NGAO Team meeting – 9 video/phone conference
August 24, 2007

Meeting Minutes recorded by Chris Neyman (WM Keck)

Attending: In effigie (e.g. on the phone or video)

UC Santa Cruz: Bauman, Gavel, Kupke, Le Mignant, Lockwood, Max, Reinig
UC Berkley: Marchis, and Baek
Caltech: Dekany, Flicker, Moore, Velur,
W. M. Keck: Bell, Chin, Flicker, Johansson, Neyman, Wizinowich

ACTION ITEMS summary: denoted by heading "ACTION" in minutes

ACTION NGAO group reached consensus that the subtasks leads would do planning sheets
ACTION EC review of Science, System, Science Summary requirements
ACTION EC determine how to manage requirements in the future
ACTION EC will determine mechanism for exchange of information between the instrument working group and design teams
ACTION: Science teams provide requirements for PSF estimation
ACTION: EC republish SEMP WBS spreadsheet and list of team members and leads
ACTION EC talk to 3.2, 3.3 subtasks leads and key team members
ACTION EC distribute list of WBS and leads for AO and Laser design tasks
ACTION EC revise plan for 3.2 and 3.3 by September 3, 2007
ACTION Bell, Lockwood, Moore, Velur, CAD users group meeting
ACTION EC will address ICD methodology
ACTION Team leads should gather your team, and do your planning sheet

Meeting 9 Twiki page:
http://www.oir.caltech.edu/twiki_oir/bin/view.cgi/Keck/NGAO/070824_Remote_NGAO_Meeting_9

Minutes of the meeting:

(Note that minutes aren't a transcription of every word that a presenter spoke, but attempt to capture discussion and action items)

10:00 am Review of project plan & schedule, with emphasis on 3.2 and 3.3
(Presenter Gavel)

Wizinowich: correction to presentation, FOV for wide field science, d-NIRI and LOWF is 2 not 5 arc minutes diameter

LeMignant: Is the flow down between documents captured?
Gavel: Yes

Johansson commented that RTR is not mentioned in the software on slide 9

Gavel: Check NGAO SEMP
Wizinowich: mentioned that project plan on slide 4 shows RTR work
Rich Dekany asked about documenting LASER requirements
Wizinowich noted that this is included on slide 5

10:30 am Inputs to System Design Phase & Expected Outputs
(Presenter Wizinowich)
Peter

Group discussion of how one should plan for 3.2 and 3.2 tasks and subtasks
Gavel suggested planning sheets for all subtasks
Neyman commented that currently WBS 3.2 (AO) is all rolled up into one sheet on Twiki.

NGAO group reached consensus that the subtasks leads would do planning sheets (ACTION)

Dekany commented that the FRD should contain requirements and TBD will be specified by version 2

Wizinowich commented that new items in the NGAO plan are in KAON 481 "NGAO mid year replan"

Velur asked will design be open at all phases?
Wizonwich and Gavel commented on usefulness of sharing information with other groups for example TMT
Le Mignant noted that group could have problems with documentation about "sensitive" information
Max would prefer separate place on Twiki that is password protected
Dekany prefer that we adopt password protection on a file by file basis.
Velur commented that Zemax for example didn't have a file password protection scheme.
Gavel noted that you can put anything in zip file and password protect the zip file as a unit.
Wizinowich commented that we should try to be as "open" with information as possible
Gavel noted that usually cost information from a subcontractor bid, for example, is sensitive use password protection on Twiki on a file by file basis

Le Mignant ScRD, SRD and FRD aren't finished.
Gavel requested a formal change control procedure
Neyman asked for more information on control procedure
Wizinowich commented, practically group needed to start design phase with the requirements as they are
Gavel EC will official bless requirements
ACTION EC review of Science, System, Science Summary requirements
ACTION EC determine how to manage of requirements

11:05 am Functional Requirements

Le Mignant asked Neyman to talk to optical requirements sample document

11:15 am Outputs of the system architecture phase
(Presenter Dekany)

Le Mignant does the AO bench have space for calibration sphere, etcc
Dekany probably yes, but still TBD

12:15 pm Lunch break

12:45 pm Open questions going into the system design phase

(Presenter Dekany)

Gavel – What are the assumptions in FRD about LGS number and positions?
Dekany High rate of variations in parameters this week, should stabilize in two weeks.

