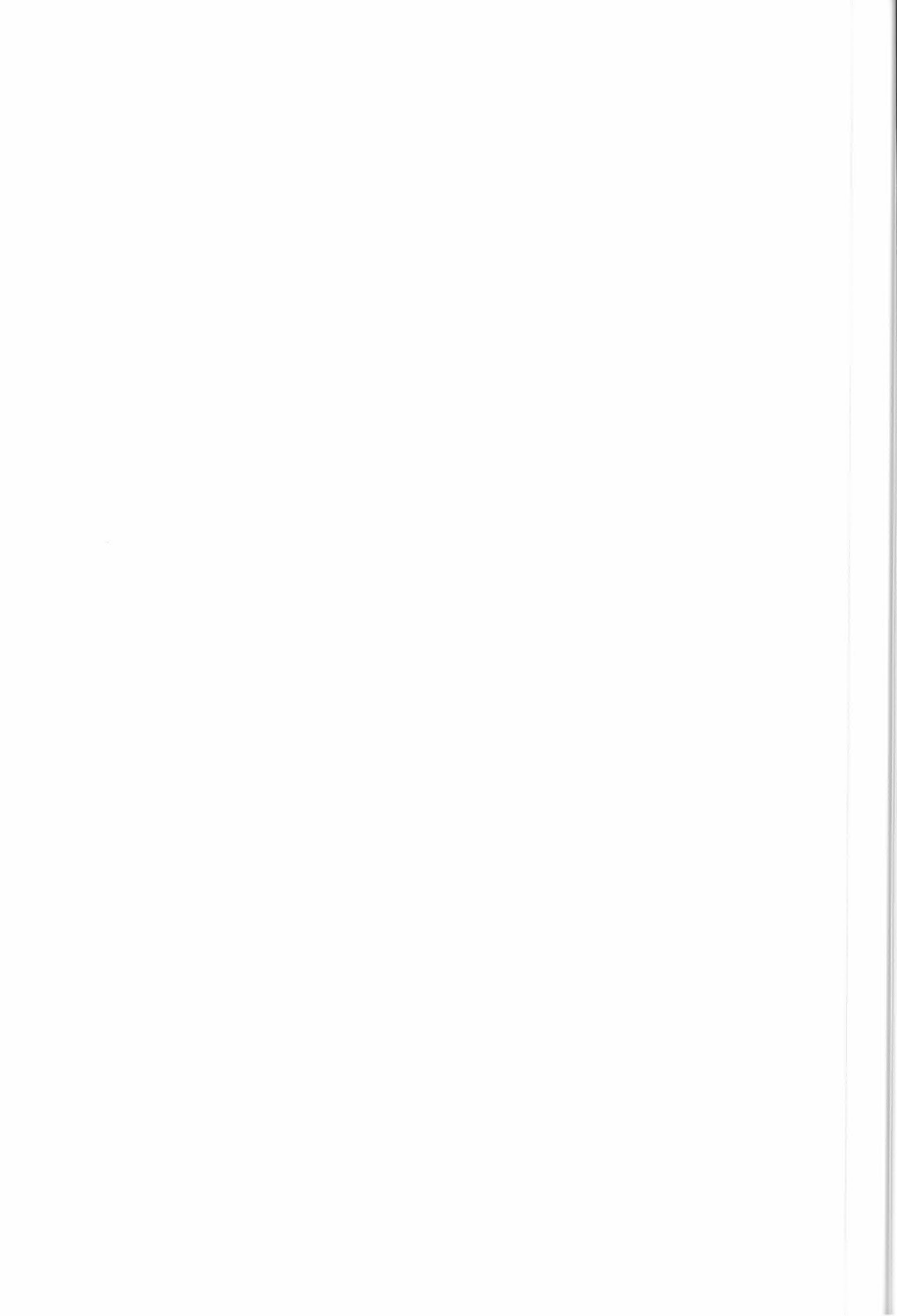
STATUS 13APR00
Printed 13APR00

ENVISAT FOS
TOS-OGE (Mission Operations)

Activity Legend:
 Planned (not started) ▽
 In Progress ▾
 Completed ▹
 Baseline ▮

Milestones:
 Planned ▽
 Completed ▹
 External Interfaces ◊
 Other Interfaces ◊
 Baseline ▮

Title	2000												2001												Comments
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	J	A	S	O	N	
EXTERNAL INPUTS	L - x months 15,19 SVT 1 SVT-2 07 02 SVT 3 23,28 30 JUN LAUNCH																								
FLIGHT OPERATIONS MANUAL:																									
MMS-B Satellite	Satellite FOM (2) - Vols. 4, 11 & 13 Satellite FOM (2) - Vols. 5, 8 & 10 Satellite FOM (2) - Vol. 2 Satellite FOM (2) - Vols. 1, 2A, 3 & 6 Satellite FOM (2) - Vol. 7 Satellite FOM (3) - Vol. 4 Satellite FOM (3) - Vol. 2 Satellite FOM (2) - Vols. 12 & 15 Satellite FOM (2) - Vol. 14 - OVERDUE ASAR Depl. FOM (1) ASAR Depl. FOM (2)																								
ASAR Depl. FOM																									
MMS-T SM	MMS-T SM FOM V1 (3.1) MMS-T SM FOM V2 (1.1) MMS-T SM FOM V3 (3.1)																								
DORNIER PEB																									
INSTRUMENT OPERATIONS MANUAL:																									
MERIS	MERIS IOM (1B) MERIS IOM (RIDs) ASAR IOM Review																								
ASAR	ASAR IOM (1) EM ASAR IOM (2) FM ASAR IOM Review																								
GOMOS	GOMOS IOM (2) - Formal GOMOS IOM (2.3)																								
MIPAS	MIPAS IOM (2) - prerelease MIPAS IOM (2) + Mixed Model Supplement MIPAS IOM (4) MIPAS IOM (Chpts. 12 & 13 (2))																								
RA-2	RA-2 IOM (3) RA-2 IOM (4) RA-2 IOM (5) RA-2 IOM (6)																								
DORIS / MWR	DORIS/MWR (2) - (FM)																								
AATSR	AATSR IOM (3) AATSR IOM (4B) AATSR IOM (C) (FM)																								
SCIAMACHY	SCIAMACHY IOM (C) (FM)																								
	FOM V1: nominal ops FOM V1: nominal ops FOM V2: contingency FOM V3: sale mode																								





TOS-PM

STATUS 13APR00
Printed 13APR00

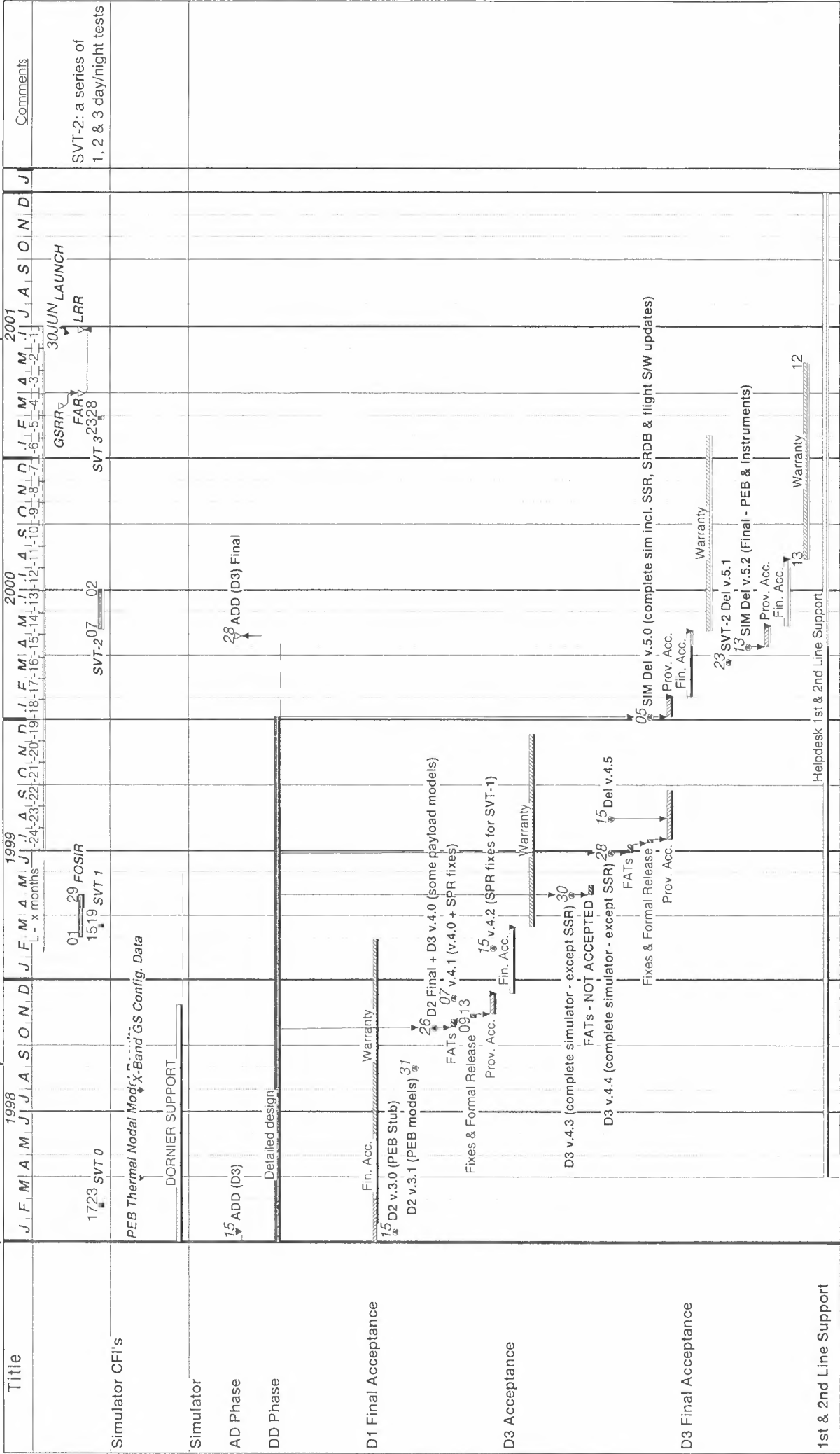
ENVISAT FOS

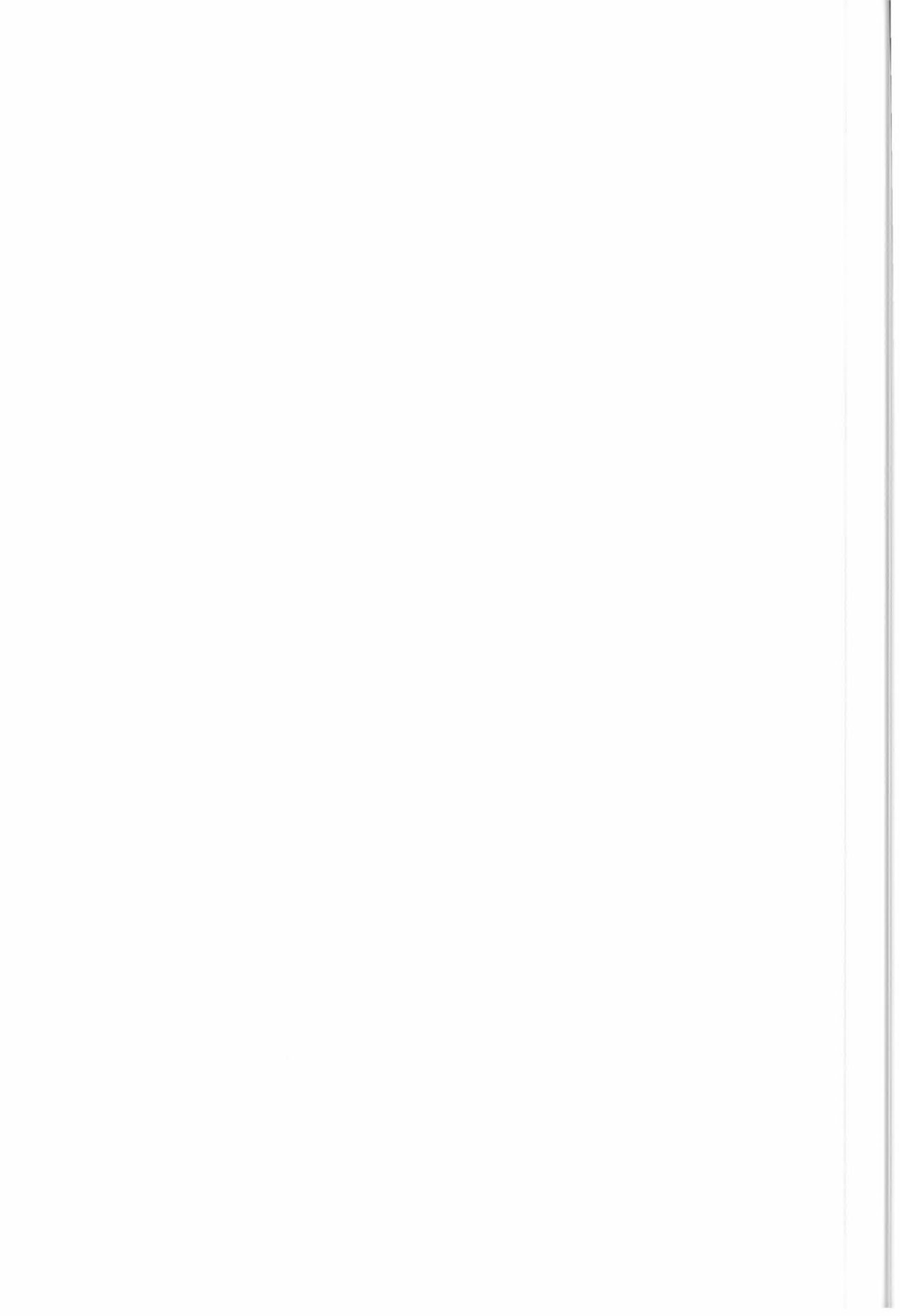
TOS-GMS (Satellite Simulator)

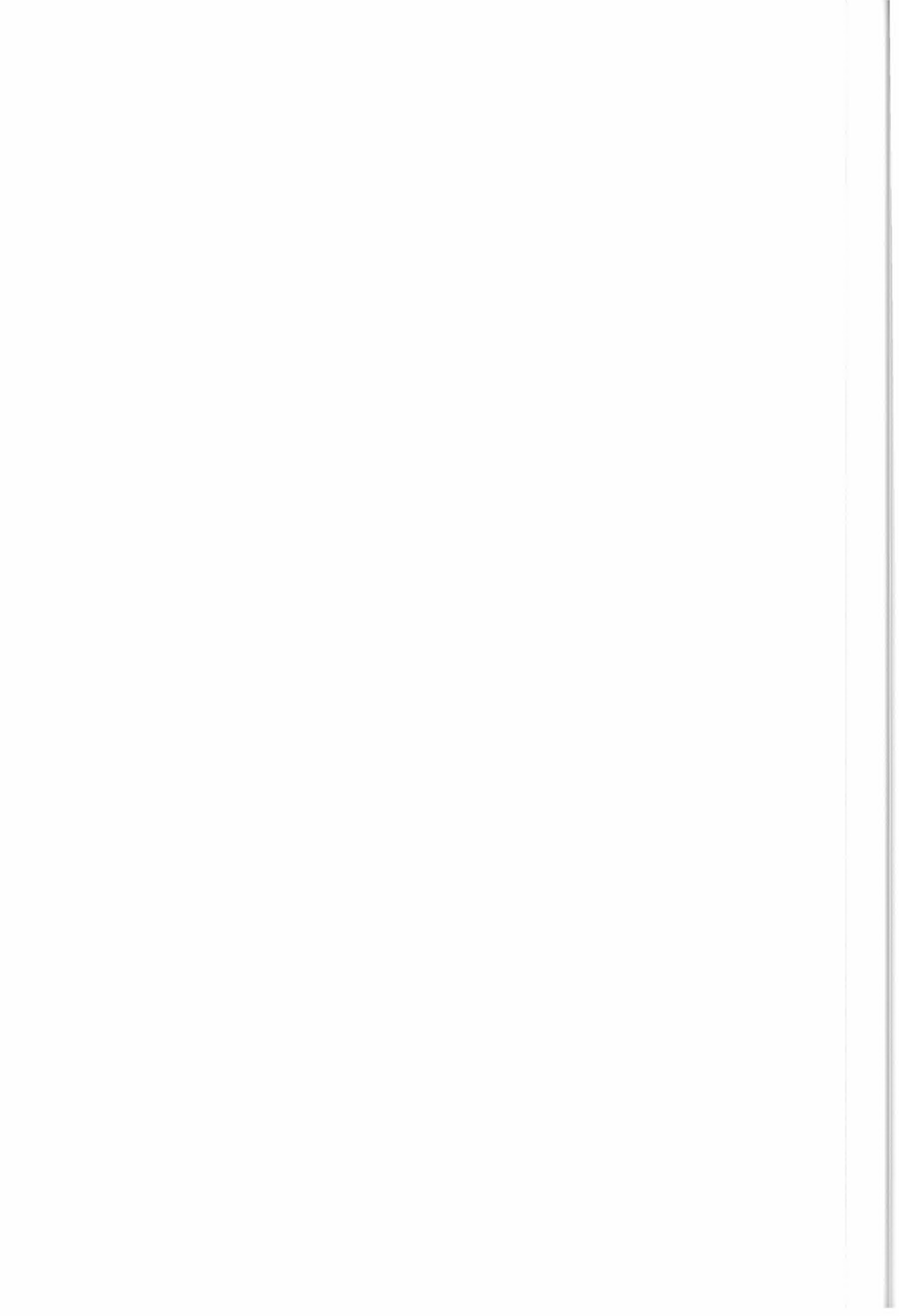
p. 1 of 1

Activity Legend:
 Planned (not started) ▽
 In Progress ▨
 Completed ▩
 Baseline □

Milestones:
 Planned ▽
 Completed ▨
 External Interfaces ◊
 Other Interfaces ○
 Baseline ◁









