

1 PROGRAM MANAGEMENT OVERVIEW

Project	Work complete	Status	Comments
FLAMINGOS-2	97%	On-schedule	Instrument was installed on telescope in April and started technical/science commissioning. Release to science operations (imaging + long slit) expected in August
GeMS/GSAOI	100%	Done	2013A queue operations ended in June with 8/11 programs completed, 2 on-going and 1 not started. A new phase for winter shutdown started mid-June until mid-September.
GMOS CCD	70%	1.5 months Behind-schedule	Failure of controller caused 5 weeks delay in the science CCDs characterization. Resource clash at end of the year and need for increased contingency during burn-in phase called for postponing installation until March 2014 (+6 months from plan).
GPI	NA	1.5 months behind schedule	Acceptance testing completed in June and time assigned for documentation and preparing the acceptance review now happening mid July.
GHOS	NA	Behind schedule	Project is finishing the contract approval loop and about 6 months behind our original estimated date for preliminary design kick-off
A&G-2	NA	On-schedule	Focus on FMEA and reliability upgrades work packages definitions (content and priority). WFS specifications development started along with opto-mechanical layout options. Project plan revised into 3phases.
GRACES	NA	Behind schedule	Fiber vendor progressing on fabrication of low FRD fibers and planning to deliver long science fiber at end of July. Performance acceptance review planned at HIA in September. Project about 9 months behind original schedule.
GEN4#3	NA	On-schedule	Management team started work on the Request for Proposal (RfP) to initiate the feasibility stage.

The order reflects the priority of internal resources assigned to the various projects during that quarter.

2 PAST/CURRENT PROJECT ACTIVITIES

- **FLAMINGOS-2**
 - Both camera and MOS dewars were cooled down again early April after a repair of the MOS wheel. Instrument was installed on telescope April 22 and first light obtained on the 26th. On the 5th night of the run, the MOS wheel started mis-behaving again, pointing to an electro-mechanical issue inside the dewar.
 - It was decided to cancel the May run and have a long, and as invasive as needed, testing and repair of the MOS wheel. Lots of thorough testing was performed, including new Phytron motors in LN2, adjustment of shaft clearances, replacement of balls in bearings, changing the axial force on the preload disk, etc. A successful period of cold testing involving several tens of motions gave the team the confidence needed to go back to telescope with higher reliability.
 - Instrument was re-installed on telescope on June 11. The flam2sparc work station was replaced shortly thereafter after the original machine stopped working (end of useful life).
 - The June commissioning run allowed to make progress in most planned areas. The R3K grism that suffered coating damage is operational thanks to the mask installed. The seeing has not been very favorable to optimize completely the astigmatism corrections of the OIWFS so this work is pending.
- **GeMS and GSAOI**
 - Monthly runs happened in April-May-June. Photon return in May and June was higher as expected by seasonal variations and compensated poorer seeing. In some cases, 30% Strehl was obtained in K under seeing of 0.8-1.0". This demonstrates future potential of usage during winter.
 - GSAOI filter wheel #2 (same motor type as in F2!) started misbehaving and will require an instrument opening to inspect cryogenic motors.
 - AO group continues work on creating simplified tools for performance optimization and automating operations. New reconstructors (created by a cleaned model) have been tested
- **GMOS CCDs**
 - Noise characterization was finalized, and Science CCDs were installed and aligned in the lab dewar.
 - A failure of the ARC controller to connect with the VME computer (the bulk transfer of pixel data from the fiber-optic cable through the interface card that sits on the 6100 CPU board's PCI bus to that CPU board's memory) happened mid-May and took 5 weeks to repair. It was eventually traced to a software bug.
 - On June 12th, the science FPA had first light showing all channels to be functional.
- **GPI**
 - All testing was completed in May (including cold testing) revealing that the instrument continues behaving well. Look-Up Tables will be used to keep optimization vs temperature and gravity. Only 2 mechanisms will need remediation (in Chile): the IFS pupil viewer and prism holder.
 - In particular, the tight requirement to maintain performance over a 1h observation under temperature changes is met.
 - Time was set aside for documentation of all tests and status of instrument in order to have a quality acceptance review. The date has been pushed to mid-July.
- **GHOS**
 - Progress has continued at a slow pace on contract approval on the contractor side with management of one sub-contractor. Escalation has happened between Directors of each institution. The Board has set a deadline of June 30th to get the process completed. As of June 28th, there is finally a complete written version of that sub-contract which needs to be ratified by the company's Board before Gemini can push it to NSF (expected to happen in August).

