



## **Keck Next Generation Adaptive Optics Laser Launch Facility Mini-Review Charge and Review Process**

Jason Chin  
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The NGAO Project will provide a Preliminary Design Review (PDR) of the project in the second quarter of calendar year 2010. As part of the PDR, the team will present the design for the Laser Launch Facility (LLF). The LLF system receives the beams from the laser systems, creates the required asterisms and launches the laser beams onto the sky. This mini-review is being held in preparation for the PDR. The purpose of the review is to evaluate the proposed LLF opto-mechanical designs to confirm that they will meet the NGAO requirements. This review is not intended to review requirements that have been previously agreed upon by NGAO System Engineering. However, the team may propose changes to the requirements to improve performance. A successful review will ensure the planned designs can move forward to the PDR.

We have assembled a review panel consisting of three experts from the NGAO team from each partnered organization. The review panel has been provided design documents describing the proposed LLF design. Some supplemental material including this document and the requirements will also be available. Using this material and those presented at the review, the panel is asked to evaluate the proposed designs and answer the following questions:

- Does the LLF team understand the critical requirements?
- Does the opto-mechanical design satisfy the requirements?
- Is the opto-mechanical design technical feasible to fabricate?
- Are the technical risks clearly defined and are there plans to mitigate the risks?

The following items will not be covered in this review; but will be included in the PDR in 2010:

- LLF motion control
- Effort Estimates
- Budget
- Schedule

The review will take place on Friday, October 30, 2009, at 9AM HST. The PolyCom Video System will be used to connect with participants from CalTech and UCSC. The review committee consists of the following people:

- Olivier Martin (WMKO), Chair
- Viswa Velur (CalTech)
- Renate Kupke (UCO)

The LLF opto-mechanical team consists of the following personnel from WMKO:

- Jim Bell, Jason Chin, Drew Medeiros, Thomas Stalcup, Ed Wetherell

The agenda for the review is as follows (all times are HST):

- 9:00 AM: Welcome and introductions
- 9:10 AM: Presentations
- 10:50 AM: Break
- 11:00 AM: Open discussion and questions

- 12:00 Noon: Review committee closed session
- 12:45 PM: Review committee feedback to team

Reviewers may submit written questions to the LLF team on areas or issues they would like to see covered during the review. Questions should be directed to Jason Chin ([jchin@keck.hawaii.edu](mailto:jchin@keck.hawaii.edu)). Questions received by COB on Oct 26, 2009, will be addressed with a written response during the review presentations. We will make every attempt to provide formal written responses to questions received after the 26th; however, we may only be able to provide verbal responses, depending on the circumstances.

At the conclusion of the review, the committee is asked to provide the NGAO Project Manager and the LLF team with verbal feedback as to their recommendations and concerns. A final report of findings, recommendations and comments is requested within one week of the review. The written report should be addressed to the NGAO Project Manager.

Thank you for your participation in the review process and for helping to ensure the success of the NGAO Laser Launch Facility.