

GNIRS MONTHLY 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	\$109,314	\$56,860	\$166,174
Capital	\$16,910	\$29,562	-\$12,652	\$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	\$0			
Cum Over/Under	\$7,530	\$27,000	\$50,494	\$53,338	\$50,096	\$51,730	\$56,860			
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	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	\$1,581			

Key Milestones		
Activity	Date	Status
Analysis		
Cold Motor T&E		
Prototyping		
Optics Update		

ID	WBS	Task Name	%	2000											
				Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
211	5.2.1	Thermal analysis	16%	[Progress bar from Sep to Oct]											
226	5.2.2	Structural Analysis	4%	[Progress bar from Oct to Nov]											
239	5.2.3	Update Optics Design	41%	[Progress bar from Nov to Dec]											
244	5.2.5	Mechanism Test Set	56%	[Progress bar from Dec to Jan]											
252	5.2.6	Cold Motor Testing & Evaluation	84%	[Progress bar from Jan to Feb]											
263	5.2.7.2	Rotary Prototype Mechanism	86%	[Progress bar from Feb to Mar]											
290	5.2.7.3	Linear Prototype Mechanism	79%	[Progress bar from Mar to Apr]											
317	5.2.7.4	Prototype Optics Mounts	100%	[Progress bar from Apr to May]											

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

Scope Changes:

- None.

Pending Issues & Resolutions:

- The deflection analysis supporting the solid model bench design is 20% complete.
- The Linear Prototype will complete fabrication this week and go directly into assembly/test.
- The Rotary Prototype fabrication is complete and the unit is in Assembly/Test.
- The Optical Mount Prototype testing is complete and the final report will be issued this week.
- 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 MONTHLY 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	\$46,184	\$561,444	\$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	\$0			
Cum Over/Under	\$0	\$2,109	\$7,847	\$16,225	\$24,598	\$40,369	\$73,588			
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	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			

Key Milestones		
Activity	Date	Status

ID	WBS	Task Name	%	2000														
				Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
339	5.3.1.2	Camera Assembly	10%															
434	5.3.1.3	Detector Focus Assembly	0%															
465	5.3.1.4	Environmental Cover Assembly	35%															
488	5.3.1.5	Acquisition Mirror Assembly	10%															
518	5.3.1.6	Slit/Decker Assembly	0%															
586	5.3.1.7	Filter Wheel Assembly	0%															
622	5.3.1.8	Grating Turret	0%															
661	5.3.1.9	Prism Turret	1%															

% Complete: 6%
Total Milestones: 46
Completed Milestones: 0

Scope Changes:

- None.

Pending Issues & Resolutions:

- The second Camera Assembly barrel is in 3D design.
- The Filter Wheel mechanism was delayed, but has now started.
- The Environmental Cover Assembly mechanism 3D design is 98% complete.
- The Prism turret 3D design has started and is 40% complete.
- A specification for the gratings is now in place.

Project Manager's Assessment of work Package Health:

- Good. The confidence level in the design of the mechanisms is high. The 3D designs will be adjusted to reflect/include results from the prototyping and bench interface definition.

GNIRS MONTHLY 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	\$29,804	\$164,338	\$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	\$0			
Cum Over/Under	\$12.16	\$11,102	\$17,605	\$11,539	\$4,586	-\$1,076	\$13,402			
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	0.0			
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,000	\$0
Actual Capital	\$0	\$282	\$283	\$0	-\$306	\$0	\$0			

Key Milestones		
Activity	Date	Status

ID	WBS	Task Name	%	2000														
				Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
702	5.3.2.1	Spectrograph Bench	5%															
730	5.3.2.2	OIWFS Assembly	10%															
759	5.3.2.3	Collimator Assembly	0%															
798	5.3.2.4	Fore Optics Assembly	9%															

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

Scope Changes:

- None.

Pending Issues & Resolutions:

- The Spectrograph Bench 3D design is 75% complete.
- The current configuration of the benches has resulted in the Collimator Assembly being combined with the Spectrograph Bench Assembly.
- The OIWFS Bench 3D design is 75% complete.
- The approach being taken is to create a solid model of the whole instrument and use this model with NASTRAN to validate the bench design(s). This has delayed the actual 3D solid model design of the benches, but should make the overall task move more quickly.

Project Manager's Assessment of Work Package Health:

- Good. We have a long way to go, but I am encouraged by the rapid progress being made in the bench solid modeling and the supporting deflection analysis model.

GNIRS MONTHLY 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	\$553	\$352,980	\$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	\$0			
Cum Over/Under	\$0	-\$358	-\$553	-\$553	-\$553	-\$553	-\$553			
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			
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$640
Actual Capital	\$0	\$0	\$18	\$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 MONTHLY REPORT

August 99 to May 00

Project Title: GNIRS Electronics

WBS: 5.4

Project Description: Design and fabrication of the GNIRS electronics subsystems

WPM: A. Rudeen

	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	\$1216	\$6,080	\$8,512	\$16,606	\$12,312	\$22,800	\$12,768	\$11,552
Actual Labor	\$0	-\$5,509	\$0	\$0	\$0	\$0	\$0			
Cum Over/Under	\$0	\$5,509	\$6,725	\$12,805	\$21,317	\$37,923	\$50,235			
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			
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			

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		
Thrm1 Encl Int. Cabling & Connections	0%																
Ext. Inst Wiring & Cables	0%																
Dewar Warm-up Controller	0%																
Dewar Electronics	0%																

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

Scope Changes:

- None.

Pending Issues & Resolutions:

- None.

Project Manager's Assessment of Work Package Health:

- Good. A new EE will start coming up to speed on the GNIRS electronics in March and this work will move quickly after that.

GNIRS MONTHLY 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	\$6,232	\$150,024	\$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	\$0			
Cum Over/Under	\$0	\$0	\$0	\$0	-\$994	-\$152	-\$152			
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	0.0			
Capital (\$K)										
Planned Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Actual Capital	\$0	\$0	\$0	\$0	\$0	\$32	\$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	0%															
Engineering Software	0%															
System Software	0%															

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

Scope Changes:

- None.

Pending Issues & Resolutions:

- A Software planning document has been prepared and is under review. This will be presented at the May 11 Pre-Fabrication review.

Project Manager's Assessment of Project Health:

- Good. Work in this area is moving rapidly, and the software area of the project is under control.