TOS-PM

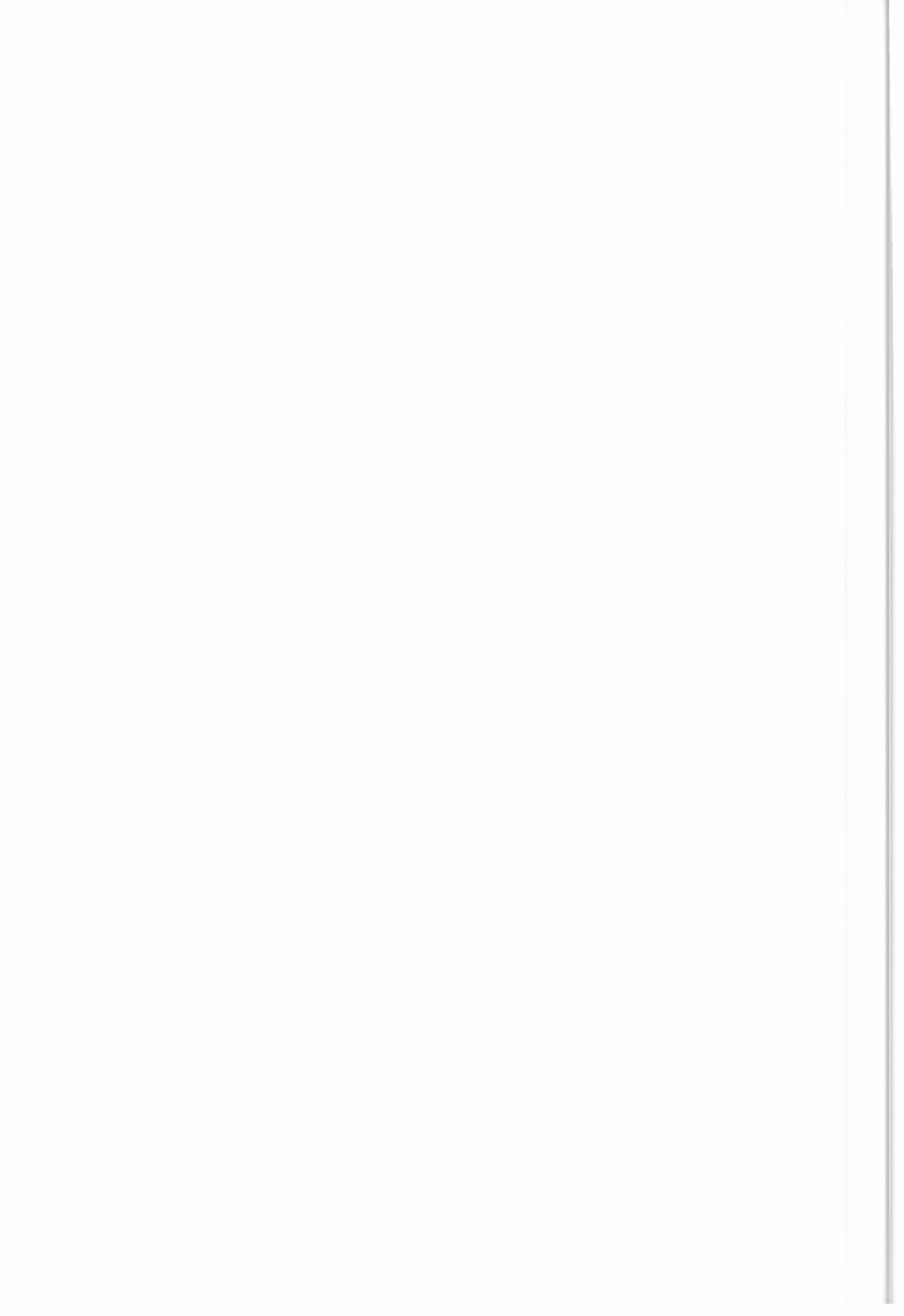
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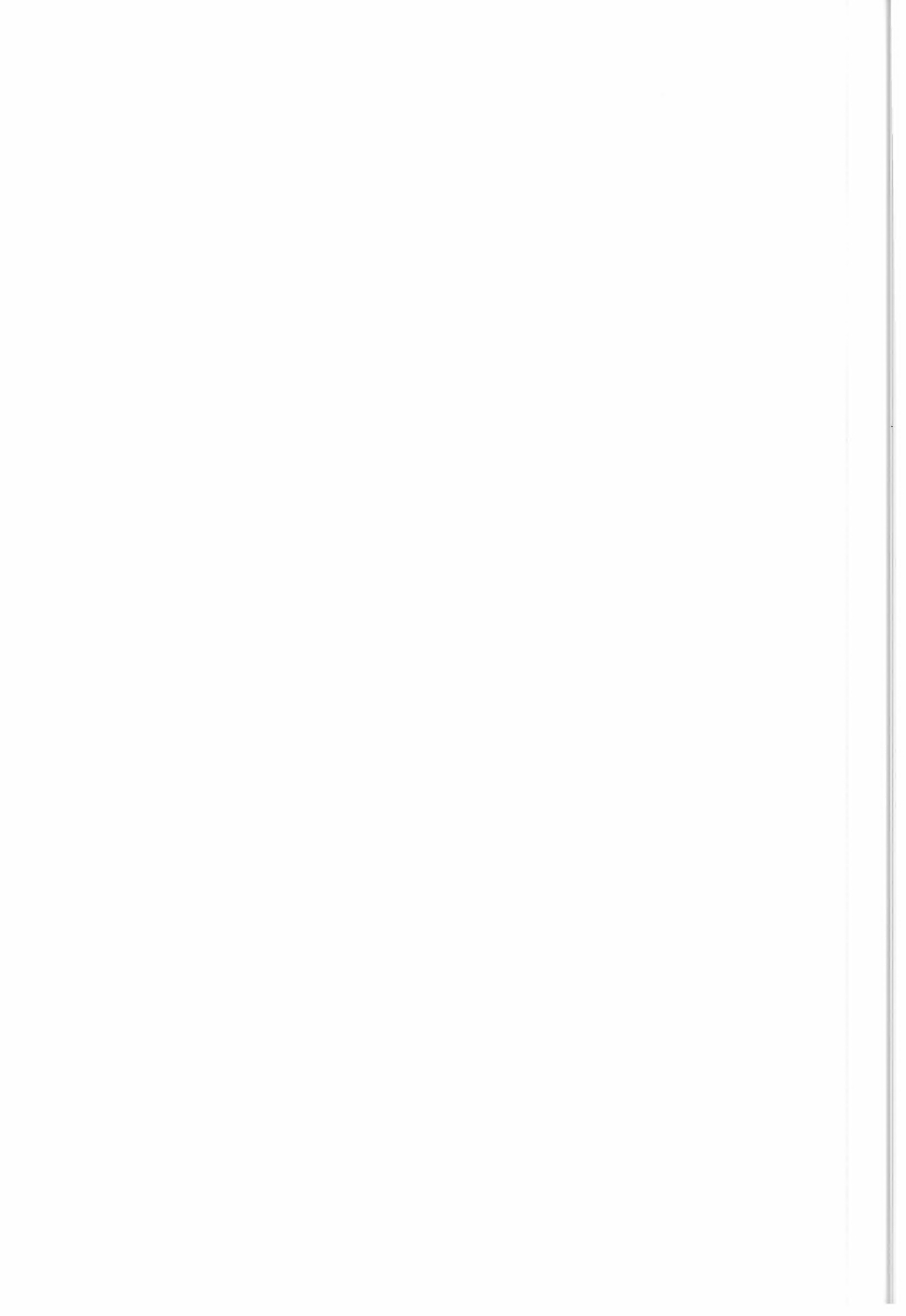
ENVISAT FOS
TOS-GF (Flight Dynamics)

p. 1 of 1

Activity Legend:
 Planned (not started) ▽
 In Progress ▨
 Completed ▩
 External Interfaces ◊
 Other Interfaces ◊
 Milestones ▽
 Planned ▽
 Completed ▩
 External Interfaces ◊
 Other Interfaces ◊
 Baseline □

Title	1999												2000												2001												2002												Comments
	J	A	S	O	N	D	J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M					
(ESOC INFRASTRUCTURE)																																																	
NAPEOS development	(Prelim. D)NAPEOS V.1.0 ▽ DD Phase TR Phase HPT (DORIS) SW Development																																																
HPT (DORIS) development (ESOC INFRASTRUCTURE)	NAPEOS V.1.1 TR Phase HPT (DORIS) SW Dev.																																																
Star Catalogue (ESOC INFRASTRUCTURE)	COMPLETED																																																
Envisat OAD development																																																	
SYSTEM LEVEL																																																	
DOCUMENTS																																																	
IA ICDs (Annexes)	▼ FD/MOD ICD (Annexes 3,4,5) ▼ TCS ICD draft (Annex 3)																																																
Test Plans	Single Test Plan Draft (STP) ▽ Interferometry Study (M. Rosengren)																																																
Studies																																																	
DEVELOPMENT																																																	
STAR TR. & AOCs PERF. TOOLS	Develop Star TR Modules (Fef. Tools) & AOCs In-flight Verification Tools to SYT 2 to SYT 2																																																
ATT. MONITORING	D/D D/D																																																
COMMAND GENERATION																																																	
Test Tools Development	test tools test tools test tools NAPEOS ▽																																																
TESTING, OPS PREPN. & OPERATIONS	Single Test Phase Single Test (AOCs) Subsystem Test Phase System Test Phase Participation in Simulations LEOP TC1 TC2 Tracking Campaigns Commissioning POD Setup/Test/Commissioning POD Operations SVT-2: a series of 1, 2 & 3 day/night tests INVESTMENT INVESTMENT INVESTMENT																																																







TOS-PM

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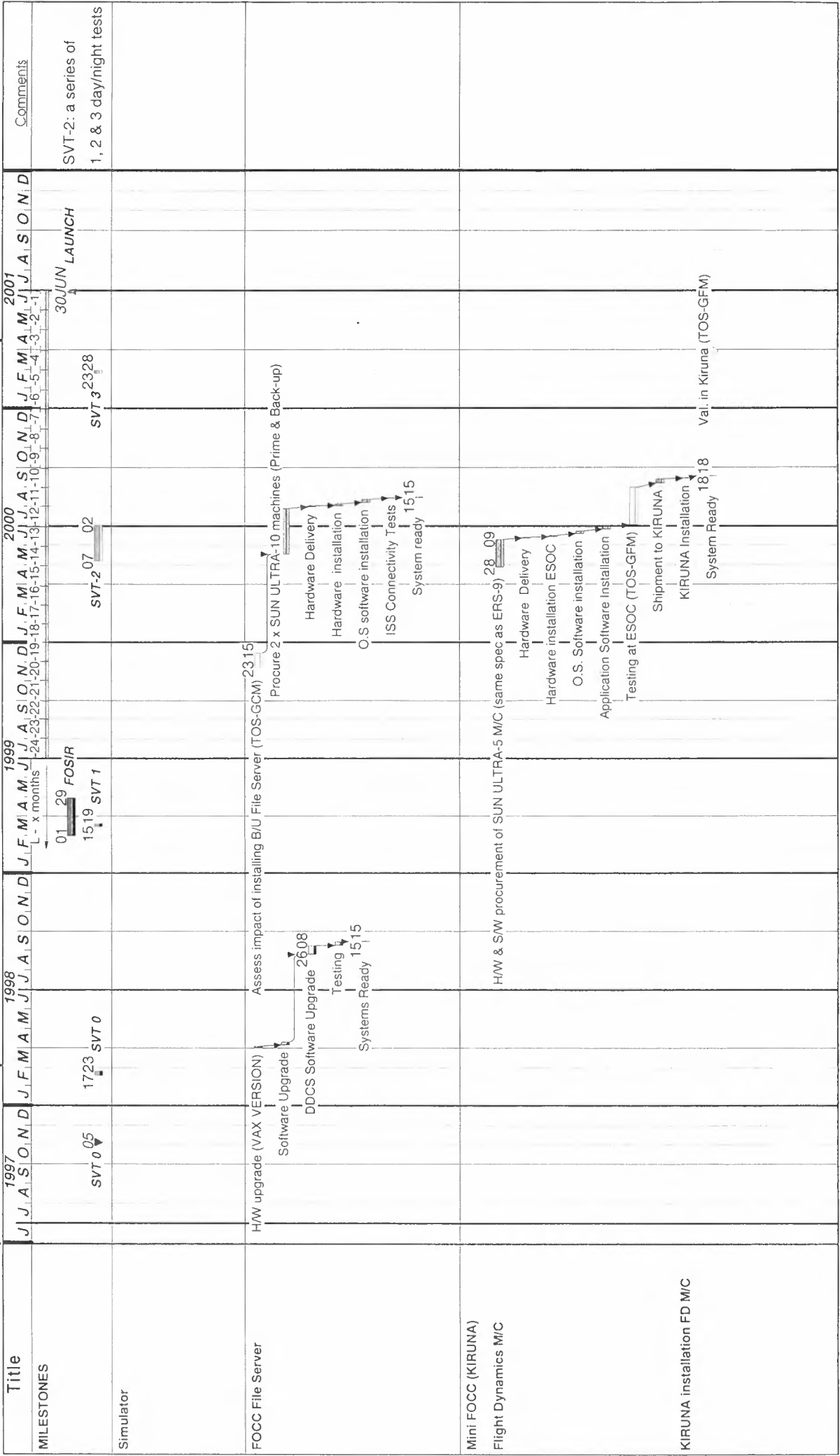
ENVISAT FOS

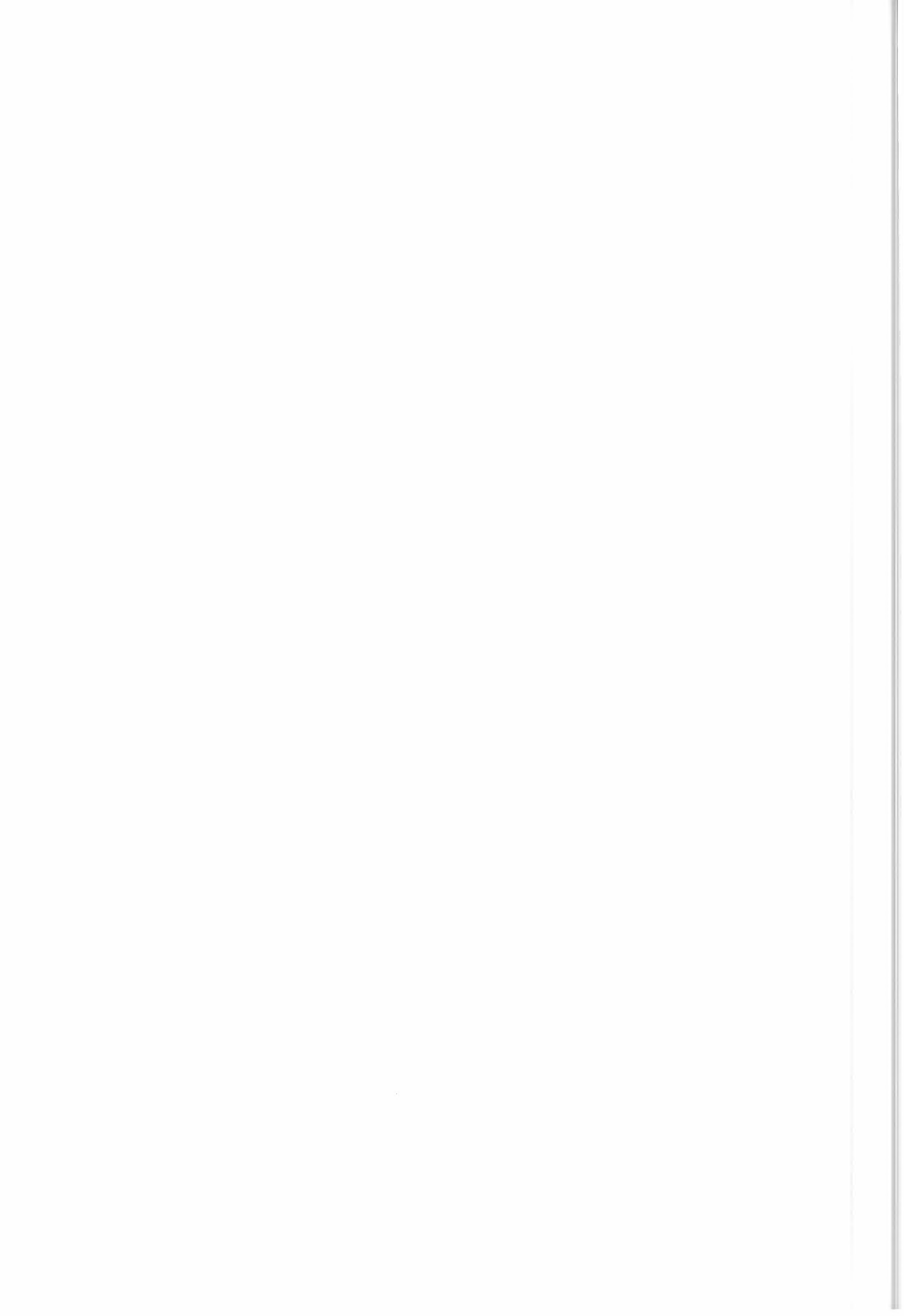
TOS-ONC (Computer Services)

p. 2 of 4

Activity Legend:
 Planned (not started) ▽
 In Progress ▢
 Completed ▣
 External Interfaces ◊
 Other Interfaces ○
 Baseline ▭

Milestones:
 Planned ▽
 Completed ▣
 External Interfaces ◊
 Other Interfaces ○
 Baseline ▭







