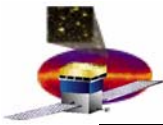


GLAST Large Area Telescope: EM Timeline, Test Flow, and Staffing Plan

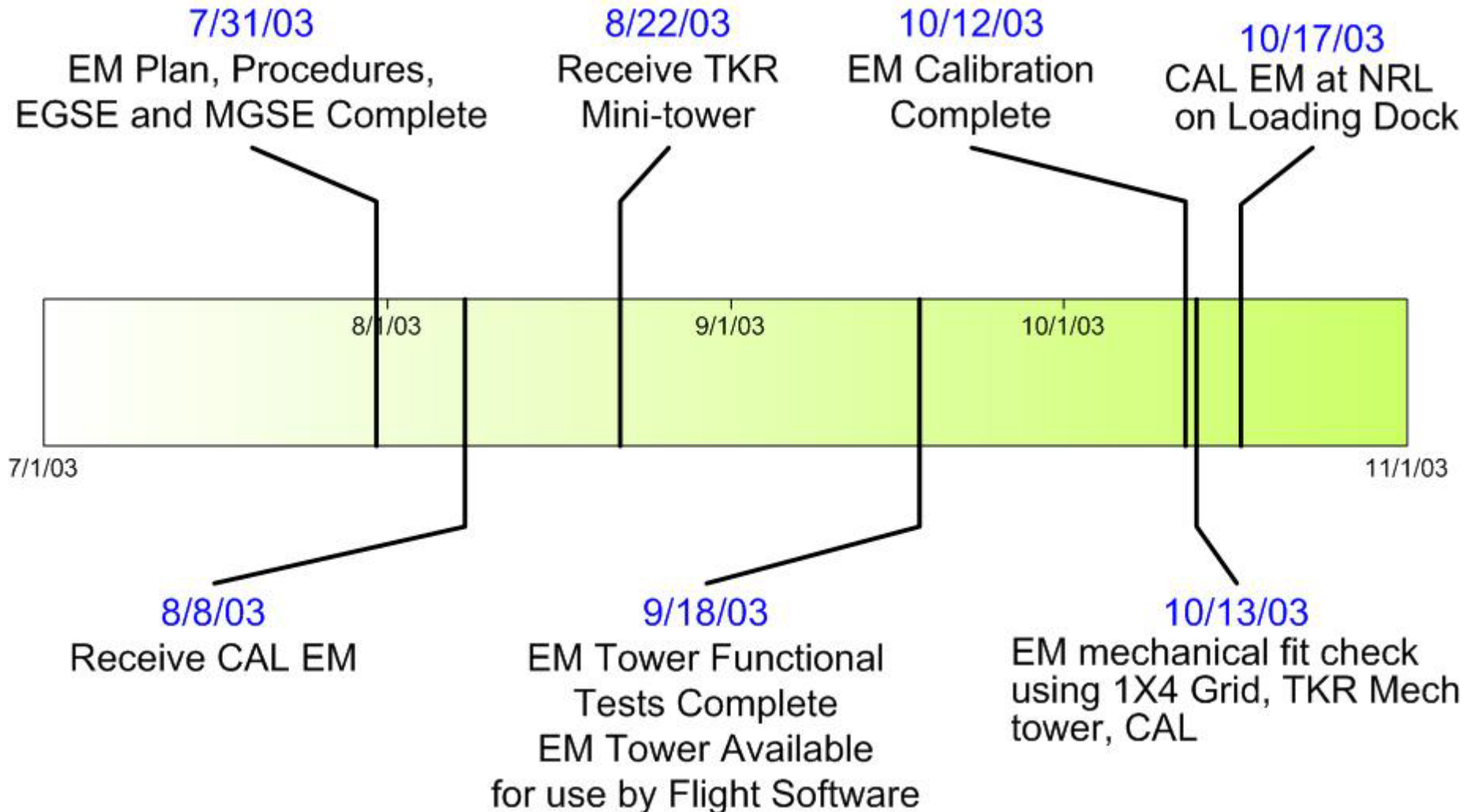
Brian Grist
SU-SLAC
I&T Subsystem Engineer

