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|--|------------------|------------------------------|-------------------------|-------------------------------------|
| Project Name: | | | | |
| GPI Observatory Project (OBS11-003) | | | | |
| Project Sponsor | Project Manager | Project Instrument Scientist | Project System Engineer | PDS Version/Date: |
| Eric Tollestrup | Stephen Goodsell | Fredrik Rantakyro | Manuel Lazo | v1.0 /20 th October 2010 |

Project Description

Issue Statement:

The Gemini Planet Imager (GPI) will be used to detect exoplanets in the outer regions ($a > 5\text{AU}$) of the planetary systems of main sequence stars in the solar neighborhood.

Gemini signed contracts with LLNL, JPL, UCSC, HIA and UCLA in July 2006 to design, fabricate, assemble, test and deliver the instrument to Gemini. The GPI contract oversight activity was the main responsibility of Instrument Group/Development Division.

In 2009 and 2010 a number of additional internal projects were identified, these included Observatory software changes to interface the Observatory Control System to the instrument (Engineering led), Observatory software changes required to prepare, operate and monitor GPI during operation (Engineering led), a project to convert and integrate the instrument's data reduction pipeline into Gemini standard (Science led), a project to prepare the infrastructure of Gemini South to receive, maintain and fix the instrument (Engineering led), a project to prepare the Science Verification and Commissioning Contracts (Development led) and a project to organize the GPI Campaign (Science/Directorate led).

All of these GPI projects have interdependencies and require planning and coordination. They are at different stages and have been progressed at various rates for a variety of reasons. The Observatory decided to form an 'Observatory Project' to give one Project Sponsor and one Project Manager accountability for GPI. Gemini **MUST** ensure that the instrument is ready for the Observatory and that the Observatory is ready for the instrument. The Observatory project will conclude and close once the instrument has been commissioned. It does not include routine queue or classical observations and does not include the execution of the campaign. (Taken from Project Mandate - Background Section – 11th Sep 2010)

Project Objective Statement (POS):

- Ensure the Instrument is ready for the Observatory to receive (**Primary Objective**)
- Ensure the Observatory is ready to receive the Instrument (**Primary Objective**)
- Ensure the instrument meets its top-level requirements
- Ensure the instrument is commissioned before its competition
- To balance cost, scope and schedule to give the best value for money

(Taken from Project Mandate – Project Objectives Section – 11th Sep 2010)

Project Flexibility:

| Flexibility Matrix | Least Flexible | Moderately Flexible | Most Flexible |
|--------------------|----------------|---------------------|---------------|
| Scope | | X | |
| Schedule | X | | |
| Resources | X | | |

Major Deliverables:

- GPI fully commissioned at Gemini South (includes complete set of documentation) (FINAL PRODUCT)

Assumptions:

- Project success assumes resource flexibility for oversight activity
- Software Resource **NOT** available to allow required work to complete in 2011

IS and IS NOT:

Describe what the project **is** and what the project **is not**, you can have as many **is** or **is not** as you want.

- **IS:** Designed to conclude with the successful commissioning of GPI at Gemini South
- **IS NOT:** Going to fail!!!

Strategy and Resources

Milestones and Stages:

Define and describe a set of milestones for the project, also define stages that can be used later as off ramp points.

- Pre-delivery Stage (Jan - Sep 2011)
 - Successful Completion of I&T Instrument Acceptance Review
 - Majority of Gemini GIAP/OCS infrastructure software completed
 - Some of the Gemini Science Software completed
 - Facility Preparation Work Package completed
- On-site Acceptance Test Stage (Oct - Dec 2011)
 - Successful Completion of On-site Instrument Acceptance Review
 - Completion of vendor 'build' contracts
 - Gemini taken ownership of vendor delivered Data Reduction Pipeline Software
 - Majority of the Gemini Science Software Completed
- Science Verification and Commissioning Stage (Jan – Apr 2012)
 - Successful Completion of On-site Instrument Acceptance Review
 - Completion of all internal software work packages and testing
 - Closure of project

Estimated Costs:

- Travel and Subsistence - ~1 FTE of travel costs to UCSC
- Equipment – TBD – Infrastructure Costs
- Resources – See Below
- Spares - \$1m identified by vendor, Spares budget currently \$0.5m
- Instrument 'Build' Contract ~\$25m in total
- Software Contract Work (952 hrs)

Gemini Project Team Members:

- Eric Tollestrup (176 hrs / 10%)
- Stephen Goodsell (880 hrs / 50%)
- Fredrik Rantakyro (880 hrs / 50%)
- Manuel Lazo (352 hrs / 20%)
- Markus Hartung (704 hrs / 40%)
- Julian Christou (704 hrs / 40%)
- Arturo Nunez (1062 hrs / 60%)
- New Software Hire (813 hrs / 46%)
- Nicolas Barriga (640 hrs / 36%)

- Javier Luhrs (625 hrs / 36%)
- Eric Christensen (352 hrs / 20%)
- Kathleen Labrie (352 hrs / 20%)
- Gelys Trancho (352 hrs / 20%)
- Rolando Rogers (260 hrs / 15%)
- Gaston Gausachs (260 hrs / 15%)
- Tomislav Vucina (260 hrs / 15%)
- Ramon Galvez (260 hrs / 15%)
- Pedro Gigoux (144 hrs / 8%)
- Chris Morrison (100 hrs / 6%)

Dependencies that require coordination:

- Everything!!!

Risks and Issues:

- Instrument having technical problems during I&T will increase the pre-delivery stage
- Competition – forcing Gemini's hand
- Lack of program stability at Gemini – I.e. Software Resource
- **SOFTWARE**