TOS-PM

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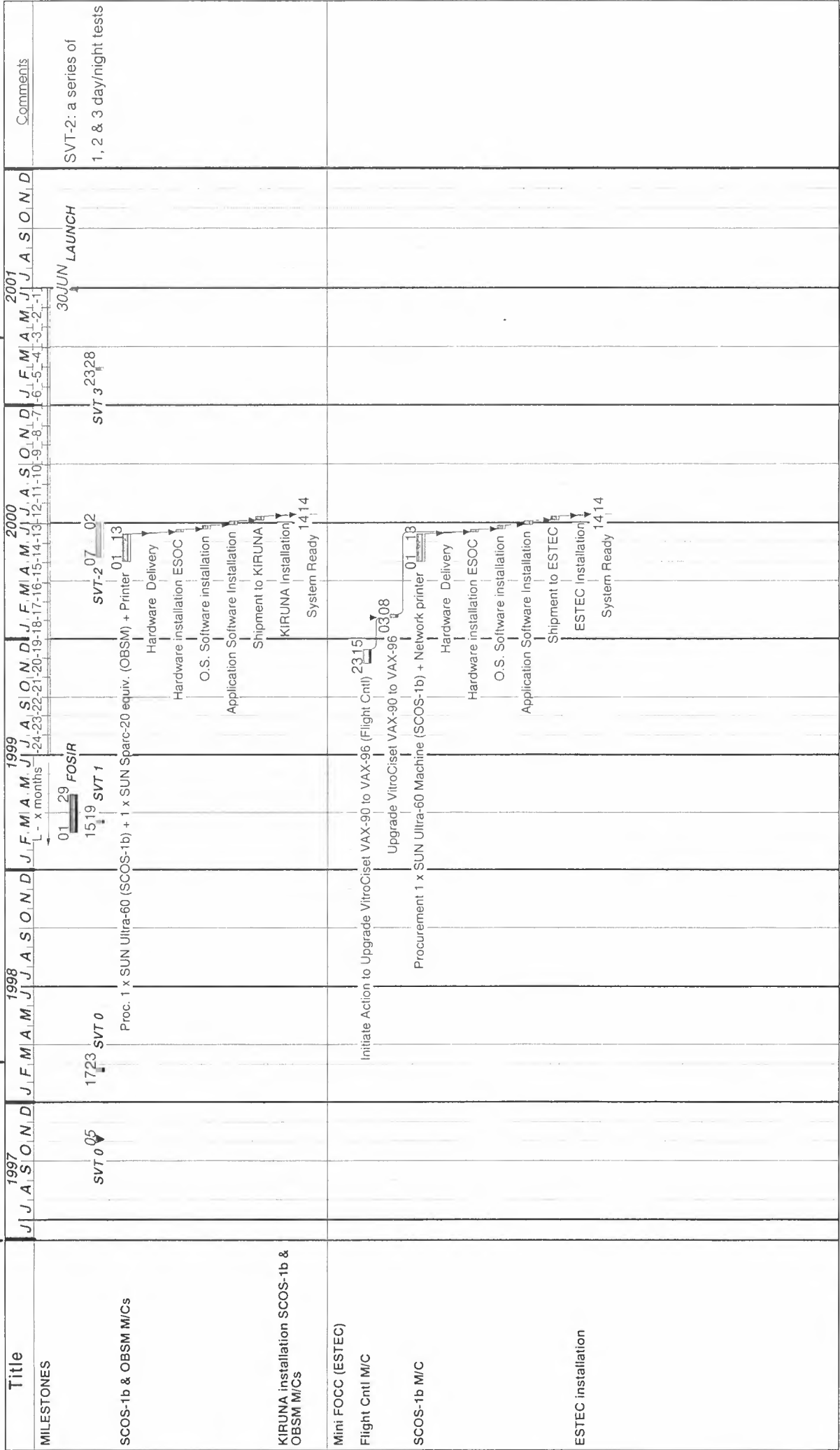
ENVISAT FOS

TOS-ONC (Computer Services)

p. 3 of 4

Activity Legend:
 Planned (not started) ▽
 In Progress ▢
 Completed ▣
 Baseline ▭

Milestones:
 Planned (not started) ▽
 Completed ▣
 External Interfaces ○
 Other Interfaces ◊
 Baseline ◊





TOS-PM

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Printed 12APR00

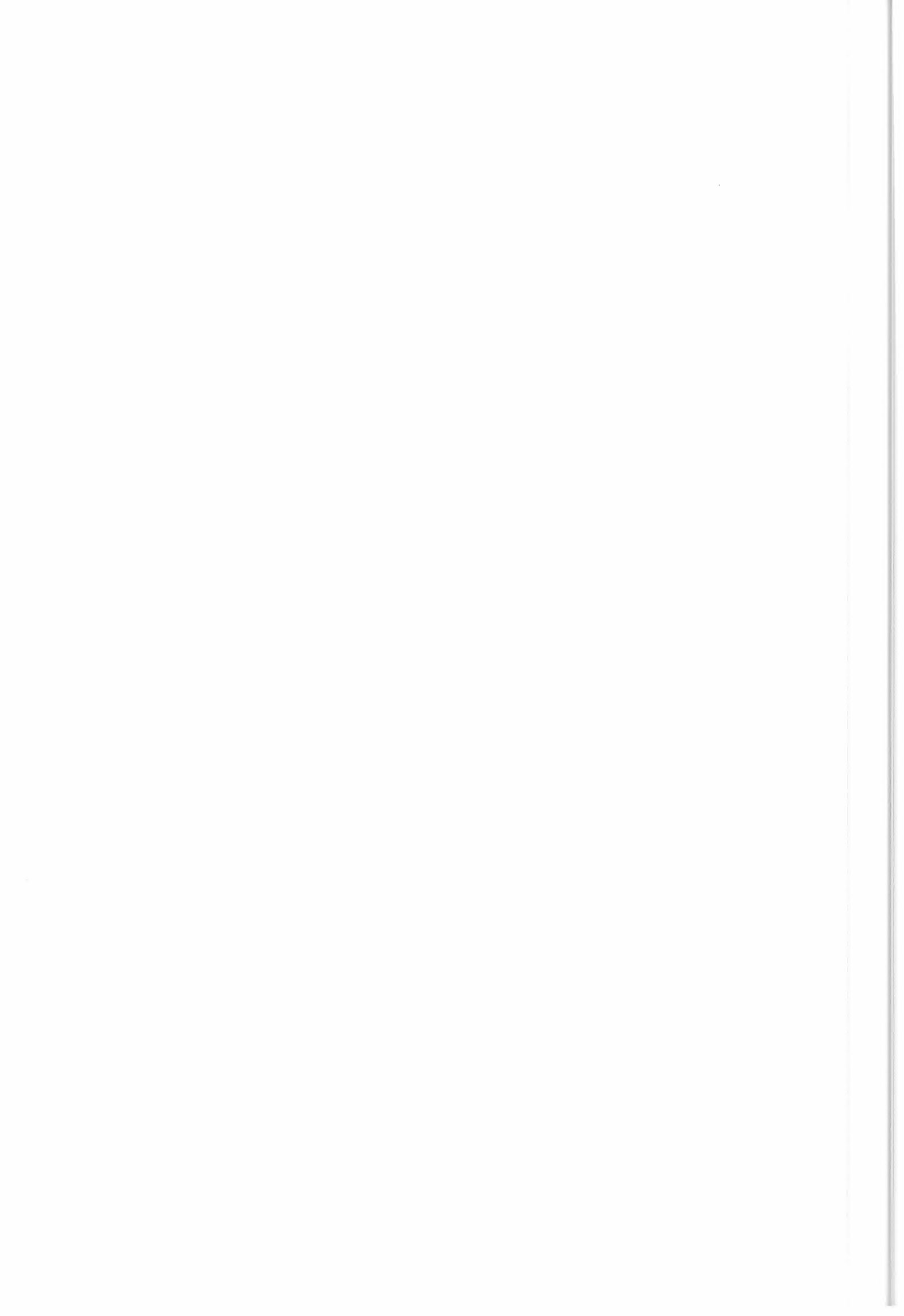
ENVISAT FOS
TOS-ONC (Computer Services)

p. 4 of 4

Activity Legend:
 Planned (not started) [diagonal lines]
 In Progress [horizontal lines]
 Completed [solid black]
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Milestones:
 Planned [downward arrow]
 Completed [upward arrow]
 External Interfaces [circle with dot]
 Other Interfaces [circle with cross]
 Baseline [circle with horizontal line]

Title	1997	1998	1999	2000	2001	Comments
MILESTONES	J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J J A M J J A S O N D	J F M A M J J A S O N D	
Mission Planning	SVT 0 05	1723 SVT 0	01 29 FOSIR 1519 SVT 1	2315 SVT-2 07 02 SVT 3 2928	30 JUN LAUNCH	SVT-2: a series of 1, 2 & 3 day/night tests
		Hardware & Software Procurement Hardware Delivery Hardware installation O.S. Software installation System Ready 2727	Procure 2nd MPS machine Hardware Delivery Hardware installation O.S. software installation System ready 2828	Check implications of installing 2nd M/C & prepare reqt spec (TOS-GCM) 1714		





TOS-PM

STATUS 12APR00
Printed 12APR00

ENVISAT FOS

TOS-GS (Ground Station Engineering)

p. 1 of 5

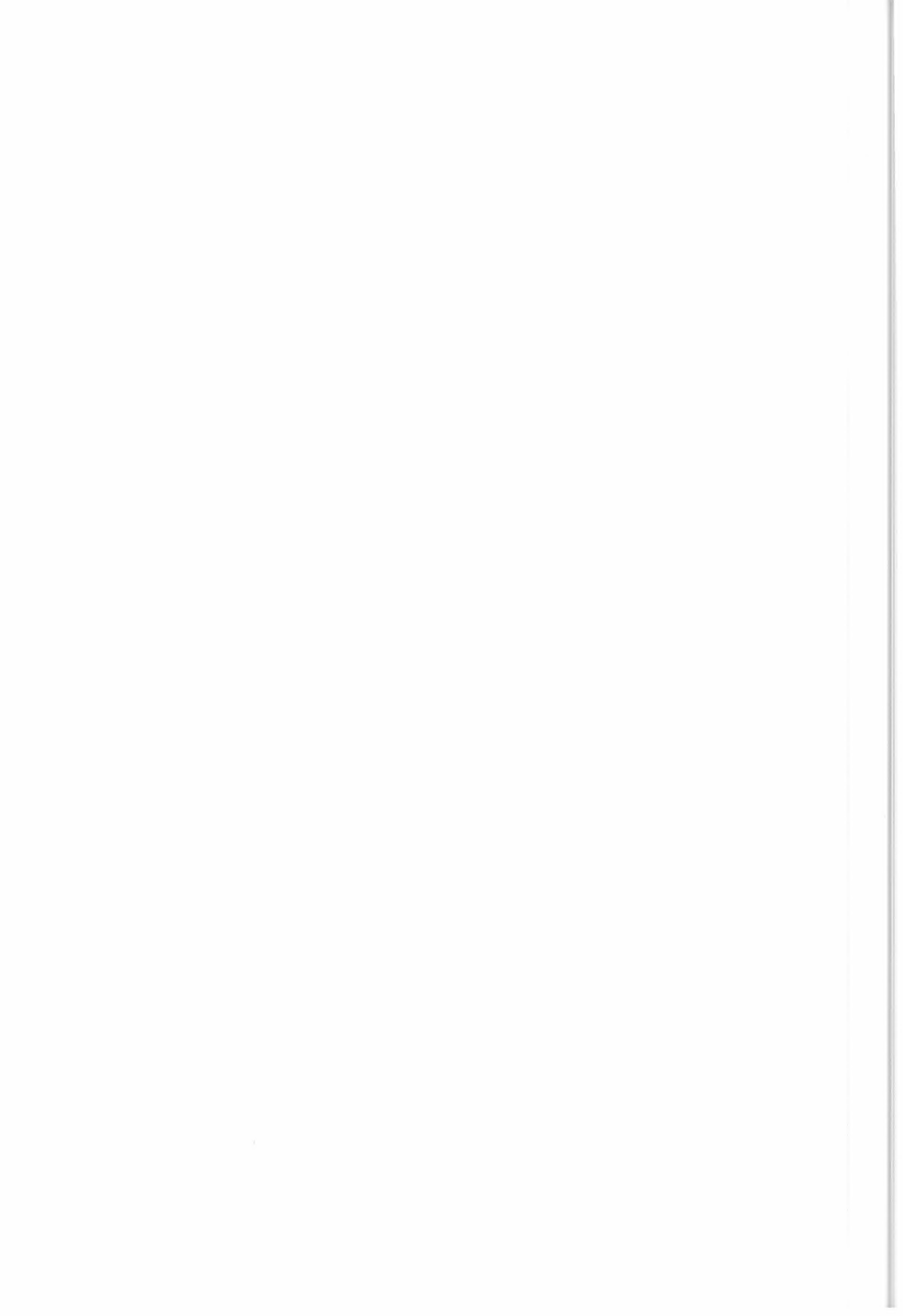
Activity Legend:

- Planned (not started)
- In Progress
- Completed
- Baseline

Milestones:

- Planned
- Completed
- External Interfaces
- Other Interfaces
- Baseline

Title	1996	1997	1998	1999	2000	2001	2002	Comments
1. KIRUNA BUILDING	<p>J J A S O N D</p> <p>Establish site 26 Building Start</p>	<p>J F M A M J J A S O N D</p> <p>30 Building Finished 16 Building Accepted</p>	<p>J F M A M J J A S O N D</p> <p>1723 SVT 0</p>	<p>J F M A M J J A S O N D</p> <p>LIT LIT</p>	<p>J F M A M J J A S O N D</p> <p>01 29 FOSIR 1519 SVT 1</p>			<p>SVT-2: a series of 1, 2 & 3 day/night tests</p>





TOS-PM

STATUS 12APR00
Printed 12APR00

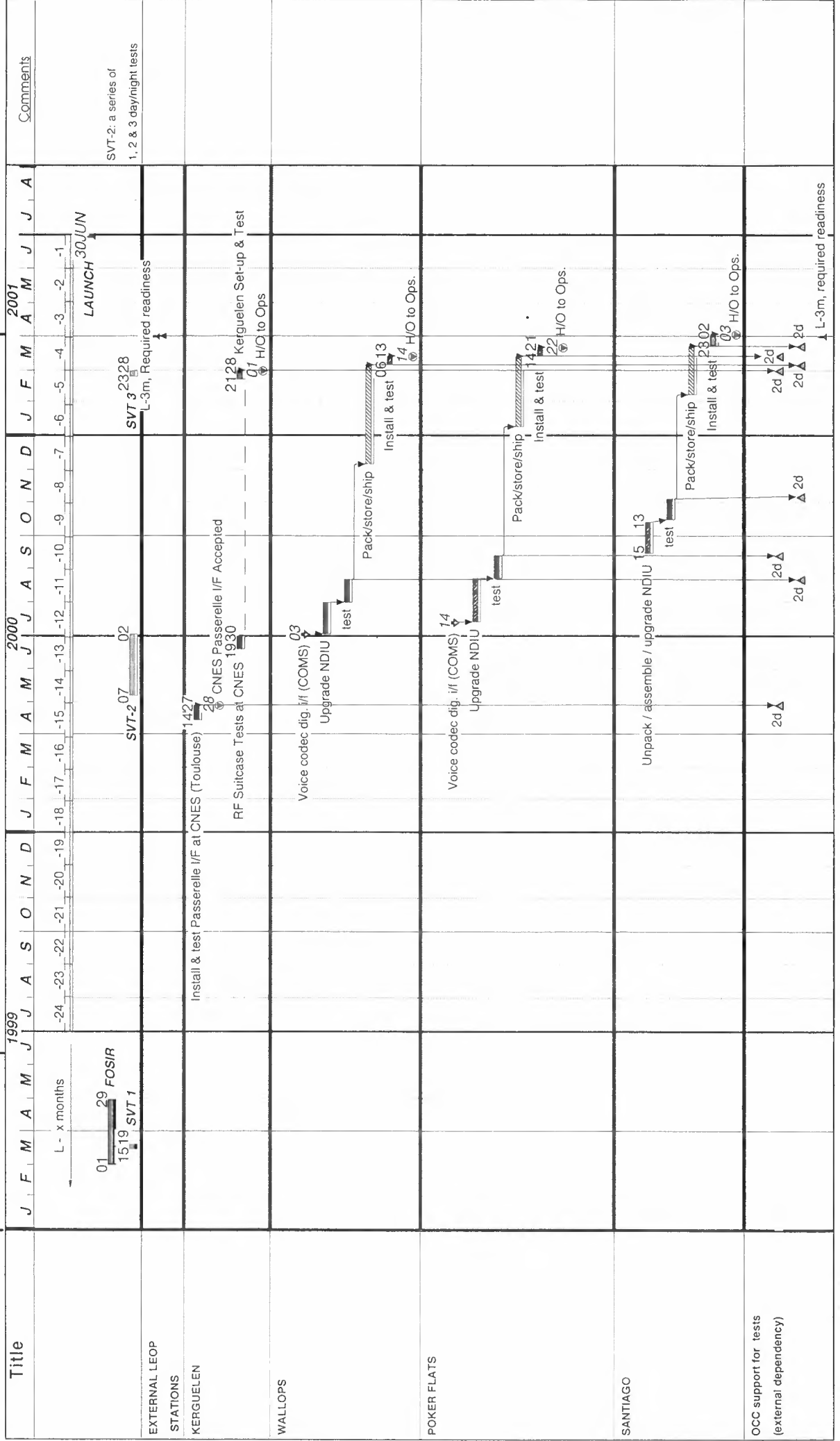
ENVISAT FOS

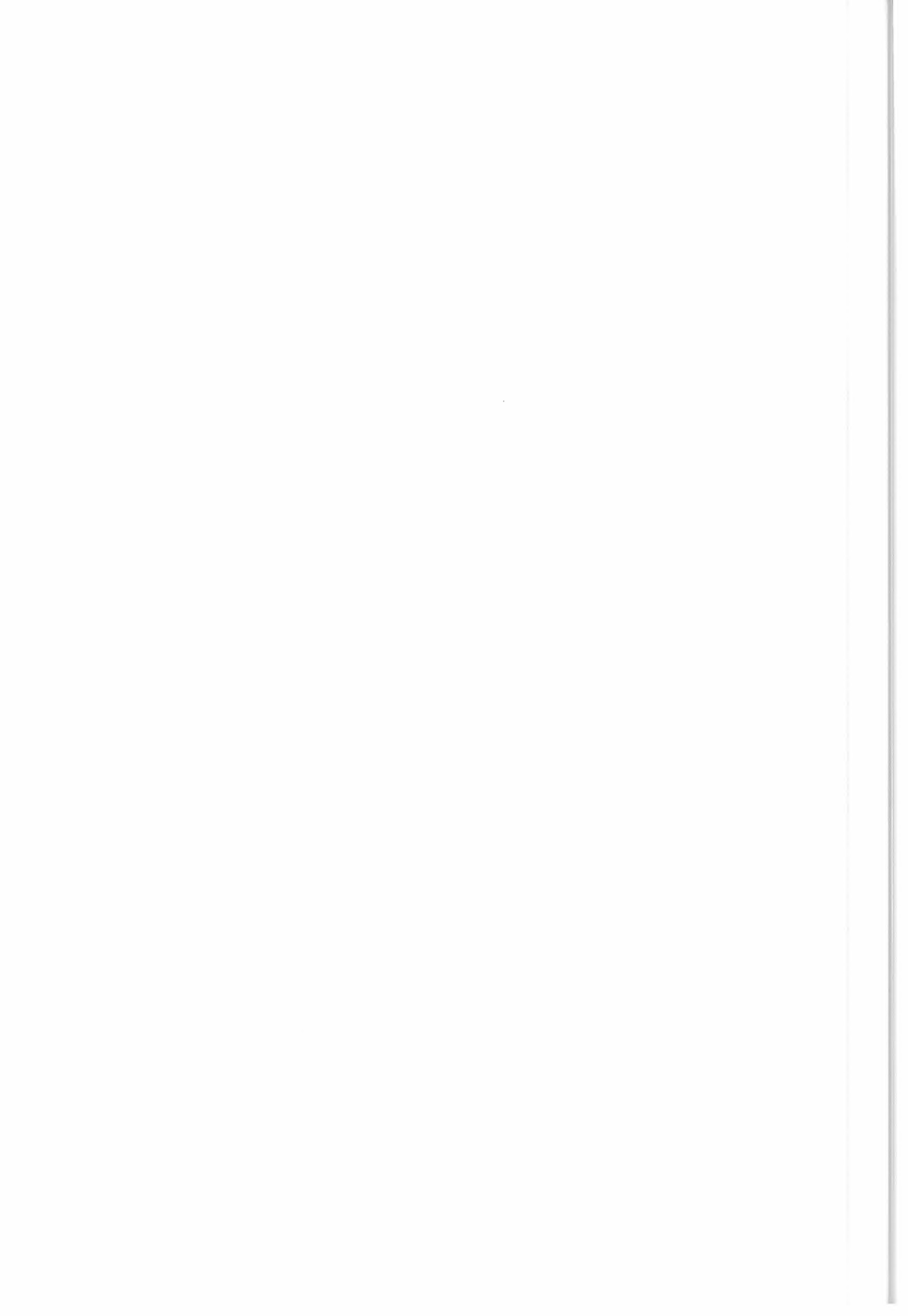
TOS-GS (Ground Station Engineering)

p. 2 of 5

Activity Legend:
 Planned (not started) ▨
 In Progress ▩
 Completed ▪
 External Interfaces ↕
 Other Interfaces ↔
 Baseline ▭