Larry Wai
SU-SLAC
IFCT Manager

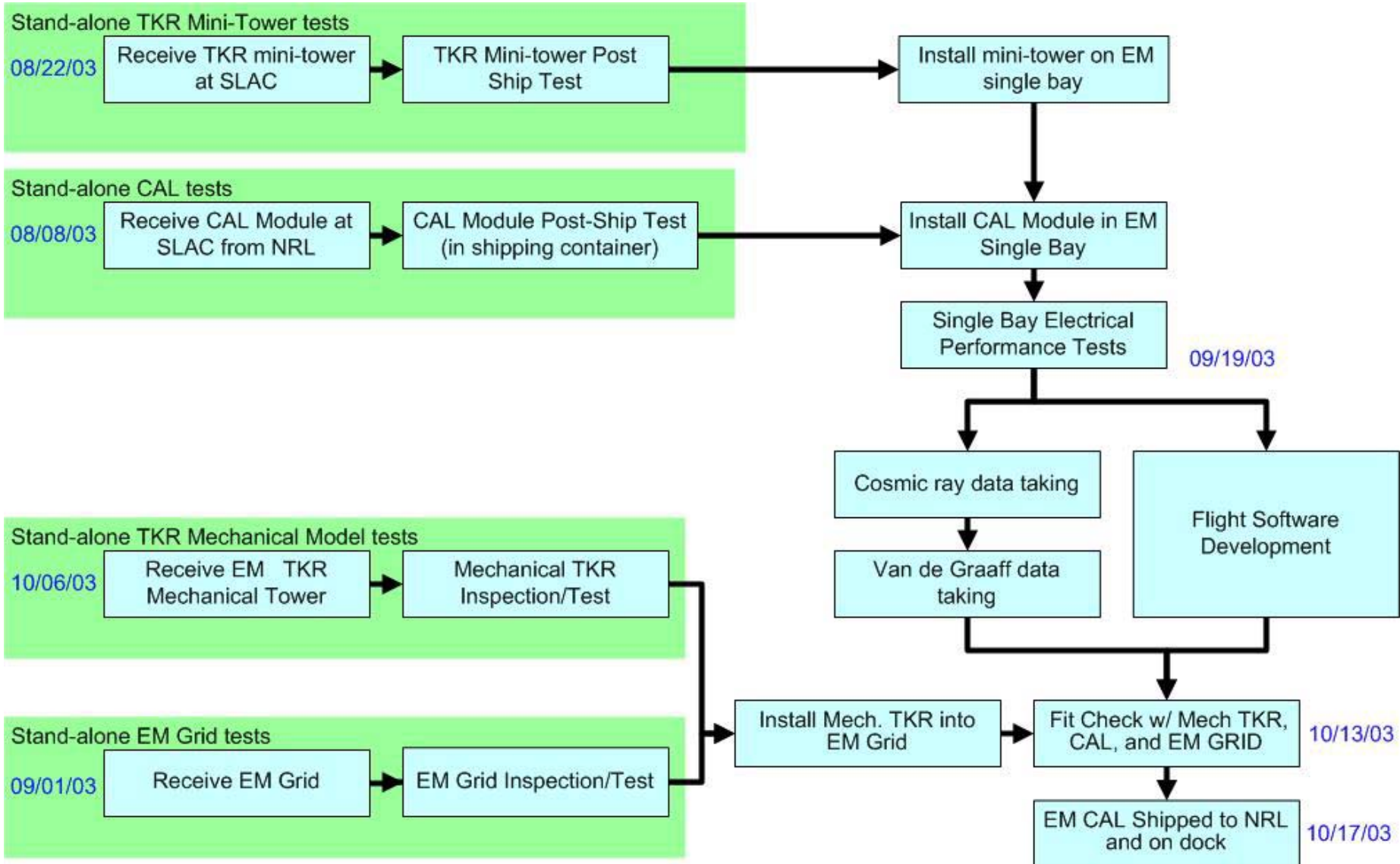
bgrist@slac.stanford.edu, wai@slac.stanford.edu
650-926-2998 650-926-3145