Gavel: Any values, requirements in FRD must reference where it came from
Dekany: is "see error budget version x.xx" or KAON XXX sufficient?
Gavel: Yes, if that's where it came from. Even if its incorrect is can be tracked back to something
Neyman: Do all ScRD and SRD requirements have a reference

Comments from group about change relay output from F/15 to F/45
Dekany: What is mechanism for instrument working group inputs, and requests for clarification about instrument parameters?
ACTION: EC will determine mechanism for exchange of information between the instrument working group and design teams

Dekany: using photo return specs in error budget, FRD (Neyman notes that laser FRD will be using return specs)
Gavel: leaving the laser parameters free is a good idea
Gavel: Does error budget included laserfratricide effects?
Dekany: I think I use row of higher noise subapertures, error budget models fratricide partially
Gavel: needing a pulsed laser impacts AO system design
Velur: Please take a look at fratricide KAON
Dekany: side calculations make be better than including a complicated model in spread sheet

Wizinowich: All though telescope collisions don't impact wavefront error it does impact observing efficiency error budget

Dekany: Truth sensor requirements and error budget, have lots of TBD
Le Mignant: might need to be IR wavefront sensor,

Gave: LOWFS design process what should be done?
Dekany: Risk estimate, detailed physical modeling is risk mitigation could become another trade study.
Gavel: can't leave too many things multi path
Dekany: convince me that it meets requirements, might need simulations
Gavel: It nice to optimize, but don't have infinite resources
Dekany: just meet requirements, not optimize.

Dekany: Servo bandwidth, update rate on RTC try to leave some freedom in design
Gavel: Servo bandwidth and update rate might not need standard factor of 20 decimation if we use better algorithms

PSF facility and Cn2 measurement
Gavel and Max both commented that these are not defined well in the requirements; these need work and flow down from science cases

ACTION: Science teams provide requirements for PSF estimation

1:45 pm Discussion of roles & teams, charge & deliverables
(Presenter Gavel)

Gavel: Refer to definitions in SEMP, other KAONs

Wizinowich: need science operations team David Le Mignant should lead, might be interactions, i.e. GUI, between science operation team and AO software team. Wizinowich: suggest "controls team", superseding all software controls in NGAO for both AO and laser systems.

Laser Controls
Velur: context diagrams in draft FRD
Gavel: all these systems are highly interconnected
Gavel: Eric Johansson is keeper of context diagrams

Velur: Can't laser room just use Keck I room?
Chin: Need to consider laser type and its location; this will drive other laser system components design and specifications

DLM: Need a supervisory control system that controls everything AO, LASER, Science Instruments, calibration control
Velur: yes, but laser control software is simple thing
Dekany: Remember that lasers control spans control of several lasers and syncing laser, etc. So NGAO laser control is more complicated than other systems

Group reviews team matrix

PW reform the following task PSF estimation, Cn2 profiling, NGS/LGS acquisition cameras, task into a single operations tools group task

Max: science team need on d-IFU pickoff tasks

Gavel: Someone must make sure people are really available at member institutions
Gavel suggests individual group meetings

ACTION: EC republish SEMP WBS spreadsheet and list of team members and leads
ACTION: EC talk to 3.2, 3.3 sub tasks leads and key team members
ACTION EC revise plan for 3.2 and 3.3 by September 3, 2007

WBS 3.5 the lead is David Le Mignant Science Operations
Wizinowich suggests a 3.5 kickoff at next NGAO meeting at Caltech

Team leads

Control AO Erik
Controls Laser Erik
Laser Facility (not laser spec) Jason
Laser Specification Velur with help from Gavel
Wavefront sensors Velur lead
AO operation tools CN lead
AO optical/mechanical DG lead
ACTION: Team leads should gather your team, and do your planning sheet

2:45 pm further clarification (Open discussion)

Wizinowich: see mechanical drawings on TWIKI
ACTION Bell, Lockwood, AM, VV, CAD users group meeting
Optical Design standards information Keck Information on Telescope optical TWIKI
ACTION: EC will address ICD methodology