

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: Gemini Near InfraRed Spectrograph (GNIRS)

WBS: 5.1

Project Description: 1-5 um Spectrograph with multiple filters, slits, Deckers, prisms, gratings and cameras.

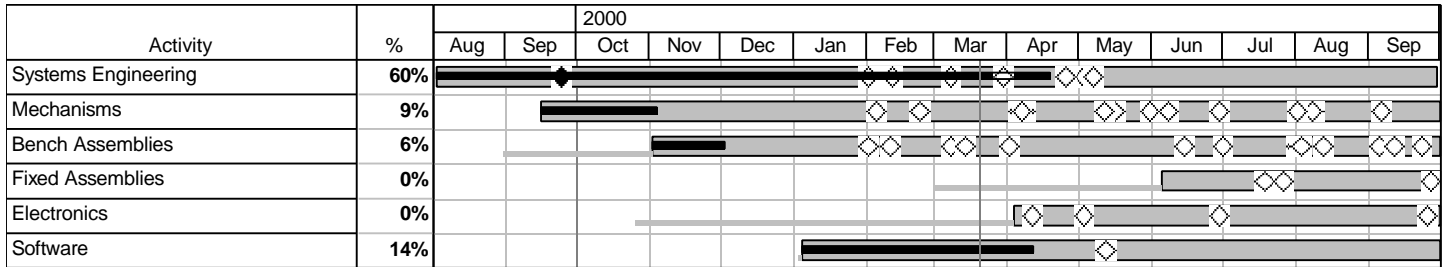
WPM: N. Gaughan

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$3,391,232	\$711,001	\$2,680,231	\$3,391,232
Capital	\$836,462	\$151,564	\$684,898	\$836,462

Key Personnel		
Title	Name	% Dedicated
PM	Gaughan	100
PS	Elias	100
ME	Goble	100
ME	Muller	100
EE	Rudeen	100
MD	Andrew	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$53,542	\$94,126	\$98,952	\$75,981	\$55,385	\$106,421	\$94,730	\$129,787	\$114,861	\$123,511
Actual Labor	\$34,302	\$50,463	\$51,277	\$47,901	\$48,380	\$67,504	\$53,823	\$0		
Cum Over/Under	\$19,240	\$62,903	\$110,578	\$138,658	\$145,663	\$184,580	\$225,487	\$355,274		
FTE Loading (FTE)										
Planned	12	15	14	13	13	14	16	19	20	19
Actual	5.6	8.3	8.4	7.9	8.0	11.1	8.9	0.0		
Capital (\$K)										
Planned Capital	\$0	\$34,100	\$6,250	\$9,810	\$8,780	\$19,450	\$1,500	\$8,851	\$81,330	\$53,940
Actual Capital	\$12,798	\$1,608	\$718	\$4,409	\$4,351	\$17,057	\$30,828	\$2,525		

Key Milestones		
Activity	Date	Status
Project Start	1/1/1999	C
Pre-Fab Review	2/15/2000	



% Complete: 13%
Total Milestones: 192
Completed Milestones: 2
Key Milestone: Pre-Fabrication Review

BCWS	383,515	SPI	1.33
BCWP	511,004	CPI	2.04
ACWP	250,903		

Scope Changes:

- There are no new technical scope changes.

Pending Issues & Resolutions:

- The Post-Slit (formerly Spectrograph) Bench design is making good progress, the OIWFS Bench 3D design is near complete, and the Pre-Slit Bench assembly and the Slit-Decker Bench assembly interfaces are defined and making good progress in 3D design.
- Optical bench fabrication, with the exception of the OIWFS Bench, will be delayed until all 3D solid modeling of the Grating, Prism, and Camera Turrets are completed. This is to insure that all interface details are resolved before committing to fabrication.
- The Rotary drive prototype fabrication is complete and in warm testing. The Linear Prototype fabrication is complete. A new trade study on rotary bearings has been initiated and will result in another series of tests using the Rotary Prototype.
- The second Camera Assembly barrel is in 2D design.
- The Environmental Cover Assembly mechanism 3D design is complete, and is in 2D detailing.
- The Filter Wheel mechanism is about 1/3 through 3D design.
- The acquisition Mirror mechanism 3D design is virtually complete and awaiting solid model analysis.