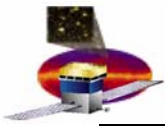


EM Testing Timeline



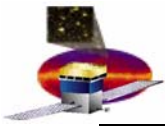
EM Test Flow





Available Staff

Bloom, Elliott	I&T – Physicist	Bui, Henry	ELX – Elec. Tech.
Claus, Ric	I&T – Software Prog.	Huffer, Mike	ELX – S/S Engineer
do Couto e Silva, Eduardo	I&T – Physicist	Nelson, Dave	ELX – S/S Engineer
Gawehn, Eric	I&T – Mech. Eng.	Sapozhnikov, Leonid	ELX – S/S Engineer
Godfrey, Gary	I&T – Physicist		
Grist, Brian	I&T – Elec. Eng.	Bogaert, Gilles	CAL – Physicist
Kamae, Tune	I&T – Physicist	Giebels, Berrie	CAL – Physicist
Mizuno, Tsunefumi	I&T – Physicist	Graduate Student	CAL – Berrie’s Student
Molini, Mark	I&T – Mech. Tech.	Grove, Eric	CAL – S/S Eng./Phys.
Panetta, Jim	I&T – Software Prog.	Leas, Byron	CAL – Software
Rogers, Reggie	I&T – Mech. Tech.		
Tajima, Hiro	I&T – Physicist	Baldini, Luca	TKR – Software
Tice, Jeff	I&T – Mech. Tech.	Bhatnagar, B.J.	TKR – S/S Eng.
Tuvi, Selim	I&T – Software Prog.	Borden, Tom	TKR – S/S Eng.
Wai, Larry	I&T – Physicist	Latronico, Luca	TKR – Software Prog.
		Test Engineer	TKR – S/S Eng.
		TKR Post-Doc	TKR – Software Prog.



August 3rd – August 9th, 2003

	Sunday 3 rd	Monday 4 th	Tuesday 5 th	Wednesday 6 th	Thursday 7 th	Friday 8 th	Saturday 9 th
Day Shift						Receive CAL EM I&T -Physicist -Mech. Tech CAL -Cog. Engineer	NO SHIFTS SCHEDULED
Swing Shift						TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	NO SHIFTS SCHEDULED

August 10th – August 16th, 2003

	Sunday 10 th	Monday 11 th	Tuesday 12 th	Wednesday 13 th	Thursday 14 th	Friday 15 th	Saturday 16 th
Day Shift	NO SHIFTS SCHEDULED	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED

August 17th – August 23rd, 2003

	Sunday 17 th	Monday 18 th	Tuesday 19 th	Wednesday 20 th	Thursday 21 st	Friday 22 nd	Saturday 23 rd
Day Shift	NO SHIFTS SCHEDULED	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	Receive TKR Mini Tower I&T -Physicist -Mech. Tech. TKR - S/S Engineer	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	NO SHIFTS SCHEDULED

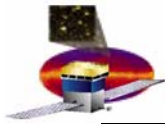
August 24th – August 30th, 2003

	Sunday 24 th	Monday 25 th	Tuesday 26 th	Wednesday 27 th	Thursday 28 th	Friday 29 th	Saturday 30 th
Day Shift	NO SHIFTS SCHEDULED	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TEM/PS Electronics Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED

August 31st – September 6th, 2003

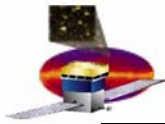
	Sunday 31st	Monday 1st	Tuesday 2nd	Wednesday 3rd	Thursday 4th	Friday 5th	Saturday 6th
Day Shift	NO SHIFTS SCHEDULED	TKR Functional Tests Receive EM Grid I&T -Physicist -Programmer -Mech. Eng. -Mech. Tech TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests EM Grid Inspection/Test I&T -Physicist -Programmer -Mech. Eng. -Mech. Tech TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests EM Grid Inspection/Test I&T -Physicist -Programmer -Mech. Eng. -Mech. Tech TKR - Programmer ELX - S/S Engineer (on call)	Install TKR into Single Bay I&T -Physicist -Mech. Eng. -Mech. Tech -Mech. Tech -Elec. Tech TKR - S/S Engineer	Install CAL into Single Bay I&T -Physicist -Mech. Eng. -Mech. Tech -Mech. Tech -Elec. Tech CAL - S/S Engineer	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	Post Installation TKR Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	TEM Stand Alone Tests I&T -Physicist -Elec. Tech ELX - S/S Engineer	NO SHIFTS SCHEDULED

September 7th – September 13th, 2003



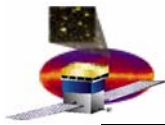
	Sunday 7 th	Monday 8 th	Tuesday 9 th	Wednesday 10 th	Thursday 11 th	Friday 12 th	Saturday 13 th
Day Shift	NO SHIFTS SCHEDULED	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	CAL Functional Tests I&T -Physicist -Programmer CAL - Programmer ELX - S/S Engineer (on call)	TKR Functional Tests I&T -Physicist -Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED
	4.1.9 - Integration and Test						10