Milestones:
 Planned (not started) ▽
 Completed ▾
 External Interfaces ↕
 Other Interfaces ↔
 Baseline ▭







TOS-PM

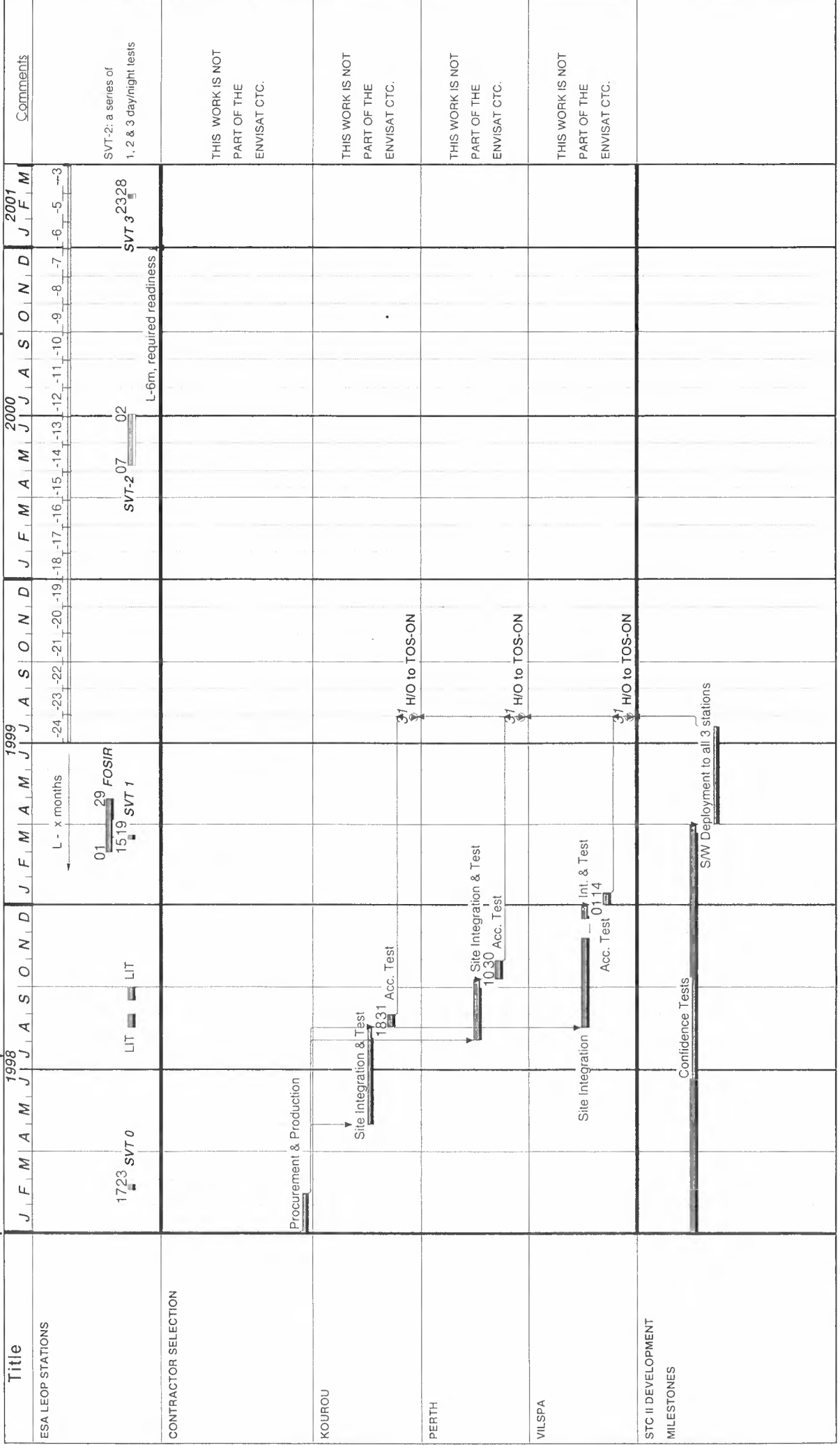
STATUS 12APR00
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ENVISAT FOS

TOS-GS (Ground Station Engineering) p. 3 of 5

Activity Legend:
 Planned (not started) ▽
 In Progress ▾
 Completed ▹
 External Interfaces ◊
 Other Interfaces ○
 Baseline □

Milestones:
 Planned (not started) ▽
 Completed ▹
 External Interfaces ◊
 Other Interfaces ○
 Baseline □



Title

ESA LEOP STATIONS

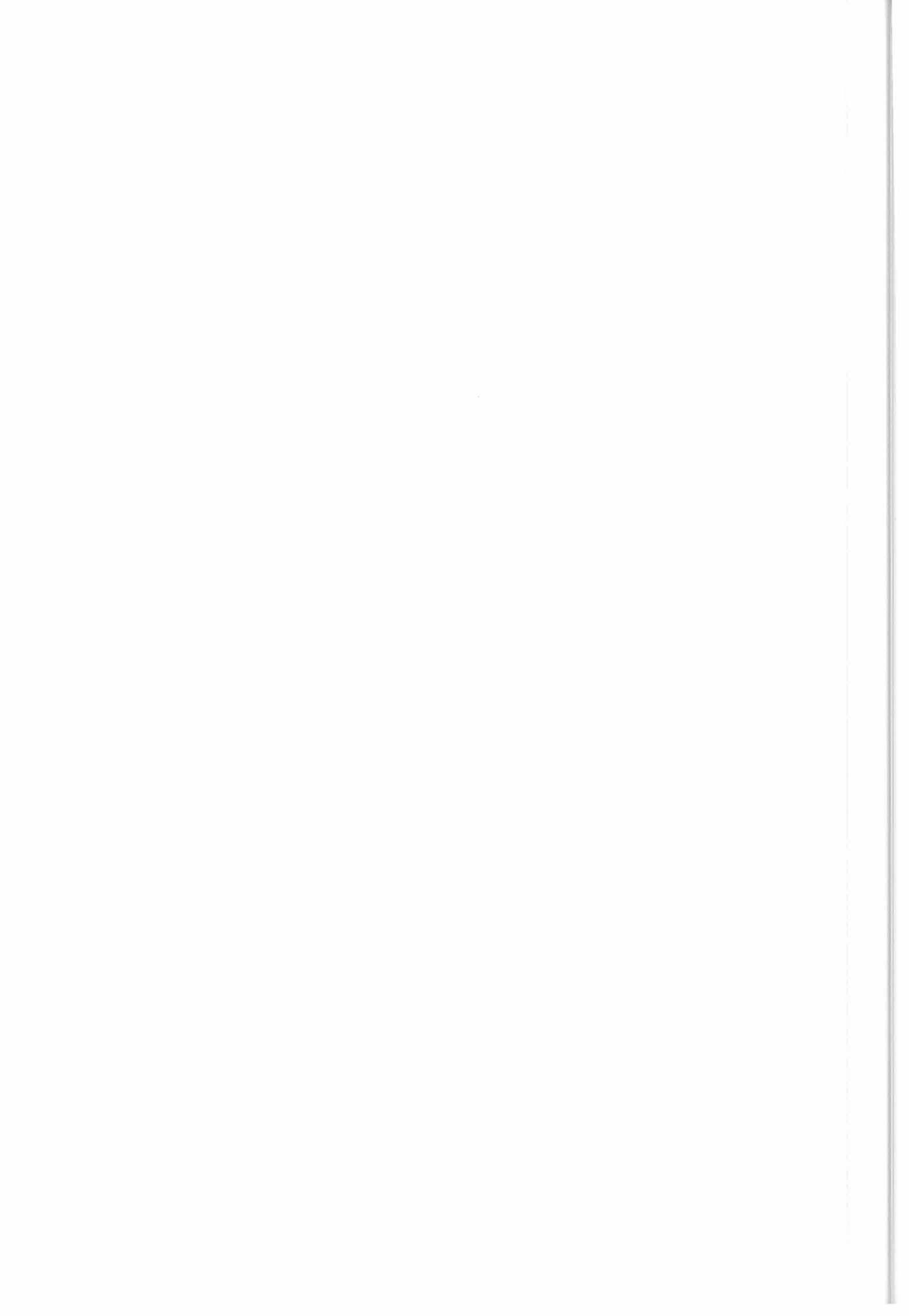
CONTRACTOR SELECTION

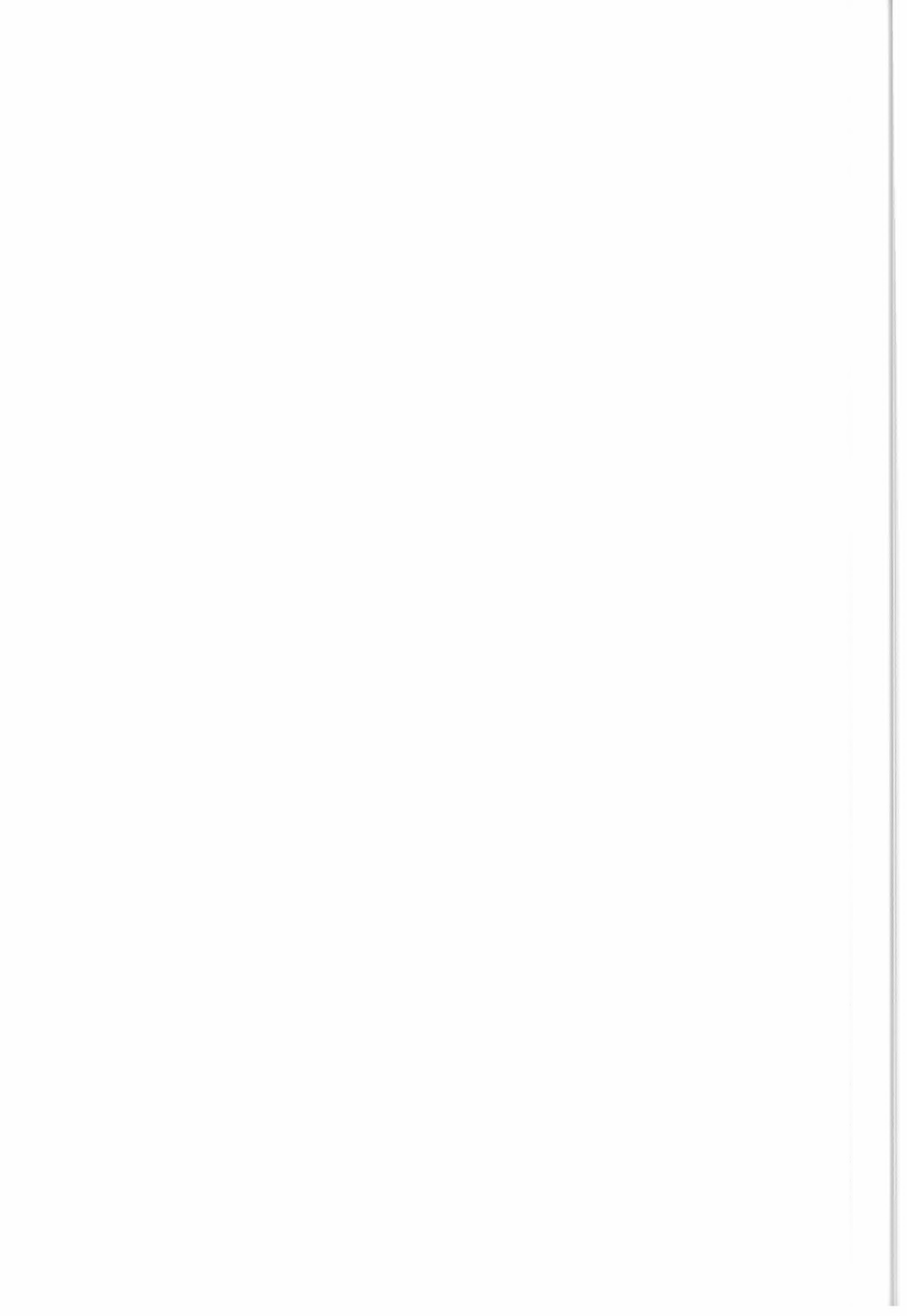
KOUROU

PERTH

VILSPA

STC II DEVELOPMENT MILESTONES







TOS-PM

STATUS 12APR00
Printed 12APR00

ENVISAT FOS

TOS-GS (Ground Station Engineering)

p. 5 of 5

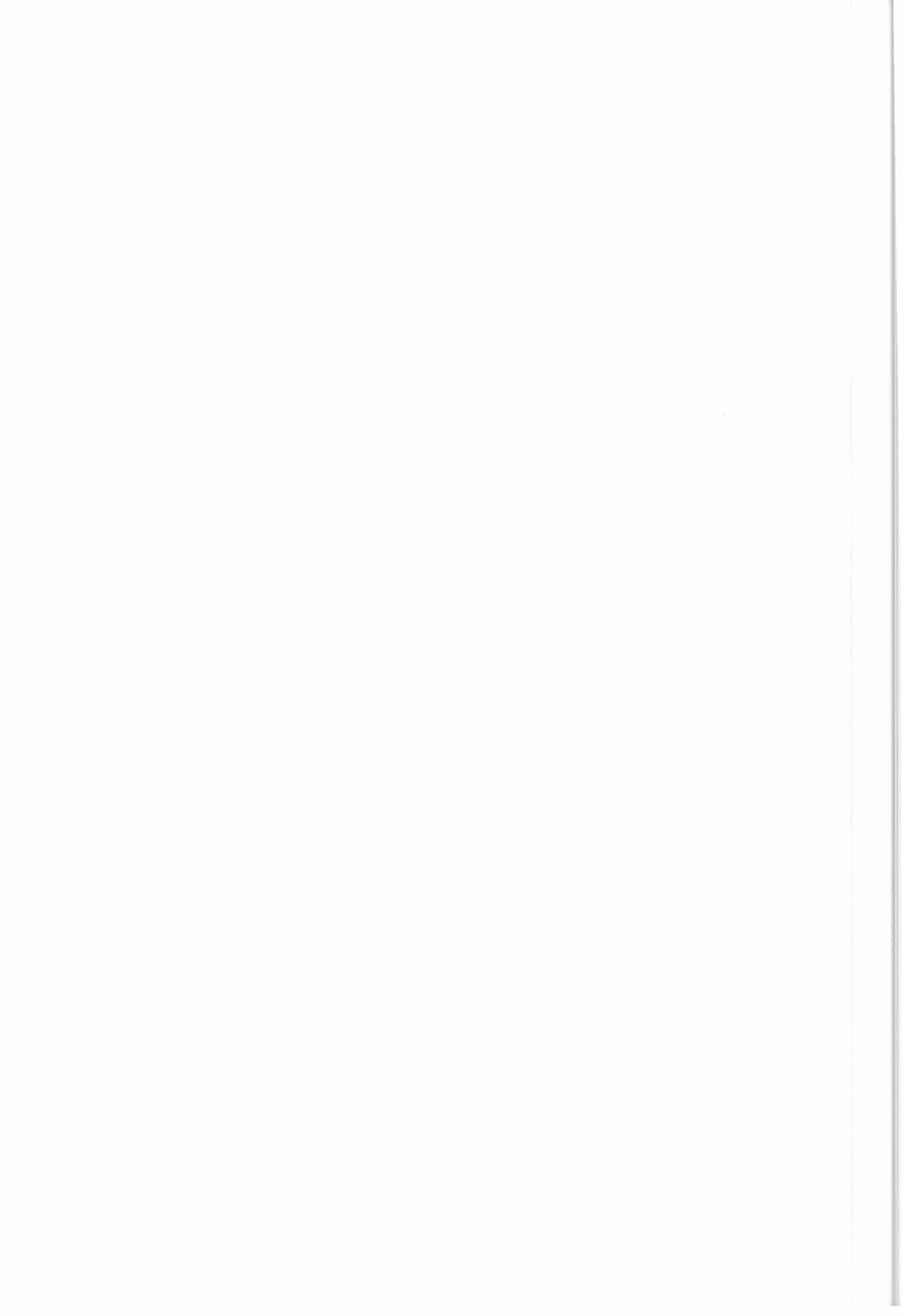
Activity Legend:

- Planned (not started)
- In Progress
- Completed
- Baseline

Milestones:

- Planned
- Completed
- External Interfaces
- Other Interfaces
- Baseline

Title	1998	1999	2000	2001	Comments
	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	
S-BAND RFCT	1723 SVT 0	01 1519 SVT 1 29 FOSIR	SVT-2 07	SVT 3 2328	SVT-2: a series of 1, 2 & 3 day/night tests
EXTERNAL DEPENDENCIES		S-Band suitcase	S-BAND RFCT S-Band RF Compatibility Test		
EXTERNAL DEPENDENCIES			EXTERNAL DEPENDENCIES		





