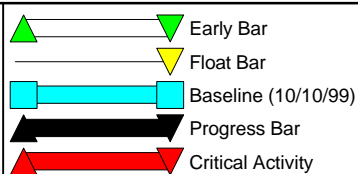
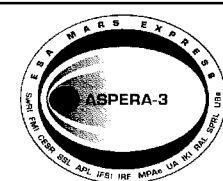


Start Date 27APR99  
 Finish Date 31DEC07  
 Data Date 11FEB00  
 Run Date 25FEB00 16:43



ASP3 Sheet 1 of 28  
**Southwest Research Institute**  
**ASP3-3 ELS/IMA & SW Development**  
 Status as of 11 Feb. 2000  
 by WBS



Date	Revision	Checked	Approved
04OCT	Schedule Baseline	BH	JS

Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
Data System Interface Document (DSID)	0	0		18AUG00*	0											◇ Data System Interface Document (DSID)						
Software Requirements Specifications (SRS)	0	0		04JAN01*	0																	
S/W Design Docum'ts (SDDs) for ELS, IMA, & NP	0	0		14DEC01*	0																	
S/W Design Docum'ts (SDDs) for SU, DPU, & OA	0	0		30AUG02*	0																	
APAF System Design Document	0	0		04DEC02*	0																	
APAF Acceptance Test Plan	0	0		21FEB03*	0																	
APAF Operations Procedures Document (OPD)	0	0		23MAY03*	0																	
Instr. CheckOut Results after Launch (via plots)	0	0		30JUL03*	0																	
Instr CheckOut Results of Mars Encounter (Plots)	0	0		02FEB04*	0																	
Begin submitting data to PDS	0	0		30JUL04*	0																	
Software Maintenance Report CY 2004	0	0		04JAN05*	0																	
Science Software Support Tasks Report CY 2004	0	0		01MAR05*	0																	
Software Maintenance Report CY 2005	0	0		03JAN06*	0																	
Science Software Support Tasks Report CY 2005	0	0		03MAR06*	0																	
Software Maintenance Report CY 2006	0	0		02JAN07*	0																	
Science Software Support Tasks Report CY 2006	0	0		02JAN07*	0																	
<b>1.2 Planning, Scheduling &amp; Cost Control</b>																						
Administrative Support - Bridge	103*	87	01OCT99A	29FEB00	0																	
Planning Support - Bridge	103*	87	01OCT99A	29FEB00	0																	
Monthly EV Analysis - Bridge	103*	87	01OCT99A	29FEB00	0																	
Administrative Support	211*	0	01MAR00*	29DEC00	0																	
Planning Support - Phase C/D	211*	0	01MAR00*	29DEC00	0																	
Monthly Earned Value Analysis - Phase C/D	211*	0	01MAR00*	29DEC00	0																	
<b>1.3 ASPERA Team / Technical Interchange Meetings</b>																						
ASPERA Team Meeting / TIM @ IRF/Kiruna	3	100	19MAY99A	21MAY99A																		
ASPERA Team Meeting / TIM @ IRF/Kiruna	3	0	22FEB00*	24FEB00	153																	
ASPERA Team Meeting / TIM @ IRF/Kiruna	3	0	06JUN00*	08JUN00	79																	







Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000					
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
<b>4 Systems</b>																							
<b>4.1 Trade Study / Analyses</b>																							
IMA Prototype Amplifier Board Testing	63	100	09AUG99A	24SEP99A																			
ELS Insulation Selection	22*	100	16AUG99A	27AUG99A																			
<b>4.1.1 ELS UV Rejection Study</b>																							
ELS Coatings UV Rejection Study	10	100	01OCT99A	29OCT99A																			
ELS Ray Tracing UV Rejection Study	20	100	04NOV99A	28DEC99A																			
ELS Baffles UV Rejection Study	20	100	01DEC99A	28DEC99A																			
<b>4.2 Requirements Doc/Spec's</b>																							
Payload Interface Doc - B (PID/B) - Draft	327*	41	02AUG99A	13NOV00	0																		
Develop HVPS Specification	68	100	02AUG99A	01DEC99A																			
Develop ELS FEE Specification	71*	100	30SEP99A	31DEC99A																			
Develop IMA Anode Bd Specification	71*	100	30SEP99A	31DEC99A																			
<b>4.3 Interface Control Documents</b>																							
IMA Imager MICD - SwRI PDR	24*	100	09AUG99A	10SEP99A																			
IMA Imager EICD - SwRI PDR	24*	100	09AUG99A	10SEP99A																			
ELS Mechanical ICD - SwRI PDR	19*	100	16AUG99A	10SEP99A																			
ELS Electrical ICD - SwRI PDR	19*	100	16AUG99A	10SEP99A																			
ASPERA Mechanical ICD - Aspera IPDR	62*	100	30SEP99A	19NOV99A																			
ASPERA Electrical ICD - Aspera IPDR	2	100	30SEP99A	01OCT99A																			
IMA Mechanical ICD - Aspera IPDR	62*	100	30SEP99A	19NOV99A																			
IMA Electrical ICD - Aspera IPDR	2	100	30SEP99A	19NOV99A																			
ELS Thermal ICD - SwRI CDR	2	0	28APR00	01MAY00*	9																		
<b>4.4 Test Plans / Procedures</b>																							
Product Assurance Implementation Plan (PAIP)	19*	100	16AUG99A	10SEP99A																			
Program Implementation Plan (PIP)	14*	100	23AUG99A	10SEP99A																			
ELS FEE Bench Test Procedure	5	100	04JAN00A	11JAN00A																			
ELS HVPS Bench Test Procedure	3	100	10JAN00A	12JAN00A																			
IMA FEE Bench Test Procedure	15	0	11FEB00*	02MAR00	19																		















Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000						
						1999			2000									2000						
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC				
<b>6.4 .1.1 .3 ELS Proto Interconnects</b>																								
ELS Proto Harness Fabrication	0	0	25FEB00	24FEB00	25																			
ELS Proto Harness Fit Check in Housing	1	0	25FEB00	25FEB00	25																			
ELS Proto Harness Potting & Bakeout	0	0	28FEB00	25FEB00	25																			
ELS Proto Harness Testing	1	0	28FEB00	28FEB00	25																			
<b>6.4 .1.2 ELS STM Heater / Resistor Elements Fabrication</b>																								
ELS STM Htr/Resistor Selection	1	0	31MAR00	31MAR00	43																			
Bag ELS STM Htr/Resistor / to Ctrl Stores	0	0	17MAY00	16MAY00	31																			
<b>6.4 .1.3 ELS Flight Electronics Fabrication</b>																								
<b>6.4 .1.3 .1 ELS Flight Anode/Amp Board</b>																								
<b>6.4 .1.3 .1.1 ELS FU Anode/Amp Board</b>																								
Assemble ELS FU Anode/Amp PWA	10	0	15JUN00	28JUN00	10																			
Bench Test ELS FU Anode/Amp PWA	10	0	29JUN00	13JUL00	10																			
Thermal Test ELS FU Anode/Amp PWA	5	0	14JUL00	20JUL00	10																			
Document ELS FU Anode/Amp PWA Inspect & Test	1	0	21JUL00	21JUL00	10																			
Deliver ELS FU Anode/Amp PWAs to Ctrl Stores	0	0	24JUL00	21JUL00	10																			
<b>6.4 .1.3 .1.2 ELS FSU Anode/Amp Board</b>																								
Assemble ELS FSU Anode/Amp PWA	10	0	29JUN00	13JUL00	10																			
Bench Test ELS FSU Anode/Amp PWA	10	0	14JUL00	27JUL00	10																			
Thermal Test ELS FSU Anode/Amp PWA	5	0	28JUL00	03AUG00	10																			
Document ELS FSU Anode/Amp PWA Inspect & Test	2	0	04AUG00	07AUG00	10																			
Deliver ELS FSU Anode/Amp PWAs to Ctrl Stores	0	0	08AUG00	07AUG00	10																			
<b>6.4 .1.3 .2 ELS Flight HVPS Fab</b>																								
<b>6.4 .1.3 .2.1 ELS FU HVPS</b>																								
Develop Test Software	10	0	03APR00*	14APR00	53																			
Assemble ELS FU HVPS PWA	15	0	01JUN00	21JUN00	6																			
Bench Test ELS FU HVPS	15	0	22JUN00	13JUL00	6																			
Thermal Test ELS FU HVPS PWA	5	0	14JUL00	20JUL00	6																			
Document ELS FU HVPS PWA Inspect & Test	5	0	21JUL00	27JUL00	6																			
ELS FU HVPS to Control Stores	0	0		27JUL00	6																			



Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000											
						1999			2000																				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC									
<b>6.4 .2.2 IMA Flight Electronics Fabrication</b>																													
<b>6.4 .2.2 .1 IMA Flight Anode Board</b>																													
<b>6.4 .2.2 .1.1 IMA Flt. Anode</b>																													
Assemble IMA Flt. Anode PWA	5	0	30JUN00	07JUL00	20																								
Bench Test IMA Flt. Anode PWA	5	0	10JUL00	14JUL00	20																								
Thermal Test IMA Flt. Anode/FEE PWA	5	0	26JUL00	01AUG00	13																								
Document IMA Flt. Anode PWA Inspect & Test	2	0	02AUG00	03AUG00	13																								
Deliver IMA Flt. Anode PWA to Ctrl Stores	0	0	04AUG00	03AUG00	13																								
<b>6.4 .2.2 .1.2 IMA Flt. Spare Anode</b>																													
Assemble IMA Flt. Spare Anode PWA	5	0	24JUL00*	28JUL00	6																								
Bench Test IMA Flt. Spare Anode PWA	5	0	31JUL00	04AUG00	6																								
Thermal Test IMA Flt. Spare Anode/FEE PWA	5	0	07AUG00	11AUG00	6																								
Document IMA Flt. Spare Anode PWA Inspect & Test	2	0	14AUG00	15AUG00	6																								
Deliver IMA Flt. Spare Anode PWA to Ctrl Stores	0	0	16AUG00	15AUG00	6																								
<b>6.4 .2.2 .2 IMA Flight Interconnects Fab</b>																													
IMA Flt. Intrcncts Fabrication (Flt. + Spare)	5	0	24JUL00	28JUL00	6																								
IMA Flt. Intrcncts Potting & Bakeout	5	0	31JUL00	04AUG00	6																								
IMA Flt. Intrcncts Testing	3	0	07AUG00	09AUG00	6																								
Document IMA Flt. Intrcncts Inspect & Test	2	0	10AUG00	11AUG00	6																								
Bag IMA Flt. Intrcncts/CtrlStores (Flt. + Spare)	1	0	14AUG00	14AUG00	6																								
<b>7 Software</b>																													
<b>7.01 Software Requirements</b>																													
ASPERA-3 Software Develop Plan (SDP)	61*	100	01OCT99A	17DEC99A																									
Revise ITAR Guidelines for Int'l Data Xfer	70	100	01OCT99A	17JAN00A																									
Devise WWW Security for Data & S/W Xfer	41*	100	02NOV99A	17JAN00A																									
Create Web Based IDFS Tools - Bridge	81*	84	02NOV99A	29FEB00	0																								
Program Data Management Plan (PDMP) - Bridge	72*	82	15NOV99A	29FEB00	0																								
Define & Document IDFS Creation Req'mts.	37*	65	10JAN00A	29FEB00	40																								
Create Web Based IDFS Tools	129*	0	01MAR00*	30AUG00	0																								
Program Data Management Plan (PDMP)	48*	0	01MAR00*	05MAY00	39																								

Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000											
						1999			2000																				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC									
Define & Document IDFS Creation Req'mts.	191*	0	01MAR00*	29NOV00	1,790	Define & Document IDFS Creation Req'mts. ▲																							
Define & Document IDFS Processing Req'mts.	110	0	27JUN00	01DEC00	40	Define & Document IDFS Processing Req'mts. ▲																							
IDFS Creation Req'mts Reviews	80	0	31AUG00	27DEC00	19	IDFS Creation Req'mts Reviews ▲																							
IDFS Processing System Req'mts Reviews	80	0	31AUG00	27DEC00	19	IDFS Processing System Req'mts Reviews ▲																							
IDFS Req'mts Document Deliverable.	5	0	28DEC00	04JAN01	19	IDFS Req'mts Document Deliverable. ▲																							
<b>7.02 ELS IDFS Software Development</b>																													
<b>7.02.1 ELS IDFS Software Design</b>																													
ELS Software Design	120	0	24OCT00	16APR01	420	ELS Software Design ▲																							
ELS Software Design Reviews	45	0	27FEB01	30APR01	420																								
ELS Software Design Validation	2	0	01MAY01	02MAY01	420																								
<b>7.02.2 ELS IDFS Software Implementation</b>																													
ELS Software Coding	40	0	03MAY01	28JUN01	420																								
ELS Code Reviews	30	0	31JUL01	11SEP01	420																								
<b>7.02.3 ELS IDFS Software Test</b>																													
ELS IDFS Test Plan Development	40	0	04SEP01*	29OCT01	386																								
ELS IDFS Software Verification Testing	5	0	30OCT01	05NOV01	386																								
<b>7.03 IMA IDFS Software Development</b>																													
<b>7.03.1 IMA IDFS Software Design</b>																													
IMA Software Design	160	0	24OCT00	12JUN01	308	IMA Software Design ▲																							
IMA Software Design Reviews	40	0	17APR01	12JUN01	308																								
IMA Software Design Validation	5	0	13JUN01	19JUN01	308																								
<b>7.03.2 IMA IDFS Software Implementation</b>																													
IMA Software Coding	80	0	20JUN01	11OCT01	353																								
IMA Code Reviews	30	0	12OCT01	26NOV01	353																								
<b>7.03.3 IMA IDFS Software Test</b>																													
IMA IDFS Test Plan Development	60	0	02NOV01	31JAN02	308																								
IMA IDFS Software Verification Testing	20	0	01FEB02	28FEB02	308																								
<b>7.04 NPD IDFS Software Development</b>																													
<b>7.04.1 NPD IDFS Software Design</b>																													
NPD Software Design	140	0	06MAR01	20SEP01	263																								
NPD Software Design Reviews	50	0	02AUG01	11OCT01	263																								









Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000					
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
IDFS Production Computer & Archival System	20*	0	03JUN02*	28JUN02	22																		
Analysis Computer	22*	0	01JUN04*	30JUN04	64																		
Necessary Upgrades	64*	0	01MAY06*	31JUL06	43																		
Network Connection - SwRI & GSFC	0	0	31AUG07*	30AUG07	82																		
<b>8 Assembly, Integration &amp; Testing</b>																							
<b>8.1 ELS Instrument I&amp;T</b>																							
<b>8.1.1 ELS STM</b>																							
<b>8.1.1.1 ELS STM Unit Assembly</b>																							
Assemble ELS STM	5	0	17MAY00	23MAY00	31																		
<b>8.1.1.2 ELS STM Testing</b>																							
ELS STM Final Inspect / Cleaning / Bagging	2	0	24MAY00	25MAY00	31																		
ELS STM Mass Properties Measuremts	2	0	26MAY00	30MAY00	31																		
ELS STM Metrology Report	5	0	31MAY00	06JUN00	111																		
ELS STM Functional / Electrical Load Test	1	0	31MAY00	31MAY00	31																		
ELS STM Bakeout	5	0	01JUN00	07JUN00	31																		
<b>8.1.2 ELS Prototype Assembly &amp; Testing</b>																							
ELS Proto Mechanical UV Coating	35*	11	07FEB00A	24MAR00	6																		
ELS Proto Assembly	1	0	27MAR00	27MAR00	6																		
ELS Proto Bench Itrfc Test	3	0	28MAR00	30MAR00	6																		
ELS Proto FEE Thermal Testing	3	0	31MAR00	04APR00	6																		
ELS Proto HVPS Thermal Test	3	0	31MAR00	04APR00	6																		
ReIntegrate ELS Prototype (w/EM MCP's)	1	0	05APR00	05APR00	6																		
ELS Prototype Vibration Test	2	0	06APR00	07APR00	6																		
ELS Proto Vacuum HV Testing	2	0	10APR00	11APR00	6																		
ELS Proto End-2-End XTalk Chk	10	0	12APR00	25APR00	34																		
<b>8.1.3 ELS Flight Unit (FU)</b>																							
<b>8.1.3.1 ELS FU Assembly</b>																							
ELS FU SubAssembly Bakeout	5	0	28JUL00	03AUG00	6																		
ELS FU Assembly	5	0	04AUG00	10AUG00	6																		

Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000											
						1999			2000																				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC									
<b>8.1 .3.2 ELS FU Testing &amp; Measurements</b>																													
<b>8.1 .3.2 .1 ELS FU Vacuum HV Testing</b>																													
ELS FU Vacuum - HV Test Setup	1	0	11AUG00	11AUG00	6																								
ELS FU Vacuum - HV Testing	2	0	14AUG00	15AUG00	6																								
ELS FU Vac/HV Test Report	10	0	16AUG00	29AUG00	33																								
<b>8.1 .3.2 .2 ELS FU E2E &amp; Crosstalk Check</b>																													
ELS FU Background Test	4	0	16AUG00	21AUG00	6																								
ELS FU Energy Response Test	8	0	22AUG00	31AUG00	6																								
<b>8.1 .3.2 .3 ELS FU Physical/Mass Properties Measurements</b>																													
Conduct ELS FU Weight & CG Measurements	1	0	01SEP00	01SEP00	6																								
Conduct ELS FU Physical Prop Measurements	0	0	05SEP00	01SEP00	6																								
Move ELS FU to Vibe Area	1	0	05SEP00	05SEP00	6																								
<b>8.1 .3.3 ELS FU Acceptance Testing</b>																													
<b>8.1 .3.3 .1 ELS FU Random 3-axis Vibration Tests</b>																													
IRF Supplied Vibe Levels Req'd	0	0		03JUL00*	28																								
ELS FU Vibe Setup & Checkout	1	0	05SEP00	05SEP00	6																								
ELS FU Vibration TRR	1	0	05SEP00	05SEP00	6																								
Conduct ELS FU Z-axis Random Vibe Test	1	0	06SEP00	06SEP00	6																								
ReConfigure for X/Y-axis	0	0	07SEP00	06SEP00	6																								
Conduct ELS FU Y-axis Random Vibe Test	0	0	07SEP00	06SEP00	6																								
Conduct ELS FU X-axis Random Vibe Test	0	0	07SEP00	06SEP00	6																								
ELS FU Vibe Test Report	10	0	07SEP00	20SEP00	18																								
Disassemble Test Setup / Ready ELS FU for Move	1	0	07SEP00	07SEP00	6																								
Move ELS FU to TV Area	0	0	08SEP00	07SEP00	6																								
<b>8.1 .3.3 .2 ELS FU Thermal Vacuum Testing</b>																													
ELS FU TV Setup & Checkout	3	0	05SEP00	07SEP00	6																								
ELS FU TV TRR	1	0	07SEP00	07SEP00	6																								
Conduct ELS FU TV Testing (4-Cycles)	6	0	08SEP00	15SEP00	6																								
ELS FU TV Test Report	10	0	18SEP00	29SEP00	11																								
Disassemble Test Setup / Ready ELS FU for Move	1	0	18SEP00	18SEP00	6																								





