

Charge to Review Panel
SAM Laser Guide Star Design Review
Friday, 28 September 2007

This is a Preliminary Design Review of the Laser Guide Star System (LGS) for the SOAR Adaptive Optics Module (SAM). However, two key elements of the overall design are more advanced. The SAM team is proposing to proceed with purchase of the laser itself on an accelerated schedule, so they are asking that the choice of laser be considered a critical or final design decision in this review. Also, the Laser Launch Telescope design is at an advanced level and will proceed to detailing and fabrication soon if no significant changes are recommended in this review. Other components or subsystems at a preliminary design level and will proceed to detailed design following this review.

The review panel should direct its report to David Sprayberry, the NOAO Associate Director for Instrumentation. The panel should address in its report the following questions:

1. Does the overall system design comply with the science goals?
2. Is the choice of laser appropriate for the SAM LGS, and should the team proceed to purchase the recommended laser?
3. Is the design of the Laser Launch Telescope appropriate to the needs of SAM and sufficiently mature to be ready to proceed to fabrication with only modest additional design detailing?
4. For those components or subsystems not identified for early purchase or fabrication, are the designs ready to proceed with engineering design and specification for fabrication?
5. Are there any specific risk areas or weaknesses in the designs, schedules or resources that require changes to the designs, schedules or resource plans?
6. Are there any operational aspects of the proposed designs, especially aspects relating to safety, about which the panel can make comments or recommendations to the SAM team as builders or to SOAR as the end user of the LGS system?
7. Are there any other recommendations for improvements to the design?
8. Are there parts of the system where the panel believes that a further design review will be necessary, either due to problems identified or changes recommended here or due to the current state of that part of the design?
9. Are the project plan, milestones, and schedule clear and realistic?
10. Are the project resources adequate for the needs of the work and the schedules?