TOS-PM

STATUS 12APR00
Printed 12APR00

ENVISAT FOS

TOS-ON (Network Operations)

p. 1 of 1

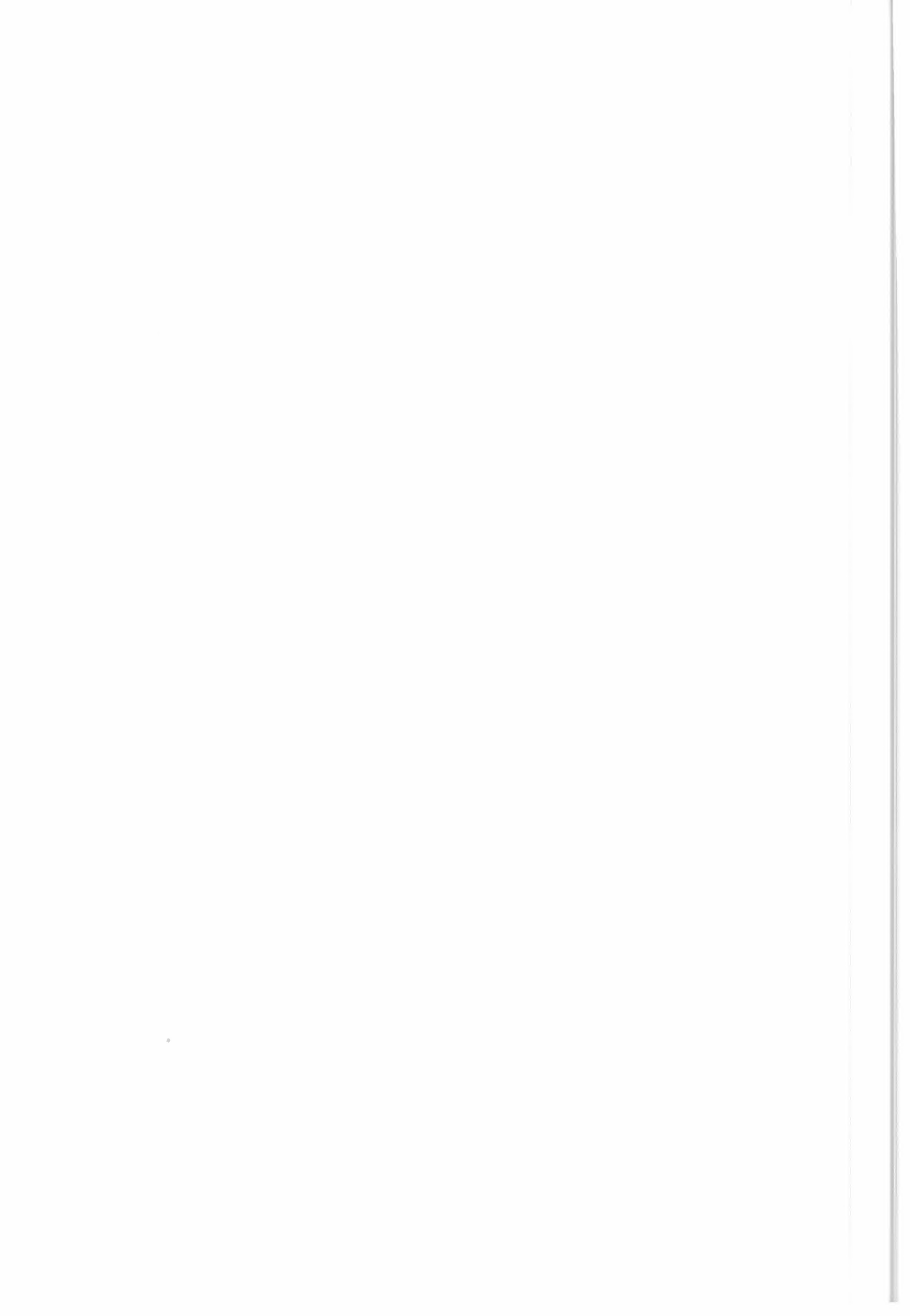
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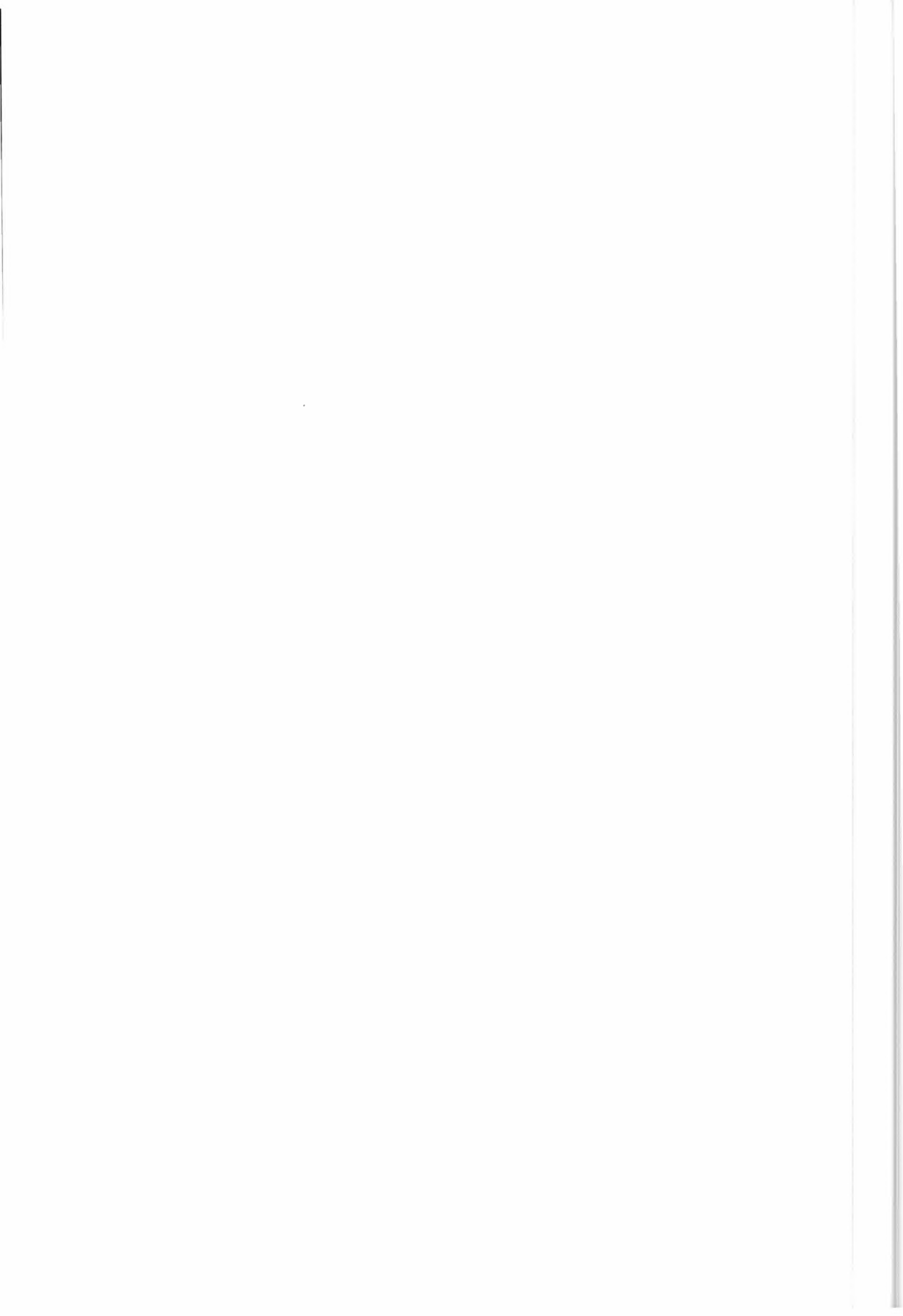
- Planned (not started)
- In Progress
- Completed
- Baseline

Milestones

- Planned
- Completed
- External interfaces
- Other interfaces
- Baseline

Title	1999	2000	2001	Comments
	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O	
TOS-GS RELATED ACTIVITIES	15 19 SVT 1	SVT-2 07	SVT 3 23 28	SVT-2: a series of 1, 2 & 3 day/night tests
Kiruna Upgrade	H/O to TOS-ON	Kerguelen Set-up & Test 2128		
	H/O to TOS-ON	Wallops NDIU inst. & Test 0613		
	H/O to TOS-ON	Pokerflats NDIU inst. & Test 1421		
		Santiago NDIU inst. & Test 2302		
TOS-ON ACTIVITIES	System Acc. Tests	03 Handover to TOS-ON (Sin. Ready for ERS & ENVISAT Old 15m Antenna)		
	M+C Procurement / Tailoring / Commissioning	Final Clean-up & Acceptance		
	CSMC Training & Acc	CSMC Enhancements (DATRON I/F)		
	Kiruna Upgrade Support 09	SSC 2nd Antenna Inst. & Comm		
TOS-ON SVT Support	15 19 SVT 1	SVT-2 07	SVT 3 23 28	
TOS-ON LEOP Support	Discussions	Draft NCD Avail. (L-9)	Draft NOP Avail. (L-6)	Final NCD/NOP Avail. (L-3)
TESTING	dr 1	NOP/NCD Production	Station Tailoring & Tests	Tracking Campaign
		30 Final MIRD to External Agencies	External LEOP Station Installation & Testing	Station Performance Tests
			Prepare Mission Readiness Test Plan	MRTs
			ENVISAT Simulations	MRT Report
Documentation		iss.1.0	Final	Training & Sims Report (T&SR)
		Simulator ATP Prep., SVT Support & SIMS Preparation		
		Install in KOUROU Install in PERTH Install in VILSPA		
	PSS software	PSS ATP & ATR		
		PSS ATP Production & Acc. Test		
		Prepare PSS User Guide		
		Ground Facilities Configuration Document (GFCD)		