- **GRACES**
 - Fiber vendor has achieved bonding and polishing process control and is routinely producing 6-7% FRD fibers.
 - Optics for injector and slicer beam shaping were delivered.
 - Work continued on mechanical drawings for fabrication.
 - Test plan was written and is under review.
- **A&G-2**
 - Reduced resources assigned to the project as per the STAC recommendation.
 - Developing reliability upgrade project list with engineering team.
 - Top-level requirements for the WaveFront Sensor are under development. Preparing for arrival of detector engineer to move along this work package..
 - CAD model development ongoing with optical layout work.
 - Project plan development progressing with staged approach defined in April.
- **Gen4#3**
 - Our management team has started work on this new procurement for the generation 4 instrument #3 (in absence of a better name for now). Iterations were made with STAC and Board and a public announcement will be done in July. Our long-range plan indicates we can work on down-select of proposals for a feasibility in 14Q2.

3 COMING PROJECT ACTIVITIES (next quarter)

- **FLAMINGOS-2**
 - The last commissioning run will take place in July and should complete all work needed to start the regular science queue in imaging and long slit modes.
 - We expect to conclude the models for good active optics corrections.
- **GeMS and GSAOI**
 - Execute the tasks identified for the shutdown, namely:
 - LGSWFS opto-mechanical upgrade (re-conjugating the lenslets to the DM)
 - GSAOI dewar opening for maintenance of cold heads and filter wheel troubleshooting
 - NGSWFS tilt fix, astigmatism improvements
 - Cross-training on laser maintenance procedures, and on BTO-related activities.
 - Documentation of sub-systems.
 - The hand-over review to Operations is now scheduled early October after the return to the sky in September.
- **GMOS CCDs**
 - Finish characterization of science detectors, measure QE.
 - Resource priorities have forced us to add contingency to the plan so end-end-testing with software will complete in November. Shipping in December, 'burn-in' period will be conducted in Chile in January-February 2014. Installation in GMOS-S is scheduled to start in March after the Chilean summer.
 - Purchase the CCD batch for the 2nd GMOS.
- **GPI**
 - Expected shipping in August, testing in lab in Sept. and installation on telescope in October.
- **GHOS**
 - Finalize signature of contract.
 - Preliminary Design phase kickoff meeting to be scheduled around other events like shutdowns at GS (August) and GN (September).
- **GRACES**
 - Fabricate and delivery of the 300m-long science fiber bundle (July).
 - Sub-systems performance test at HIA (September). If successful:
 - Integration in Hawaii in Q4.
- **A&G-2**

- Monitoring closely the PMAC motion control work by EIG for integration into AG2 as reliability project subtasks.
- Finish the hiring of a dedicated electronics/detector engineer.
- Obtain some PWFS and optical layout methods from CAD and optical group members.
- **Gen4#3**
 - Continue preparing all material for Request For Proposal (expected release in early Q4)

4 OTHER DEVELOPMENT TEAM ACTIVITIES

- **Altair upgrades**
 - Project is limited by resources and should see a formal launch in 2014. Preparatory work in on-going for 2 new science dichroic: one allowing usage with GMOS, and one optimized for L and M.
- **Recruitment**
 - Chad Trujillo has taken the Head of Adaptive Optics position at Gemini as of April 1st.
 - The project manager position and detector/electronics engineer (for A&G2) positions are still in the interview process.