Activity Description	Dur (D)	%	Start	Finish	TF	1999												2000											
						1999			2000																				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC									
<b>9.3 Calibration GSE</b>																													
<b>9.3.1 CAL GSE Design</b>																													
Design ELS Calibration Fixturing	10	0	03MAY00	16MAY00	120	Design ELS Calibration Fixturing																							
ELS Cal Fixture Fab Drawings	10	0	17MAY00	31MAY00	120	ELS Cal Fixture Fab Drawings																							
Design IMA Calibration Fixturing	10	0	02JUN00	15JUN00	367	Design IMA Calibration Fixturing																							
IMA Cal Fixture Fab Drawings	10	0	16JUN00	29JUN00	367	IMA Cal Fixture Fab Drawings																							
<b>9.3.2 CAL GSE Fabrication</b>																													
ELS CAL Fixture Fabrication	10	0	01JUN00	14JUN00	120	ELS CAL Fixture Fabrication																							
IMA CAL Fixture Fabrication	10	0	30JUN00	14JUL00	367	IMA CAL Fixture Fabrication																							
<b>9.4 Special Tools (ST) / Test Equipment (STE)</b>																													
ELS/IMA Test Set(s) (x2)	20	0	01MAR00*	28MAR00	22	ELS/IMA Test Set(s) (x2)																							
<b>A Deliverables</b>																													
<b>A.1 Hardware Deliverables</b>																													
IMA FU/FSU Hdwr Contingency	21	0	28AUG00	26SEP00	6	IMA FU/FSU Hdwr Contingency																							
ELS FS/FSU Contingency	21	0	29SEP00	27OCT00	6	ELS FS/FSU Contingency																							
<b>A.1.1 ELS Structural Thermal Model (STM)</b>																													
Prep ELS STM for Shipment	1	0	08JUN00	08JUN00	31	Prep ELS STM for Shipment																							
Ship ELS STM to IRF/Kiruna	5	0	09JUN00	15JUN00	31	Ship ELS STM to IRF/Kiruna																							
ELS STM Delivered	0	0		31JUL00*	0	ELS STM Delivered																							
<b>A.1.2 ELS Flight Unit (FU)</b>																													
Prep ELS FU for Shipment	1	0	30OCT00	30OCT00	6	Prep ELS FU for Shipment																							
Ship ELS FU to IRF/Kiruna	5	0	31OCT00	06NOV00	6	Ship ELS FU to IRF/Kiruna																							
ELS FU Delivered	0	0		14NOV00*	0	ELS FU Delivered																							
<b>A.1.3 ELS Flight Spare Unit (FSU)</b>																													
Prep ELS FSU for Shipment	1	0	30OCT00	30OCT00	6	Prep ELS FSU for Shipment																							
Ship ELS FSU to IRF/Kiruna	5	0	08NOV00	14NOV00*	0	Ship ELS FSU to IRF/Kiruna																							
ELS FSU Delivered	0	0		14NOV00	13	ELS FSU Delivered																							
<b>A.1.4 IMA Flight Set (FS) Hardware</b>																													
Prep IMA FS Hdwr for Shipment	1	0	27SEP00	27SEP00	6	Prep IMA FS Hdwr for Shipment																							
Ship IMA FS Hdwr to IRF/Kiruna	5	0	28SEP00	04OCT00	6	Ship IMA FS Hdwr to IRF/Kiruna																							
IMA FS Hdwr Delivered	0	0		12OCT00*	0	IMA FS Hdwr Delivered																							