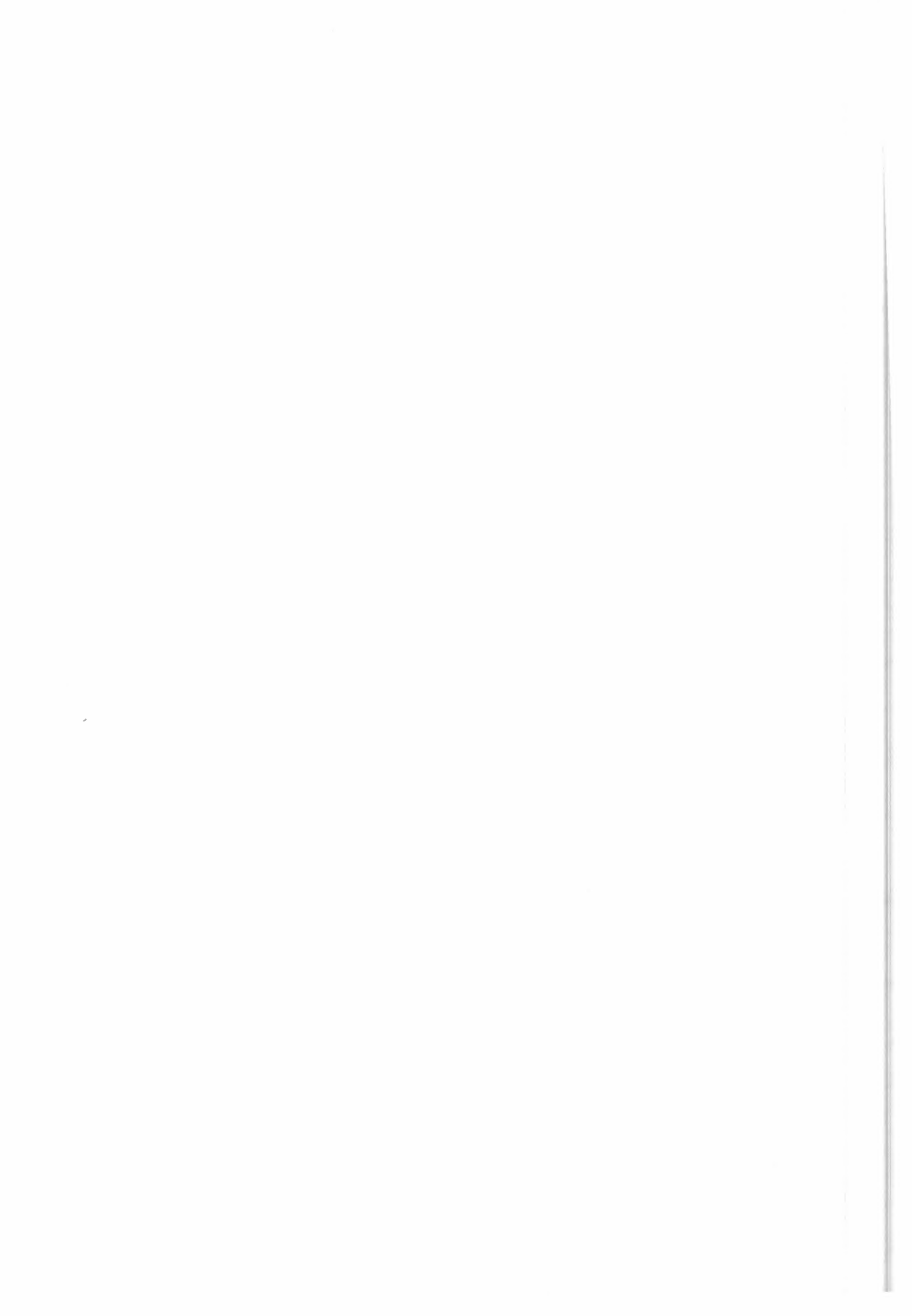




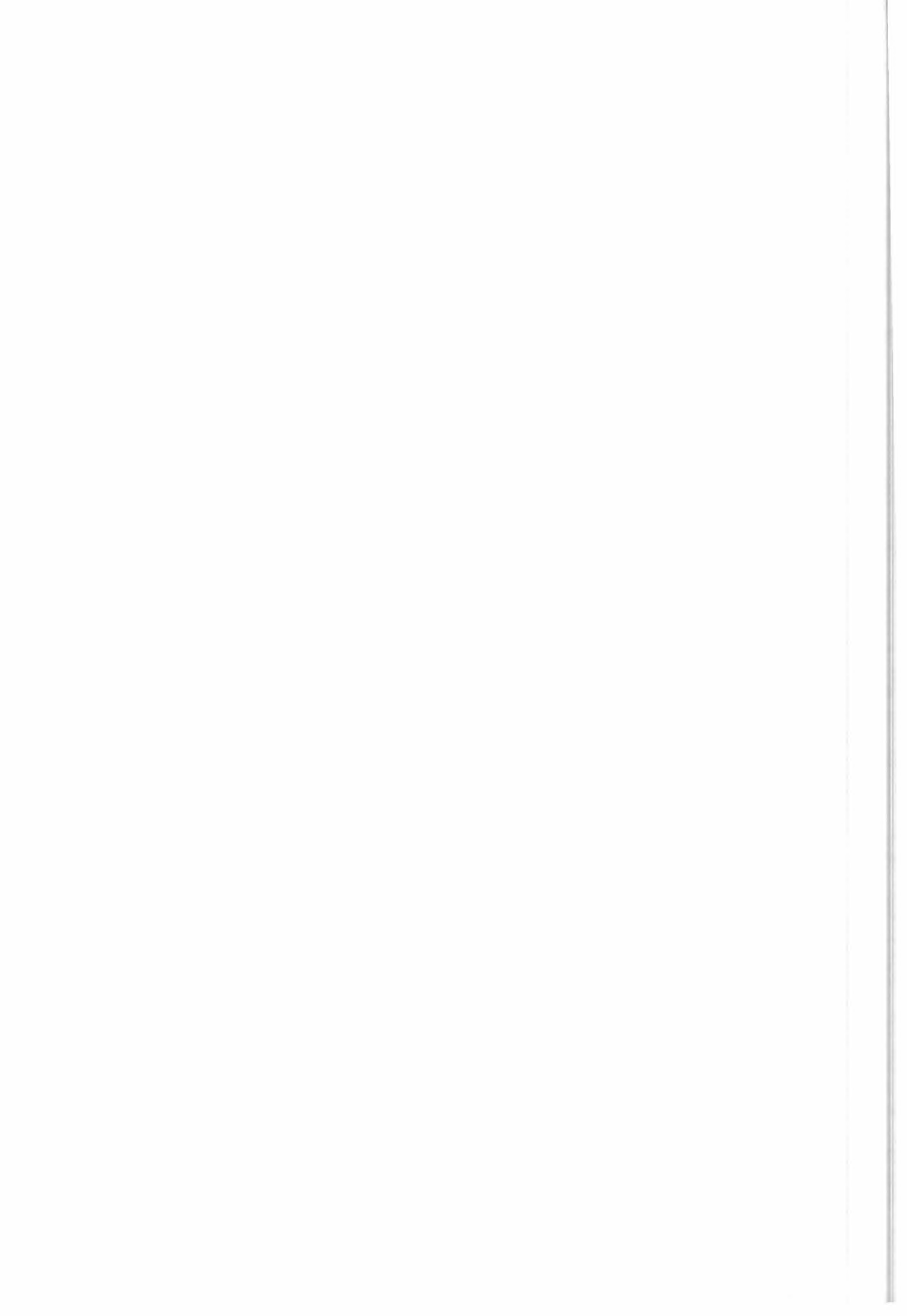
8 ENVISAT ACTION ITEMS

8.1 ENVISAT FOS Action Items

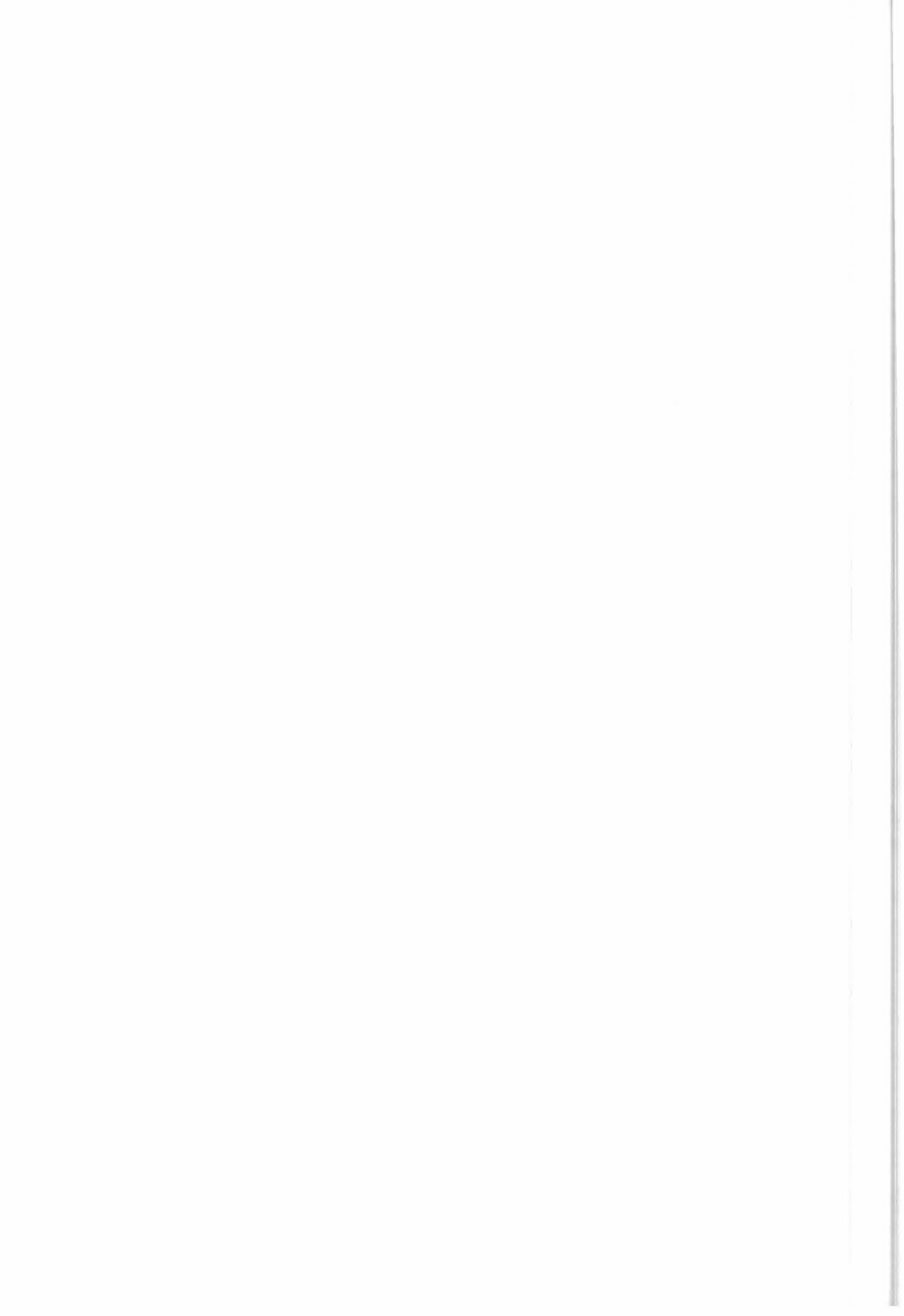
Reference	Title	Description	Actionee	Due Date	Status	Comments
00/01/10 DS-IC.29 DS-IC.29-00001	Internal Coordination Meeting - Communications Support	IM & NT to investigate the PEP key signature system & propose a use of this for the ENVISAT external interface. This includes investigation of: - Software involved - Key distribution mechanism - Tests involved	Inigo Mascaraque/esoc/ES Talbot/esoc/ESA	2000/01/26	Expired Open	
DS-IC.29-00002	Internal Coordination Meeting - Communications Support	LOR to determine what is the the operating environment in use at all sites that will interface with the FOCC External Server. He should also provide a list of 'system' contact persons for these sites. This information to be provided to IM, NT & NS.	Laurence O'Rourke/esoc/ESA	2000/01/26	Expired Open	
DS-IC.29-00003	Internal Coordination Meeting - Communications Support	NS to follow the progress & ensure the resolution by the PDS of those FOS interface related issues that still remain to be addressed in both PDHS-K & PDHS-E.	Nigel Stout/esoc/ESA	2000/02/10	Expired Open	
00/01/21 DS-IC.30 DS-IC.30-00001	Internal Coordination Meeting - Communications Issues	TOS-OGE to initiate action to reduce the current bit rates between ESOC and PDS sites (presently 8kbps to PDS / 64kbps from PDS) in order to ameliorate costs (lead-time 8-10 days.)	Palle Soerensen/esoc/ESA	2000/02/18	Expired Open	
DS-IC.30-00002	Internal Coordination Meeting - Communications Issues	TOS-ONF to prepare an Envisat specific communications network diagram.	Nigel Stout/esoc/ESA	2000/02/18	Expired Open	
00/02/10 DS-IC.31 DS-IC.31-00001	Internal Coordination Meeting - FOCC External Server Security	IM to investigate & provide a memo/report detailing the following: a) the PGP options on the market w.r.t. costs, ease of implementation & operating systems they support b) provide a conclusion as to which of the options from a) would be most suitable for the Envisat mission & why this conclusion has been reached c) based upon the known software environments in the external sites, define what work would be required to be carried out by an external site (w.r.t. software & hardware) for PGP to be implemented in NT to investigate & provide a memo/report detailing the following : (a) the SECURE SHELL options on the market w.r.t. costs, ease of implementation & operating systems they support (b) provide a conclusion as to which of the options from (a) would be most suitable for the ENVISAT mission & why this conclusion has been reached. (c) based upon the known software environments in the external sites define what work would be required to be carried out	Inigo Mascaraque/esoc/ES	2000/03/15	Expired Open	
DS-IC.31-00002	Internal Coordination Meeting - FOCC External Server Security	NT to investigate & provide a memo/report detailing the following : (a) the SECURE SHELL options on the market w.r.t. costs, ease of implementation & operating systems they support (b) provide a conclusion as to which of the options from (a) would be most suitable for the ENVISAT mission & why this conclusion has been reached. (c) based upon the known software environments in the external sites define what work would be required to be carried out	Neil Talbot/esoc/ESA	2000/03/15	Expired Open	



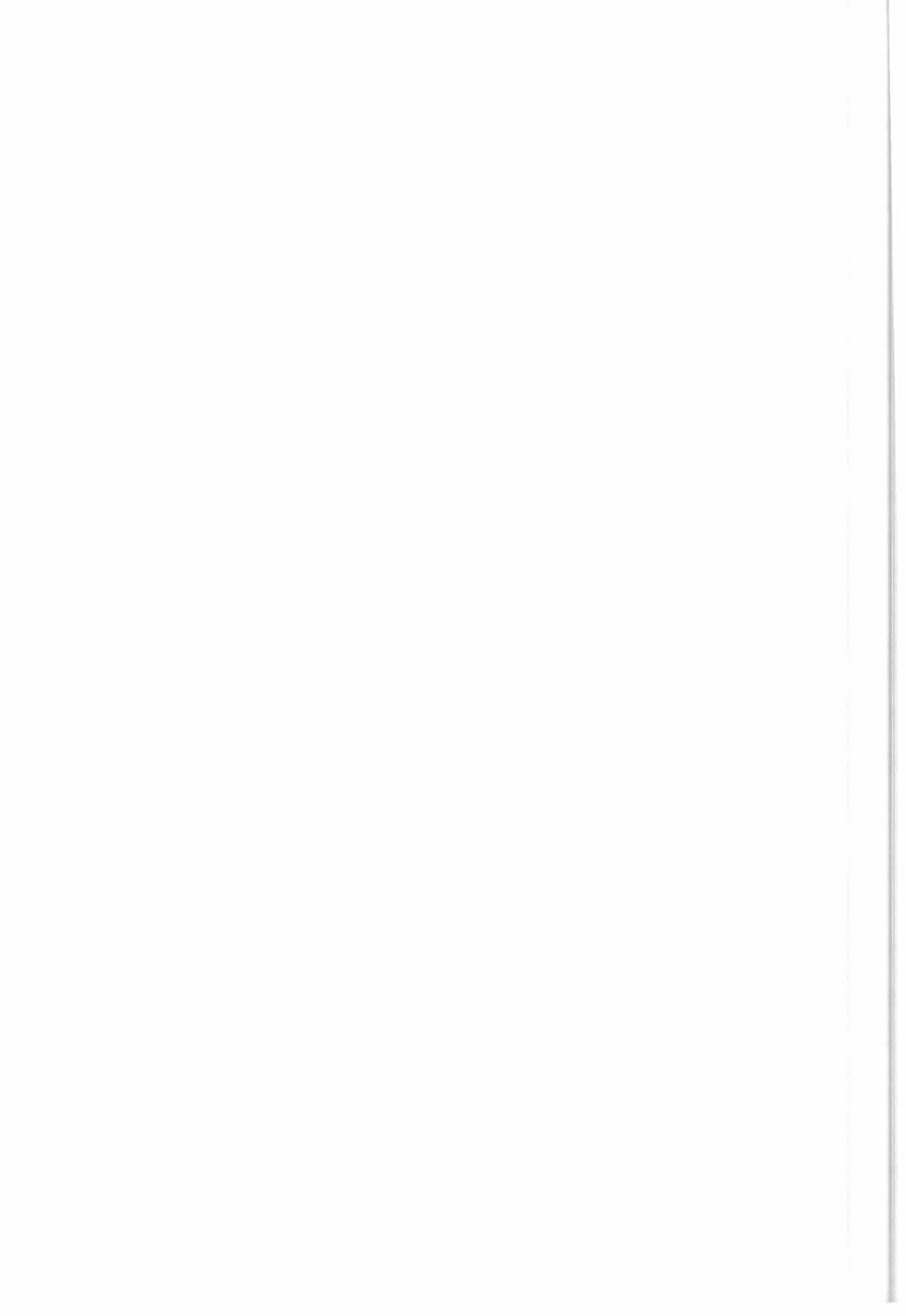
Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-IC.31-00003	Internal Coordination Meeting - FOCC External Server Security	To aid in a final choice being made as to which approach to Inigo use, LO raised an action on both NT & IM to compare the two approaches (following completion of each of their two actions) and create a table of advantages & disadvantages against its use for the ENVISAT FOS external server.	Inigo Mascaraque/esoc/ES Talbot/esoc/ESA	2000/03/15	Expired Open	
00/03/28 DS-IC.32 DS-IC.32-00001	ESOC/ESTEC Coordination Meeting	TOS-GCM to assess the data throughput requirements of the external centres that will access the PAS.	Max Pignede/esoc/ESA	2000/04/28	Assigned Open	
DS-IC.32-00002	ESOC/ESTEC Coordination Meeting	TOS-ON to arrange the next Envisat communications meeting with the Project as soon as an ESA-wide network security policy has been agreed.	Manfred Bertelsmeier/esoc/ES	2000/04/28	Assigned Open	
DS-IC.32-00003	ESOC/ESTEC Coordination Meeting	TOS-GCM to propose a workstation-based solution for improving the transfer and display of mission data to the following sites: ESTEC, MATRA Toulouse and Kourou.	Max Pignede/esoc/ESA	2000/04/28	Assigned Open	
96/05/20 DS-RV.05 DS-RV.05-00001	FOCC URD Issue 4 Review	a) To define the transfer of the database from the FOCC to the mini-FOCC and b) to propose and cost a mechanism for TM transfer from the mini-FOCC to the FOCC (for Kiruna).	Max Pignede	97/06/07	Closed	Replaces RV.05 AI-043
97/07/09 DS-IC.06 DS-IC.06-00001	Internal Coordination Meeting	DPD to check that the FOCC SW is compatible with TMP for KRU/PER/Vilspa.	Max Pignede	97/07/20	Expired Open	Replaces IC-06 AI-07.
97/09/09 DS-IC.18 DS-IC.18-00001	ESOC/ESTEC Coordination Meeting	SCED to ensure that NDIU spares (preferably units) are available at the remote site.	Thomas Beck	98/09/30	Closed	Replaces IC.18 AI-10
DS-IC.18-00002	ESOC/ESTEC Coordination Meeting	MOD to verify whether plots can be made by PLEVAL (Unzalu s/w).	Andreas Hedqvist	99/08/31	Closed	Replaces IC.18 AI-12. Actionee changed from Mr A. Rudolph to Mr A Hedqvist at the request of Mr Rudolph.
98/03/26 DS-IC.20 DS-IC.20-00001	ESOC/ESTEC Coordination Meeting	TOS-GC to clarify the position regarding the sending of STDMs to Kiruna (currently blocked).	Max Pignede	98/08/31	Expired Open	Replaces IC.20 AI-05.
DS-IC.20-00002	ESOC/ESTEC Coordination Meeting	TOS-OGE to prepare a first draft of the FOS system level availability / reliability document.	Laurence O'Rourke	99/09/30	Expired Open	Replaces IC.20 AI-06. On-going.



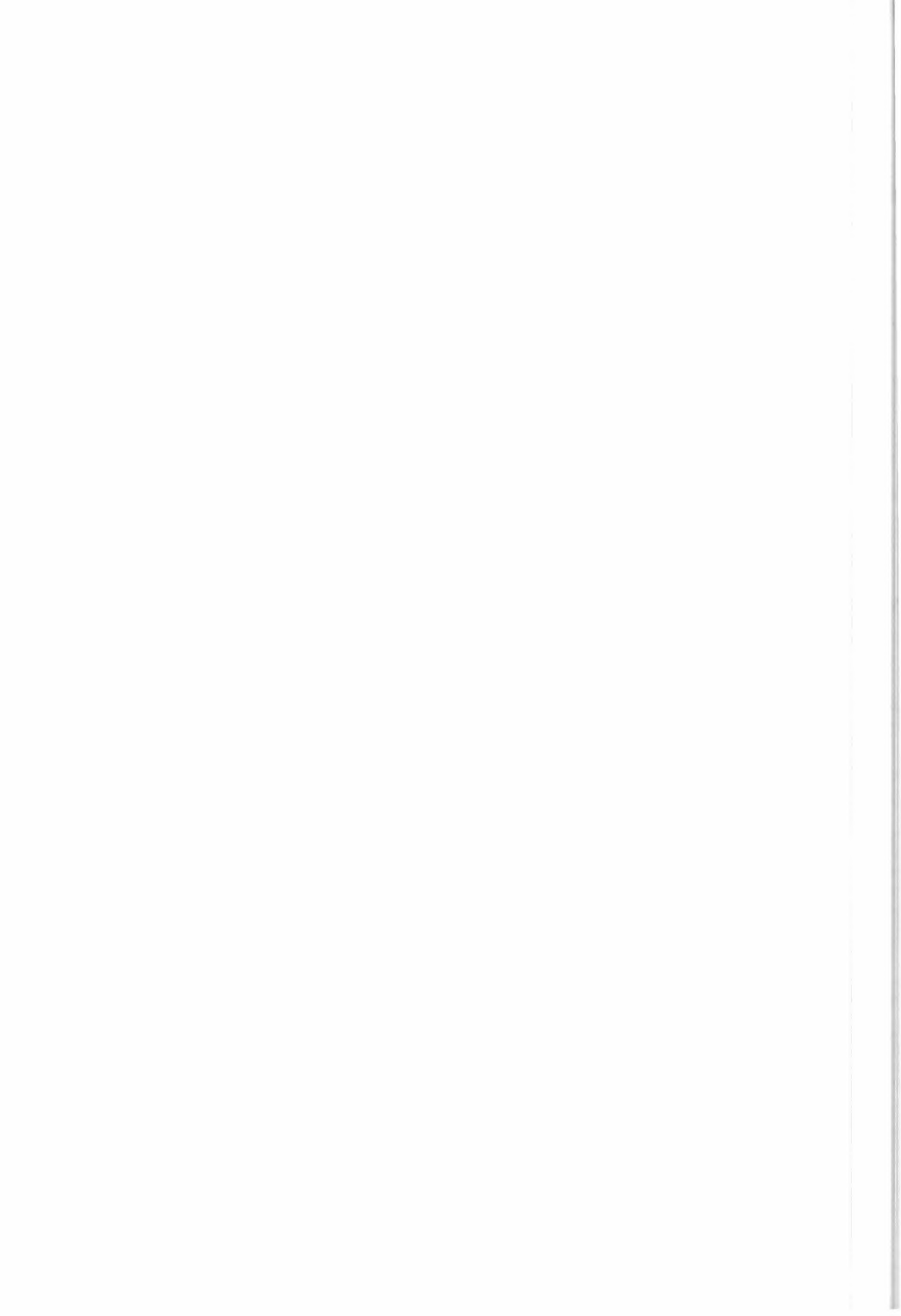
Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-IC.20-00003	ESOC/ESTEC Coordination Meeting	TOS-OFS to investigate the form of the I/F to the NASA station at WALLOPS ISLAND for the transmission of tracking data.	Thomas Beck	99/09/30	Expired Open	Replaces IC.20 AI-15.
98/06/18 DS-IC.10 DS-IC.10-00001	Internal Coordination Meeting	TOS-GC to ensure that the FOCC can support the NASA/CNES I/Fs via the OPSNET FTP.	Max Pignede	98/08/31	Expired Open	Replaces IC-10 AI-05.
DS-IC.10-00002	Internal Coordination Meeting	TOS-GSP to coordinate installation of mini control centre at Willy Wittwer, Max Kiruna, including FOCC I/F aspects.	Willy Wittwer, Max Pignede	98/08/31	Closed	Replaces IC-10 AI-06.
98/07/10 DS-IC.21 DS-IC.21-00001	ESOC/ESTEC Coordination Meeting	ESOC to check if the mass properties information supplied by the Project is sufficient.	Xavier Marc	98/08/14	Expired Open	Replaces IC.21 AI-11.
98/09/15 DS-IC.11 DS-IC.11-00001	Internal Coordination Meeting	TOS-OFS to establish the precise nature of the interface between the FOCC and LEOP stations (e.g. NCTRS via PMC?).	Thomas Beck	99/10/02	Expired Open	Replaces IC-11 AI-02.
98/10/29 DS-IC.22 DS-IC.22-00001	ESOC/ESTEC Coordination Meeting	Project to arrange contact points at ESTEC and Dornier as part of SVT-2 preparations.	Francois Spoto	98/11/15	Closed	Replaces IC.22 AI-01.
DS-IC.22-00002	ESOC/ESTEC Coordination Meeting	TOS-GC to produce the Web-SPEVAL SOW and to supervise the production of the ICD (with ANITE).	Max Pignede	99/07/31	Closed	Replaces IC.22 AI-02.
98/12/15 DS-IC.23 DS-IC.23-00001	ESOC/ESTEC Coordination Meeting	TOS-GF to undertake a review of ESOC's collision avoidance strategy, including an assessment of alternative sources of relevant radar tracking data.	Xavier Marc	99/10/31	Expired Open	Replaces IC.23 AI-01. On-going.
DS-IC.23-00002	ESOC/ESTEC Coordination Meeting	TOS-OGF to identify the Artemis Project contact point at ESOC.	Palle Soerensen	99/01/15	Closed	Replaces IC.23 AI-04.
DS-IC.23-00003	ESOC/ESTEC Coordination Meeting	Project to send IST timeline to F. Diekmann.	Francois Spoto	99/01/15	Closed	Replaces IC.23 AI-05.
99/02/10 DS-IC.24 DS-IC.24-00001	DVVP Review Meeting	Joint action: to review the GSOV and DVVP procedures in order to identify additional ESOC tests to be supported by the PDS Contractor, and to include these in the corresponding GSOV SOW.	Franz Demond, Laurence O'Rourke	99/03/11	Closed	Replaces IC.24 AI-01.