Project Manager's Assessment of Project Health:

- Good. The activities pertinent to the May 11 Pre-Fab Review, including the new bearing trade study, are on schedule. Significant progress has been made on the Optical Bench design effort.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Systems Engineering

WBS: 5.2

Project Description: Includes analyses, prototyping, and optical design updates.

WPM: J. Elias

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$166,174	\$121,179	\$44,995	\$166,174
Capital	\$16,910	\$32,159	-\$15,249	\$16,910

Key Personnel		
Title	Name	% Dedicated
PS	Elias	100
ME	Goble	100
ME	Muller	100
OE	Liang	10
IM	Rath	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$12,882	\$49,723	\$36,877	\$20,824	\$13,982	\$26,756	\$5,130	\$0	\$0	\$0
Actual Labor	\$5,352	\$22,723	\$20,913	\$17,980	\$17,224	\$25,122	\$11,865	\$0		
Cum Over/Under	\$7,530	\$27,000	\$50,494	\$53,338	\$50,096	\$5,1730	\$44,995	\$44,995		
FTE Loading (FTE)										
Planned	2	8	6	3	2	2	1	0	0	0
Actual	0.9	3.7	3.4	3.0	2.8	4.1	2.0	0.0		
Capital (\$K)										
Planned Capital	\$0	\$3,100	\$5,000	\$8,810	\$0	\$0	\$0	\$0	\$0	\$0
Actual Capital	\$525	\$2,178	\$197	\$2,186	\$4,544	\$18,351	\$1,654	\$2,524		

Activity	%	2000														
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Thermal analysis	16%															
Structural Analysis	4%															
Update Optics Design	41%															
Mechanism Test Set	56%															
Cold Motor Testing & Evaluation	84%															
Rotary Prototype Mechanism	89%															
Linear Prototype Mechanism	81%															
Prototype Optics Mounts	100%															

% Complete: 60%
Total Milestones: 10
Completed Milestones: 1

Scope Changes:

- None.

Pending Issues & Resolutions:

- The deflection and thermal analyses are proceeding.
- The Linear Prototype is in assembly and is being readied for test.
- The Rotary Prototype is in warm Testing.
- The Optical Mount Prototype testing is complete.
- The cold motor test/evaluation work is complete and the report is yet to be written.

Project Manager's Assessment of Work Package Health:

- Good. All components of this work package are under control and on an acceptable schedule.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Mechanisms

WBS: 5.3.1

Project Description: Includes the design, fabrication and test of the 9 mechanisms used in GNIRS.

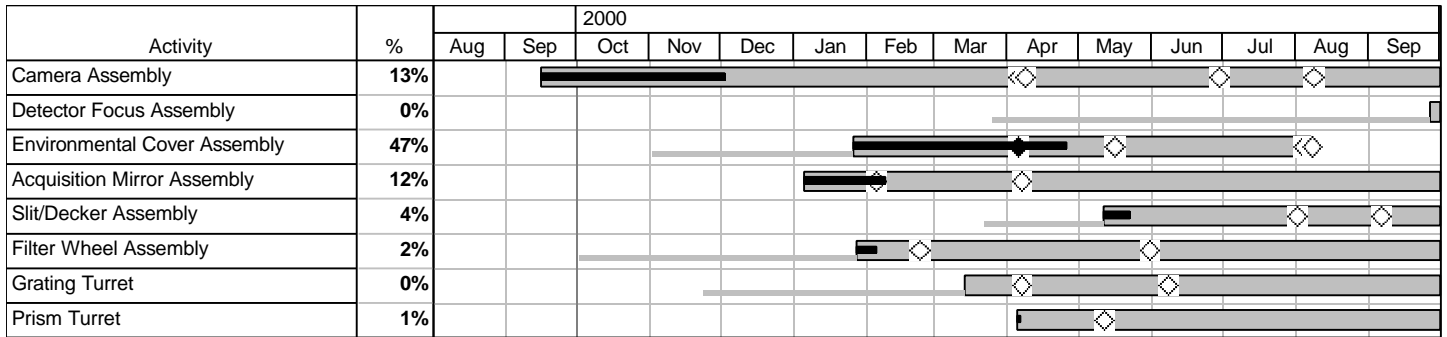
WPM: G. Muller

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$607,628	\$63,505	\$544,123	\$607,628
Capital	\$274,217	\$29,604	\$244,613	\$274,217