September 14th – September 20th, 2003



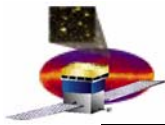
	Sunday 14 th	Monday 15 th	Tuesday 16 th	Wednesday 17 th	Thursday 18 th	Friday 19 th	Saturday 20 th
Day Shift	NO SHIFTS SCHEDULED	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	EM Tower Functional Tests Complete EM Tower Available for use by FSW Cosmic Ray Setup I&T -Physicist -Mech. Eng -Mech. Tech. -Elec. Tech.	FSW Development FSW -?	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Single Bay Integrated Tests I&T -Physicist -Programmer CAL - Programmer TKR - Programmer ELX - S/S Engineer (on call)	Cosmic Ray Setup I&T -Physicist -Mech. Eng -Mech. Tech. -Elec. Tech.	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED
		4.1.9 - Integration and Test					11

September 21st – September 27th, 2003



	Sunday 21 st	Monday 22 nd	Tuesday 23 rd	Wednesday 24 th	Thursday 25 th	Friday 26 th	Saturday 27 th
Day Shift	NO SHIFTS SCHEDULED	FSW Development FSW -?	FSW Development FSW -?	FSW Development FSW -?	FSW Development FSW -?	FSW Development FSW -?	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED

September 28th – October 4th, 2003



	Sunday 28 th	Monday 29 th	Tuesday 30 th	Wednesday 1 st	Thursday 2 nd	Friday 3 rd	Saturday 4 th
Day Shift	NO SHIFTS SCHEDULED	FSW Development FSW -?	FSW Development FSW -?	FSW Development FSW -?	FSW Development FSW -?	VDG Setup I&T -Physicist -Mech. Eng -Mech. Tech. -Elec. Tech.	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests I&T -Physicist -Programmer ELX - S/S Engineer (on call)	Cosmic Ray Tests Disassembly I&T -Physicist -Mech. Eng -Mech. Tech. -Elec. Tech.	VDG Data Taking I&T -Physicist -Programmer ELX - S/S Engineer (on call)	NO SHIFTS SCHEDULED

October 4th – October 11th, 2003

	Sunday 5 th	Monday 6 th	Tuesday 7 th	Wednesday 8 th	Thursday 9 th	Friday 10 th	Saturday 11 th
Day Shift	NO SHIFTS SCHEDULED	FSW Development Receive EM TKR Mechanical Tower I&T -Mech. Eng. -Physicist -Mech. Tech. TKR - S/S Engineer FSW -?	FSW Development Inspect/Test EM TKR Mechanical Tower I&T -Mech. Eng. -Physicist -Mech. Tech. TKR - S/S Engineer FSW -?	FSW Development Inspect/Test EM TKR Mechanical Tower I&T -Mech. Eng. -Physicist -Mech. Tech. TKR - S/S Engineer FSW -?	FSW Development Inspect/Test EM TKR Mechanical Tower I&T -Mech. Eng. -Physicist -Mech. Tech. TKR - S/S Engineer FSW -?	EM Calibration Complete CAL Removal and replace w/ mini CAL I&T -Physicist -Mech. Eng. -Mech. Tech -Mech. Tech -Elec. Tech CAL - S/S Engineer	NO SHIFTS SCHEDULED
Swing Shift	NO SHIFTS SCHEDULED	VDG Data Taking I&T -Physicist -Programmer ELX - S/S Engineer (on call)	VDG Data Taking I&T -Physicist -Programmer ELX - S/S Engineer (on call)	VDG Data Taking I&T -Physicist -Programmer ELX - S/S Engineer (on call)	VDG Test Disassembly I&T -Physicist -Mech. Eng -Mech. Tech. -Elec. Tech.	Install 1x4 Grid I&T -Mech. Eng. -Physicist -Mech. Tech. -Mech. Tech.	NO SHIFTS SCHEDULED

October 11th – October 18th, 2003

	Sunday 12 th	Monday 13 th	Tuesday 14 th	Wednesday 15 th	Thursday 16 th	Friday 17 th	Saturday 18 th
Day Shift	NO SHIFTS SCHEDULED	EM Mechanical fit check using 1x4 Grid, TKR Mech Tower, CAL I&T -Physicist -Mech. Eng. -Mech. Tech -Mech. Tech -Elec. Tech CAL -S/S Engineer TKR - S/S Engineer	Ship CAL -Mech. Eng. -Mech. Tech CAL -S/S Engineer			EM CAL on dock at NRL	
Swing Shift	NO SHIFTS SCHEDULED	EM Mechanical fit check using 1x4 Grid, TKR Mech Tower, CAL, prep for shipping I&T -Physicist -Mech. Eng. -Mech. Tech -Mech. Tech -Elec. Tech CAL -S/S Engineer TKR - S/S Engineer					