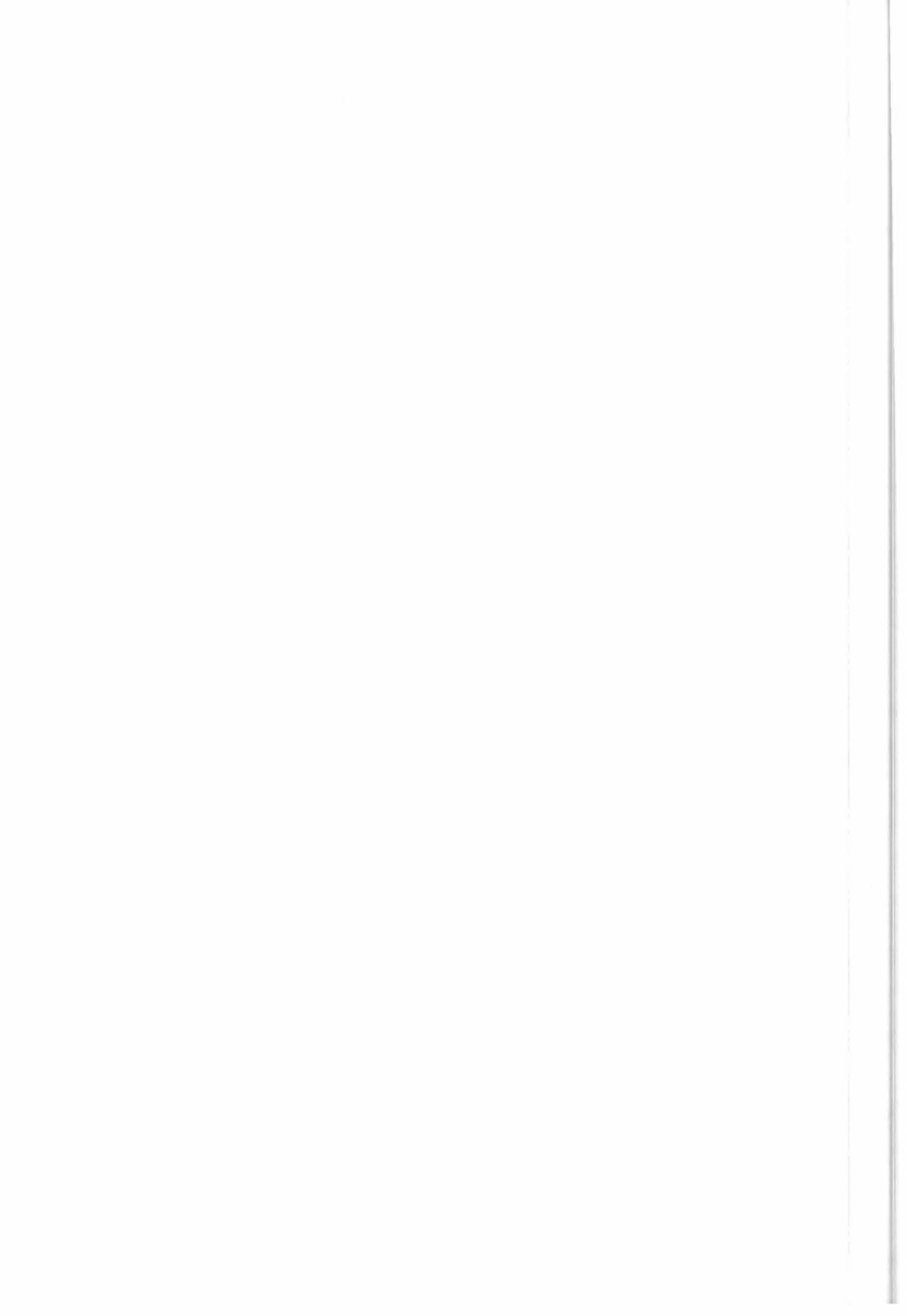
Reference	Title	Description	Actionee	Due Date	Status	Comments
99/03/04 DS-IC.25 DS-IC.25-00001	ESOC/ESTEC Coordination Meeting	Project to provide to X. Marc a list of USF PDS products (defining the reqs. for fast-delivery altimetry products).	Claude Garrido/estec/ESA	99/10/31	Expired Open	Replaces IC.25 AI-02. Action transferred from F. Spoto to C. Garrido at the PCM dated 990709.
DS-IC.25-00002	ESOC/ESTEC Coordination Meeting	GSM to verify the remote (X)PAS baseline with M. Pignede. Palle Soerensen	Palle Soerensen	99/10/31	Expired Open	Replaces IC.25 AI-03.
DS-IC.25-00003	ESOC/ESTEC Coordination Meeting	TOS-ONF to arrange the necessary telecons with the Project to discuss network security issues.	Juergen Fay	99/10/31	Expired Open	Replaces IC.25 AI-04.
DS-IC.25-00004	ESOC/ESTEC Coordination Meeting	Project to ensure that the NDIU is transported from MMS-B Francois Spoto to ESTEC.	Francois Spoto	99/06/30	Closed	Replaces IC.25 AI-05.
DS-IC.25-00005	ESOC/ESTEC Coordination Meeting	FD to respond to the SPR from Alcatel w.r.t NORAD elements.	Xavier Marc	99/03/31	Closed	Replaces IC.25 AI-06.
99/04/14 DS-RV.06 DS-RV.06-00001	FOSIR Ground Operations Panel Meeting	To contact ARTEMIS Project for indication of document changes (DRS / ENVISAT ICD).	Franz Demond	99/04/30	Closed	Replaces IR-GO AI-01.
DS-RV.06-00002	FOSIR Ground Operations Panel Meeting	To clarify with P Potin the precise nature of the issue to be resolved (Artemis return link EIRP).	Franz Demond	99/04/29	Closed	Replaces IR-GO AI-02.
DS-RV.06-00003	FOSIR Ground Operations Panel Meeting	To update the SMF / FOCC ICD to facilitate the transfer of image data to AO's.	Max Pignede	99/08/31	Expired Open	Replaces IR-GO AI-03.
DS-RV.06-00004	FOSIR Ground Operations Panel Meeting	To get the SMF / FOCC updated ICD accepted by the AO's.	Franz Demond	99/09/30	Expired Open	Replaces IR-GO AI-04.
DS-RV.06-00005	FOSIR Ground Operations Meeting	To supply / confirm the TBD's / TBC's in the document (FOCC / External User Generic ICD).	Max Pignede	99/09/15	Expired Open	Replaces IR-GO AI-05.
DS-RV.06-00006	FOSIR Ground Operations Panel Meeting	To update GS / FOCC ICD.	Thomas Beck	99/09/30	Expired Open	Replaces IR-GO AI-06.
DS-RV.06-00007	FOSIR Ground Operations Panel Meeting	To update FDS ICD.	Max Pignede	99/09/30	Expired Open	Replaces IR-GO AI-07.



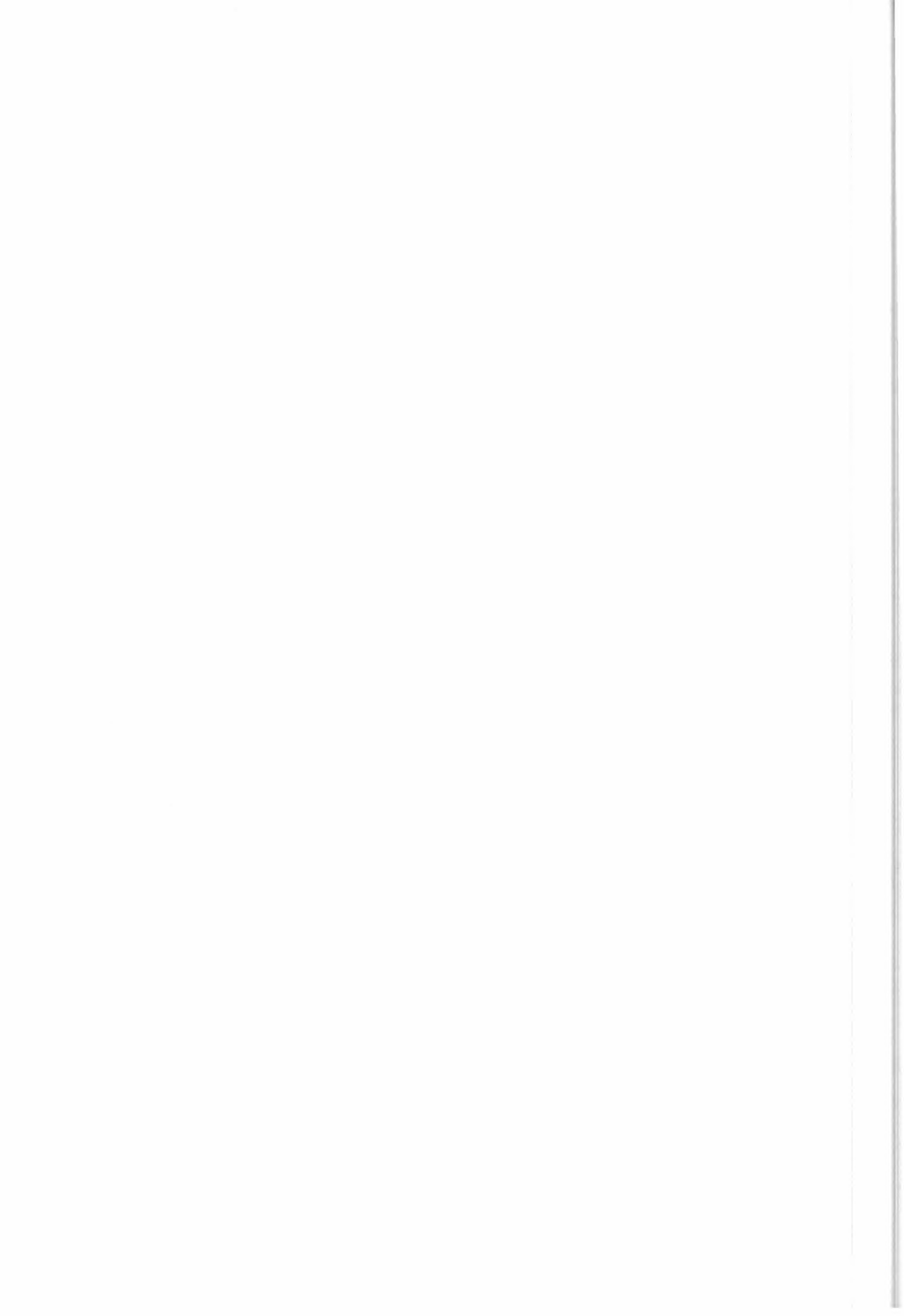
Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-RV.06-00008	FOSIR Ground Operations Panel Meeting	To get from ANITE an agreement to update the MPS / FOCC ICD.	Bruno Santos	99/04/19	Closed	Replaces IR-GO AI-08.
DS-RV.06-00009	FOSIR Ground Operations Panel Meeting	To clarify the rules with respect to the downlink configuration from the S/C to the GS (incl. the selection of links on-board).	Franz Demond	99/04/29	Closed	Replaces IR-GO AI-09.
DS-RV.06-00010	FOSIR Ground Operations Panel Meeting	To request from instrument contractor clarification vis-a-vis MERIS Dark Current Calibration.	Franz Demond	99/05/17	Closed	Replaces IR-GO AI-10.
DS-RV.06-00011	FOSIR Ground Operations Panel Meeting	To provide M Pignede with a list of document references specifying SMF I/F formats.	Daniel Mesples	99/04/15	Closed	Replaces IR-GO AI-11.
DS-RV.06-00012	FOSIR Ground Operations Panel Meeting	To review SMF I/F documents and provide his comments regarding their applicability.	Max Pignede	99/08/31	Expired Open	Replaces IR-GO AI-12.
DS-RV.06-00013	FOSIR Ground Operations Panel Meeting	To check if the PAS I/F format is available at ESOC, if yes, Max Pignede it should be proposed to M Paganini.	Max Pignede	99/08/16	Expired Open	Replaces IR-GO AI-13.
DS-RV.06-00014	FOSIR Ground Operations Panel Meeting	To check with ANITE that the DRS ICD contains sufficient information for them to continue.	Bruno Santos	99/04/22	Closed	Replaces IR-GO AI-14.
DS-RV.06-00015	FOSIR Ground Operations Panel Meeting	To check PDS requirements on time correlation update frequency.	Franz Demond	99/05/31	Closed	Replaces IR-GO AI-15.
DS-RV.06-00016	FOSIR Ground Operations Panel Meeting	To assess MIPAS maintenance activities for MPS.	Frank Diekmann	99/08/31	Closed	Replaces IR-GO AI-16.
DS-RV.06-00017	FOSIR Ground Operations Panel meeting	Input required regarding validity period concept.	Berthyl Duesmann	99/04/23	Closed	Replaces IR-GO AI-17.
DS-RV.06-00018	FOSIR Ground Operations Panel Meeting	To propose method for handling variable recording rates during SSR_TR recording.	Berthyl Duesmann, Tristan Simon	99/05/17	Closed	Replaces IR-GO AI-18.
DS-RV.06-00019	FOSIR Ground Operations Panel Meeting	To produce a list of movable commands, which will later be included in the MPS activity list.	Paul Bearman	99/07/31	Expired Open	Replaces IR-GO AI-19.



Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-RV.07-00001	FOSIR Validation Panel Meeting	To ensure that a formal DB tool / tools are installed for SPR Palle tracking of network & ground station issues (and enforce people to use it).	Soerensen/esoc/ESA	99/10/31	Expired Open	Replaces IR-VA AI-01. Action transferred from E. Perdrix to P. Soerensen at the PCM dated 990709.
DS-RV.07-00002	FOSIR Validation Panel Meeting	To raise an NCR on the faulty Kiruna station demodulator (AGC level).	Thomas Beck	99/04/23	Closed	Replaces IR-VA AI-02.
DS-RV.07-00003	FOSIR Validation Panel Meeting	To distribute the S/S test audit planning to the respective S/S managers and request them to provide appropriate test matrices / plans / procedures etc.	Eric Perdrix	99/04/30	Closed	Replaces IR-VA AI-03.
99/04/19 DS-RV.08						
DS-RV.08-00001	FOSIR Spacecraft Operations Panel Meeting	To define a scenario (24 hrs MPS test) based on current information, i.e. PO205 (DSS doc) + IOM's constraints + IST timeline, prerequisite for ESA internal meetings (TBC).	Frank Diekmann	99/05/17	Closed	Replaces IR-SO AI-01.
DS-RV.08-00002	FOSIR Spacecraft Operations Panel Meeting	To analyse, after closure of AI-01, the RGT and PDS capability to provide the necessary I/P files for the proposed MPS test scenario.	Francois Spoto	99/08/31	Expired Open	Replaces IR-SO AI-02.
DS-RV.08-00003	FOSIR Spacecraft Operations Panel Meeting	To define from the current AIT schedule when the satellite is in a specific configuration to operate GOMOS and MIPAS.	Francois Spoto	99/04/22	Closed	Replaces IR-SO AI-03.
DS-RV.08-00004	FOSIR Spacecraft Operations Panel Meeting	To update the Simulations Plan to include details of which kind of simulations are planned for the Commissioning and Routine Phases, i.e. S/C safe mode recovery, orbit manoeuvres etc.	Mark Tantillo	99/05/17	Closed	Replaces IR-SO AI-04.
DS-RV.08-00005	FOSIR Spacecraft Operations Panel Meeting	To re-word the Sims Plan to include introduction of parallel failures in independent systems, e.g. major failure in gnd system coupled with a major on-board anomaly. Also, that I/P's for simulation failure scenarios will be sought from FCT engineers.	Mark Tantillo	99/05/17	Closed	Replaces IR-SO AI-05.
DS-RV.08-00006	FOSIR Spacecraft Operations Panel Meeting	To compile a list of CRP's as part of the FOP production process.	Andreas Rudolph	99/07/31	Expired Open	Replaces IR-SO AI-06.
DS-RV.08-00007	FOSIR Spacecraft Operations Panel Meeting	To check that those issues applicable to AO's were covered in the GO panel.	Andreas Rudolph	99/04/20	Closed	Replaces IR-SO AI-07.
DS-RV.08-00008	FOSIR Spacecraft Operations Panel Meeting	To produce the TN on ENVISAT Interferometry Orbit Maintenance Strategy.	Xavier Marc, Mats Rosengren	99/05/31	Closed	Replaces IR-SO AI-08.
DS-RV.08-00009	FOSIR Spacecraft Operations Panel Meeting	To propose to MMS-B during next ops meeting, that only Satellite FOM is maintained.	Cyrille Lusteau	99/05/31	Closed	Replaces IR-SO AI-09.