Key Personnel		
Title	Name	% Dedicated
ME	Muller	100
MD	Andrew	100
MD	Rosin	100
MD	Downey	100
MD	Robles	100
MT	Davis	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$0	\$4,123	\$18,012	\$18,411	\$17,560	\$28,447	\$33,220	\$39,303	\$45,729	\$52,896
Actual Labor	\$0	\$2,014	\$12,274	\$10,033	\$9,187	\$12,676	\$17,321	\$0		
Cum Over/Under	\$0	\$2,109	\$7,847	\$16,225	\$24,598	\$40,369	\$56,267	\$95,571		
FTE Loading (FTE)										
Planned	0	1	3	3	3	5	5	6	8	9
Actual	0.0	0.3	2.0	1.7	1.5	2.1	2.8	0.0		
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$4,080	\$4,450	\$0	\$7,151	\$6,380	\$52,000
Actual Capital	\$0	\$475	\$472	\$6	\$7	\$0	\$28,644	\$0		

Key Milestones		
Activity	Date	Status



% Complete: 9%
Total Milestones: 46
Completed Milestones: 1

Scope Changes:

- None.

Pending Issues & Resolutions:

- The second Camera Assembly barrel 2D design is 15% complete.
- The Environmental Cover Assembly mechanism is in 2D detailing is 65% complete.
- The Prism turret 3D design is 40% complete.
- The 3D design of the acquisition Mirror is 95% complete.
- The Filter Wheel assembly 3D design is 33% complete.

Project Manager's Assessment of work Package Health:

- Good. Work is proceeding at a good pace with few problems. Interface details are being resolved and there is excellent engineering direction taking place.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Bench Assemblies

WBS: 5.3.2

Project Description: Design and fabrication of the four cold bench assemblies used in GNIRS.

WPM: L. Goble

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$194,142	\$34,608	\$159,534	\$194,142
Capital	\$101,069	\$259	\$100,810	\$101,069

Key Personnel		
Title	Name	% Dedicated
ME	Goble	100
MD	Andrew	100
MT	Davis	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$ 12.16	\$ 12,768	\$ 12,312	\$ 2,204	\$ 0	\$ 228	\$ 14,478	\$ 12,008	\$ 17,708	\$ 13,566
Actual Labor	\$ 0	\$ 1,666	\$ 7,025	\$ 8,270	\$ 6,953	\$ 5,890	\$ 4,804	\$ 0		
Cum Over/Under	\$ 12.16	\$ 11,102	\$ 17,605	\$ 11,539	\$ 4,586	-\$ 1,076	\$ 8,598	\$ 20,606		
FTE Loading (FTE)										
Planned	0	2	2	1	2	2	2	2	3	2
Actual	0.0	0.3	1.2	1.4	1.1	1.0	0.8	0.0		
Capital (\$K)										
Planned Capital	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 12,000	\$ 0
Actual Capital	\$ 0	\$ 282	\$ 283	\$ 0	-\$ 306	\$ 0	\$ 0	\$ 0		

Activity	%	2000														
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Spectrograph Bench	6%															
OIWFS Assembly	10%															
Collimator Assembly	0%															
Fore Optics Assembly	8%															

% Complete: 6%
Total Milestones: 23
Completed Milestones: 0

Scope Changes:

- None.

Pending Issues & Resolutions:

- The Post Slit Bench (formerly Spectrograph) 3D design is 63% complete.
- The OIWFS Bench 3D design is 76% complete.

Project Manager's Assessment of Work Package Health:

- Good. The bench designs all show good progress.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Fixed Assemblies

WBS: 5.3.3

Project Description: All assemblies with no moving parts except the optical benches.

WPM: G. Muller

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$353,533	\$683	\$352,850	\$353,533
Capital	\$188,986	\$18	\$188,968	\$188,986

Key Personnel		
Title	Name	% Dedicated
ME	Muller/Goble	100
MD	Andrew	100
MD	Rosin	100
MD	Downey	100
MD	Robles	100
MT	Davis	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,044	\$4,636	\$6,612
Actual Labor	\$0	\$358	\$195	\$0	\$0	\$0	\$130	\$0		
Cum Over/Under	\$0	-\$358	-\$553	-\$553	-\$553	-\$553	-\$683	\$8,361		
FTE Loading (FTE)										
Planned	0	0	0	0	0	0	0	1	1	1
Actual	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$640
Actual Capital	\$0	\$0	\$18	\$0	\$0	\$0	\$0	\$0		

