



NGAO System

Discussion of Roles and Teams, Charge and Deliverables

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**AO System (WBS 3.2) &
Laser Facility (WBS 3.3) Design Kickoff**

NGAO Team Meeting #9
August 24, 2007

Roles and Teams

(not a complete definition, see WBS dictionary in the SEMP for full definitions)

AO Opto-mechanical Team Responsibilities

- Layout and fitting of all elements in the science path from telescope to science instruments
- Enclosure/environment, support, mounts, mechanisms
- Interface with wavefront sensor designs
- Mechanics of electronics systems (racks, cabling)



Roles and Teams

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AO Wavefront Sensors Team Responsibilities

- Design of HOWFS opto-mechanics
 - LGS WFS deployable pickoffs (for variable asterism)
 - LGS WFS zenith angle dependent focus mechanism
- Design of LOWFS opto-mechanics
 - TTFA deployable pickoffs mechanism
- Design of “truth” wavefront sensors and wind-shake sensors
- Opto-mechanical layout and design, specification of components
- Interface to AO opto-mechanical team



Roles and Teams

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AO Software Team Responsibilities

- Architecture and specification of overall control system (user interface, sequencer, TCS interface, data archive, etc.)
- Software and electronics design for non-real time control (bench automation, power control, etc.)
- Software and electronics for real-time control (tomography engine, DM & WFS processing, etc.)
- Interfaces



Roles and Teams

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Laser Projection Opto-mechanical Team Responsibilities

- Launch telescope (specification, preliminary design)
- Layout and mechanics of deployable asterism beam steering
- Beam transport system design
- Diagnostics systems optical design and layout
- Interface to electronics
- Electronics systems mechanics (racks and cabling)



Roles and Teams

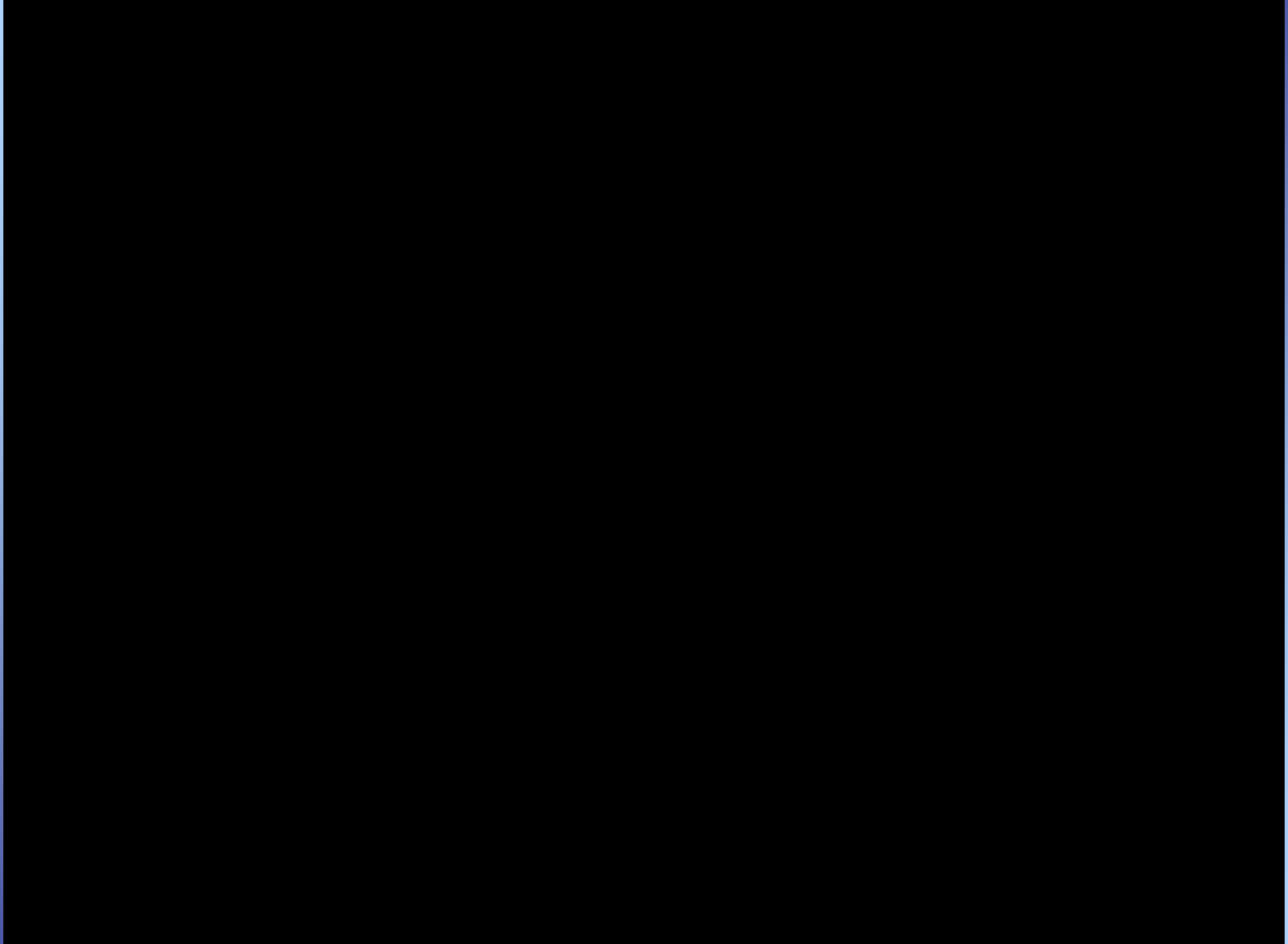
(not a complete definition, see WBS dictionary in the SEMP for full definitions)

Laser Software Team Responsibilities

- Software and electronics design for non-real time control (bench automation, power control, etc.)
- Software and electronics for beam and launch diagnostics and control
- Interfaces to laser control system
- Interfaces to AO control system



Assignment Matrix



Deliverables

- The formal output of the design activities will be the **System Design Manual** (SDM) which will be used to take the NGAO project into the preliminary design phase.
- Writing the SDM is the responsibility of Peter Wizinowich, as task 3.6, based on collating information generated by the AO system design teams.
- The teams will need to document the designs internally, using the Twiki web based system as the library for document management.
- Documentation at this level will include:
 - CAD drawings of the structure and optical layouts
 - Drawings of the optical functionality and files containing optical prescriptions
 - Enclosure and facilities management (cooling) concept drawings
 - Software design documents
 - Information from vendors (protected as proprietary if required)
 - Meeting minutes



Discussions and Clarifications