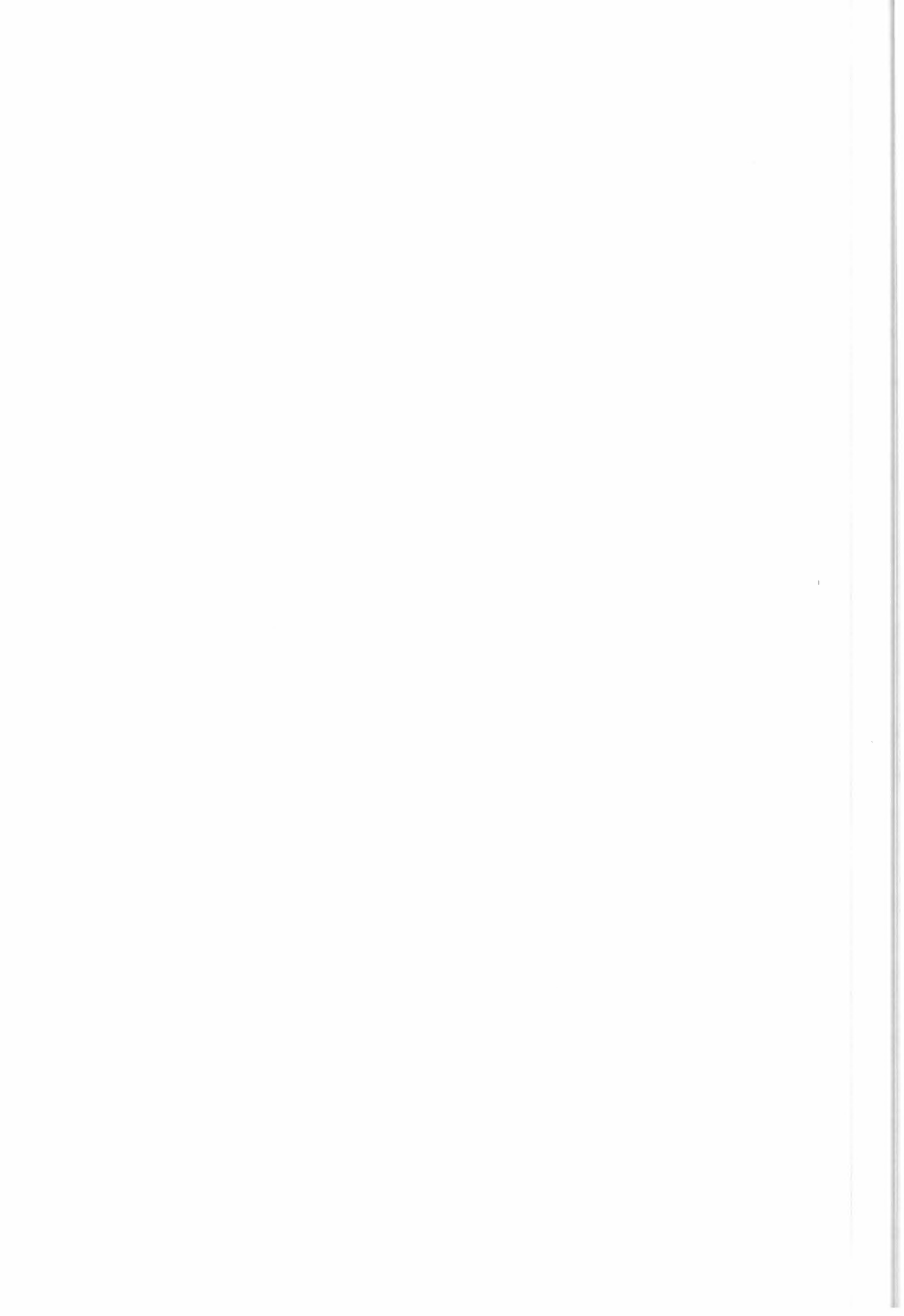


Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-RV.08-00010	FOSIR Spacecraft Operations Panel Meeting	To clarify which missing information from the SRDB can be added by ESOE in an efficient manner, e.g. PEB micro CMD's.	Michael Opitz	99/04/23	Closed	Replaces IR-SO AI-10. Actionee changed from Mr A. Rudolph to Mr M. Opitz at the request of Mr Rudolph.
DS-RV.08-00011	FOSIR Spacecraft Operations Panel Meeting	To instruct FCT to review the OCD w.r.t. Instrument and PEB aspects.	Andreas Rudolph	99/06/30	Closed	Replaces IR-SO AI-11.
DS-RV.08-00012	FOSIR Spacecraft Operations Panel Meeting	To review the ASAR / AATSR IOM's to ensure that relevant information to produce internal PT's is available (the ASAR Ops Concept document to be updated accordingly).	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-12.
DS-RV.08-00013	FOSIR Spacecraft Operations Panel Meeting	To provide a proposal to ESTEC vis-à-vis the level of project support (i.e. only ESTEC team, full ESTEC / Industry team) required for the individual simulations.	Mark Tantillo	99/05/17	Closed	Replaces IR-SO AI-13.
DS-RV.08-00014	FOSIR Spacecraft Operations Panel Meeting	To review and comment on the OCD and update accordingly (including instrument and PEB aspects).	Alan James Garnett,Leonardo Casini,Michael Opitz, Frank Diekmann,Alistair O'Connell,Paul Bearman	99/08/31	Closed	Replaces IR-SO AI-14.
DS-RV.08-00015	FOSIR Spacecraft Operations Panel Meeting	To contact A. O'Connell and propose re-wording [RID FOSIR-169] of the ASAR Operations Concept document. Note also the incorrect tape recorder recording rate of 5 instead 4.6 MBPS on page 17.	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-15.
DS-RV.08-00016	FOSIR Spacecraft Operations Panel Meeting	To check that the MPS has allowed for the constraint that a measurement mode, once started, is also ended in the same schedule, and to inform Project of how this is being handled i.e. by MPS or procedurally. Ops Concept to be updated accordingly.	Alan James Garnett	99/04/30	Closed	Replaces IR-SO AI-16.
DS-RV.08-00017	FOSIR Spacecraft Operations Panel Meeting	To review the OCD to identify those constraints that will be taken into account by the MPS and those that will have to be handled procedurally.	Alan James Garnett,Leonardo Casini,Etienne Beauve, Frank Diekmann,Michael Opitz,Alistair O'Connell,Paul Bearman	99/08/31	Closed	Replaces IR-SO AI-17.
DS-RV.08-00018	FOSIR Spacecraft Operations Panel Meeting	To ensure that points i) to iii) of RID FOSIR-172 are repeated for all other instruments.	Frank Diekmann	99/06/30	Closed	Replaces IR-SO AI-18.



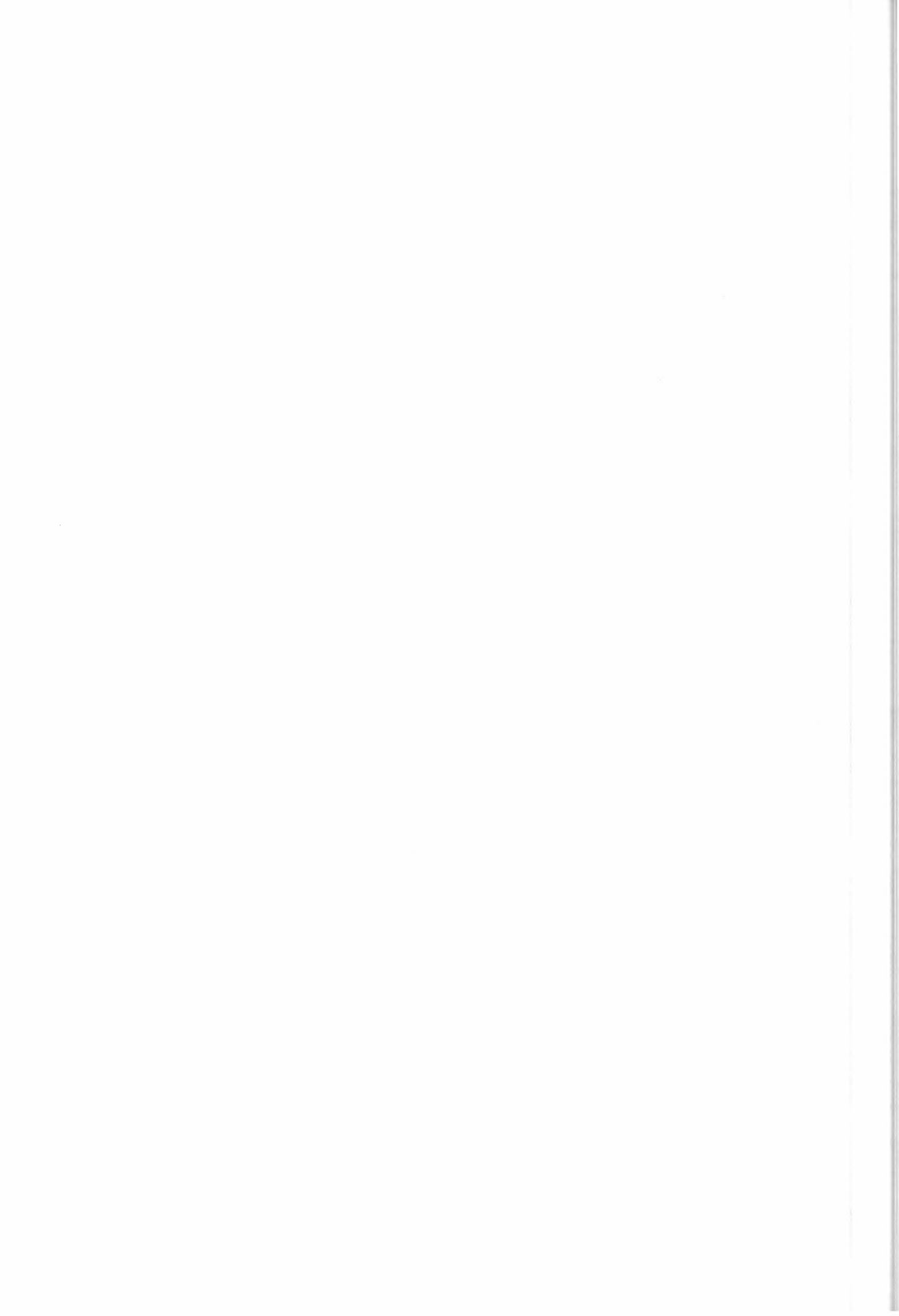
Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-RV.08-00019	FOSIR Spacecraft Operations Panel Meeting	To determine from Industry whether TEST mode will be deleted from FM LDB, and if so remove from ASAR Ops Concept.	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-19.
DS-RV.08-00020	FOSIR Spacecraft Operations Panel Meeting	To check ASAR's archive if USO oven temp. TM still out-of-limits after time elapsed exceeds Transition to HEATER Mode transition time of 4 hours. Also to identify need for contingency that Transition to HEATER Mode time may need to be reduced via TIME COMPENSATION MCMD.	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-20.
DS-RV.08-00021	FOSIR Spacecraft Operations Panel Meeting	To consult with M Gadsdon over value of these sections to the Operations Concept. List sections in the ASAR Ops concept and make notes that these sections will be filled in at a later issue.	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-21.
DS-RV.08-00022	FOSIR Spacecraft Operations Panel Meeting	To verify that the wave truncation constraint is properly handled by the MPS and reflected in the OCD (see also RID FOSIR-169)	Alan James Garnett	99/04/30	Closed	Replaces IR-SO AI-22.
DS-RV.08-00023	FOSIR Spacecraft Operations Panel Meeting	To clarify whether the current PMTD definitions for micro CMD's containing SWATH information are adequate.	Alan James Garnett	99/05/17	Closed	Replaces IR-SO AI-23.
DS-RV.08-00024	FOSIR Spacecraft Operations Panel Meeting	To chase provision of the FDS AOCs information by MMS-B	Francois Spoto	99/05/31	Closed	Replaces IR-SO AI-24.
DS-RV.08-00025	FOSIR Spacecraft Operations Panel Meeting	To provide a TN related to ERS - ENVISAT ground track control for RA commissioning.	Xavier Marc,Mats Rosengren	99/06/30	Closed	Replaces IR-SO AI-25.
99/07/09 DS-IC.26 DS-IC.26-00001	ESOC/ESTEC Coordination Meeting	Project to provide a list of contact persons in order for Mr O'Rourke to co-ordinate the compatibility test between the FOS and all external components scheduled during August.	Franz Demond/estec/ESA	99/07/16	Closed	
DS-IC.26-00002	ESOC/ESTEC Coordination Meeting	TOS-GC to review and discuss the IECF-FOS ICD with Marc Paganini.	Max Pignede/esoc/ESA	99/09/30	Expired Open	
DS-IC.26-00003	ESOC/ESTEC Coordination Meeting	TOS-GC to arrange a meeting with Marc Paganini on 27 July to discuss action DS-RV.06-00013.	Max Pignede/esoc/ESA	99/07/27	Expired Open	
99/11/12 DS-IC.27 DS-IC.27-00001	ESOC/ESTEC Coordination Meeting	TOS-ONS to provide the Project with a list of items affected by the Kiruna 15m antenna refurbishment.	Thomas Beck/esoc/ESA	99/11/30	Closed	

Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-IC.27-00002	ESOC/ESTEC Coordination Meeting	TOS-OGE to gain agreement with Messrs. F Demond and B Santos regarding a suitable schedule for the MPS-2 delta deliveries.	Frank Diekmann/esoc/ESA	99/11/19	Closed	
99/11/23 DS-IC.28 DS-IC.28-00001	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to establish the feasibility of sharing the 2 x CLUSTER NCTRS machines for transferring STDMs to the ESA LEOP stations. Furthermore, if this proves not to be practicable, to raise the necessary purchase request for 2 x suitable SUN machines.	Max Pignede/esoc/ESA	99/12/15	Closed	Action deleted; this approach is no longer favoured.
DS-IC.28-00002	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to upgrade the existing VitroCiset VAX-90 to VAX-96 standard (for use in ESTEC Mini-FOCC.)	Bernard Komasa/esoc/ESA	99/12/15	Closed	
DS-IC.28-00003	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to check on the technical ramifications of installing a Back-Up File Server.	Max Pignede/esoc/ESA	99/12/15	Expired	
DS-IC.28-00004	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure 2 x SUN Ultra-10 machines (i.e. Prime and Back-up) for the File Server task.	Bernard Komasa/esoc/ESA	2000/08/15	Assigned	
DS-IC.28-00005	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to provide B Komasa with the necessary requirements specifications of the 2 x SUN Sparc Ultra-60 machines (i.e. Prime and Back-up) required for the OBSM task.	Max Pignede/esoc/ESA	99/12/15	Expired	
DS-IC.28-00006	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure (after SVT-2) 1 x SUN Sparc Ultra-60 machine (Prime) for the OBSM task (the Back-Up machine being the old File Server SUN Ultra-60 machine.)	Bernard Komasa/esoc/ESA	2000/08/15	Assigned	



Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-IC.28-00007	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to provide B Komasa with the PAS disk storage (i.e. archive) requirements for the entire Envisat mission.	Max Pignede/esoc/ESA	99/12/15	Closed	Closed by e-mail from M. Pignede to Messrs. Soerensen and Komasa, dated 991125.
DS-IC.28-00008	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC (B Komasa) to initiate appropriate action to procure 1 x Alpha 1200 machine (plus appropriate initial disk storage) for the PAS task. Subsequently revealed that the machine has already been procured and is in stores.	Bernard Komasa/esoc/ESA	2000/02/15	Closed	
DS-IC.28-00009	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure 2 x PCs (plus MS Proxy S/W) to be used as PAS Web-Proxy machines.	Bernard Komasa/esoc/ESA	2000/02/15	Closed	
DS-IC.28-00010	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to provide B Komasa with a requirement specification for the procurement of an additional MPS machine.	Max Pignede/esoc/ESA	99/12/15	Closed	Closed by e-mail from D. Heinzer to M. Pignede, dated 991209.
DS-IC.28-00011	Internal Coordination Meeting - Computer Configuration Requirements	TOS-GC to check on the technical ramifications of installing a second MPS machine.	Max Pignede/esoc/ESA	99/12/15	Expired	
DS-IC.28-00012	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure an additional MPS machine (details to be provided by M Pignede.)	Bernard Komasa/esoc/ESA	2000/03/01	Expired	
DS-IC.28-00013	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure an additional SUN Ultra-5 machine for the FD function within the Kiruna mini-FOCC.	Bernard Komasa/esoc/ESA	2000/06/01	Assigned	

Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-IC.28-00014	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure 1 x SUN Ultra-60 machine and 1 x SUN Sparc 20 (equivalent), plus Network Printer. These to support the SCOS-1b (3 screens) and OBSM functions respectively within the Kiruna mini-FOCC.	Bernard Komasa/esoc/ESA	2000/06/01	Assigned	
DS-IC.28-00015	Internal Coordination Meeting - Computer Configuration Requirements	TOS-ONC to initiate appropriate action to procure 1 x SUN Ultra-60 machine, plus Network Printer. This to support the SCOS-1b (3 screens) functions within the ESTEC mini-FOCC.	Bernard Komasa/esoc/ESA	2000/06/01	Assigned	
99/12/09 DS-AR.01						
DS-AR.01-00001	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Corrective Actions No. 97 - The CM plan does not address the product tree and has not been updated yet. To review if the CM plan needs updating to take into account the CCB list of members.	Laurence O'Rourke/esoc/ESA, Jaroslaw Starczewski/esoc/ESA	2000/03/31	Expired Open	
DS-AR.01-00002	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Corrective Actions No.98 - Some instances of documents were not signed (MIP, Single test for FD), QA plan, not issued formally but used. The latter does not present the change history. The compliance of the documentation control procedure has to be addressed.	Palle Soerensen/esoc/ESA	2000/04/28	Assigned Open	
DS-AR.01-00003	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 471 - No CCB for FD has been seen and the SOM stated he is not a member.	Andreas Rudolph/esoc/ESA, Palle Soerensen/esoc/ESA	2000/03/31	Closed	
DS-AR.01-00004	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 472 - The reports of problems and information from FD area were not completed as those for the other subsystems.	Palle Soerensen/esoc/ESA	2000/03/23	Closed	
DS-AR.01-00005	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 473 - The quality plan has not been finalised yet.	Laurence O'Rourke/esoc/ESA, Jaroslaw Starczewski/esoc/ESA	2000/03/31	Closed	
DS-AR.01-00006	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 474 - The list of CFI was not available. This list shall be established. LOR to define with RS the list of Envisat CFI. This list will be provided in the CM plan - to be updated by RS.	Laurence O'Rourke/esoc/ESA	2000/03/31	Closed	
DS-AR.01-00007	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 475 - The Goods Inward procedure has to be verified at the next audit.	Alfio Mantineo/esoc/ESA	2000/06/30	Assigned Open	



Reference	Title	Description	Actionee	Due Date	Status	Comments
DS-AR.01-00008	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 476 - The naming convention used for the Andreas Operational Database, differs from MCS used in Ground Segment Integration & Technical Validation. To be clarified.	Andreas Rudolph/esoc/ESA	2000/03/31	Closed	
DS-AR.01-00009	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 477 - The SVT layout used in ENVISAT does not reflect the procedure (WI 1301 (and is not indicated in the QA plan as exclusion.)) LOR to update the QA plan such that an exclusion is written for SVT layout. LOR to raise a DCR on the QA plan to reflect this. To be reviewed at the QA plan review on 23 March 2000.	Laurence O'Rourke/esoc/ESA	2000/03/30	Closed	
DS-AR.01-00010	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 478 - The FD single test plan and FD interface test plan are used but are in draft.	Laurence O'Rourke/esoc/ESA, J Soerensen/esoc/ESA	2000/03/31	Closed	
DS-AR.01-00011	Envisat Internal Audit Report - Ref.: 99-1-ENV	Ref.: Actions No. 479 - The potential risks were correctly addressed but no evidence that the activity is performed consistently during the project lifecycle - Note to Palle: these aren't my minutes so I don't know what this refers to.	Palle Soerensen/esoc/ESA	2000/03/31	Expired Open	

ENVISAT FCT external
ENVISAT FCT internal
ENVISAT FCT & FDS
ENVISAT FOS FCT Test Actions
(Not Categorized)

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