Key Milestones		
Activity	Date	Status

Activity	%	2000													
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entrance Window Assembly	0%														
Detector Mount Assembly	0%														
Cryo Cooler Assembly	0%														
Environmental Cover Filter	0%														
Bulkhead Assembly	0%														
Front Radiation Shield Assembly	0%														
Rear Radiation Shield Assembly	0%														
Front Dewar Shell	0%														
Rear Dewar Shell	0%														
Vertical Installation Frame Assembly	0%														
Horizontal Installation Frame Assembly	0%														
Dewar Mount Truss Assembly	0%														
Thermal Enclosure Mount Assembly	0%														

% Complete: 0%

Total Milestones: 67

Completed Milestones: 0

Scope Changes:

- None.

Pending Issues & Resolutions:

- None.

Project Manager's Assessment of Work Package Health:

- None.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Electronics

WBS: 5.4

Project Description: Design and fabrication of the GNIRS electronics subsystems

WPM: J. Penegor

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$132,658	-\$5,509	\$138,167	\$132,658
Capital	\$11,900	-\$3,340	\$15,240	\$11,900

Key Personnel		
Title	Name	% Dedicated
PS	Elias	20
EE	Rudeen	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$0	\$0	\$12.16	\$6,080	\$8,512	\$16,606	\$12,312	\$22,800	\$12,768	\$11552
Actual Labor	\$0	-\$5,509	\$0	\$0	\$0	\$0	\$0	\$0		
Cum Over/Under	\$0	\$5,509	\$6,725	\$12,805	\$21,317	\$37,923	\$50,235	\$73,035		
FTE Loading (FTE)										
Planned	0	0	0	1	1	3	2	4	2	2
Actual	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.0		
Capital (\$K)										
Planned Capital	\$0	\$0	\$750	\$0	\$4,200	\$1,500	\$200	\$750	\$3,000	\$0
Actual Capital	\$0	-\$3,707	\$364	\$3	\$0	\$0	\$0	\$0		

Key Milestones		
Activity	Date	Status
Project Start	1/1/1999	C

Activity	%	2000															
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Spectrograph Thermal Enclosure	0%																
Ext. Inst Wiring & Cables	0%																
Dewar Electronics	0%																
Software Test Fixture	0%																

% Complete: 0%
Total Milestones: 14
Completed Milestones: 0

Scope Changes:

- None.

Pending Issues & Resolutions:

- The EE assigned to this effort is assessing the work package.

Project Manager's Assessment of Work Package Health:

- Good.

GNIRS BI-WEEKLY REPORT

August 99 to May 00

Project Title: GNIRS Software

WBS: 5.5

Project Description: Design, code and test of the GNIRS Engineering and System software.

WPM: R. Wolff

	Original Budget	Actual Spent Cum	Est. To Go	Est. Project Total
Labor Cost	\$156,256	\$10,868	\$145,388	\$156,256
Capital	\$0	\$32	-\$32	\$0

Key Personnel		
Title	Name	% Dedicated
PS	Elias	10
P1	TBD	100
P2	TBD	100

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Labor Costs (\$K)										
Planned Labor	\$0	\$0	\$0	\$0	\$0	\$6,080	\$0	\$7,600	\$10,032	\$13,376
Actual Labor	\$0	\$0	\$0	\$0	\$994	\$5,238	\$4,636	\$0		
Cum Over/Under	\$0	\$0	\$0	\$0	-\$994	-\$152	-\$4,788	\$2,812		
FTE Loading (FTE)										
Planned	0	0	0	0	0	1	1	1	1	1
Actual	0.0	0.0	0.0	0.0	0.2	0.9	0.8	0.0		
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Actual Capital	\$0	\$0	\$0	\$0	\$0	\$32	\$0	\$0		

Key Milestones		
Activity	Date	Status
SW Plan	11/1/1999	
Eng SW Req	2/1/2000	
Sys SW Req	4/1/2000	

Activity	%	2000														
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Software Plan	54%															
Component Controller Software	30%															
Lab Support Software	0%															
Detector Interface Software	0%															

% Complete: 14%
Total Milestones: 10
Completed Milestones: 0

Scope Changes:

- None.

Pending Issues & Resolutions:

- The Software Plan is 54% complete.
- Component Controller software is 34% complete.
- Motor Control software is 32% complete.

Project Manager's Assessment of Project Health:

- Good. This work package is ahead of schedule.