

## Minutes of L-N/LBT Regular Teleconference

September 25, 2014; 17:00 – CEST (08:00 MST)

Attendees:

- MPIA: Martin Kürster, Ralph Hofferbert, Thomas Bertram, Tom Herbst
- LBT/Summit: John Little, Dave Thompson
- LBT/Tucson: Christian Veillet, Al Conrad, Dave Ashby, Doug Summers, Jonathon Kern

(last updated 01oct2014)

### 1. Updates from LBT

- *AdSec*

Al relayed reports given recently by Doug Miller and Vanessa Bailey. The DX AdSec was installed on 22sep2014 and so far it is operating well. The only real anomaly has been that sometimes a second re-try is required to get the shell to set. This is a known problem from the past, but there is a minor concern that the frequency is up (about 20% of initial shell sets, as opposed to a few percent in the past). On 24sep2014, Vanessa exercised the DX adSec extensively with no problems. If anyone wants the details, we could ask her permission to forward that report. Tom asked if it had been tested at non-zero zenith distance, and Dave reported: Yes it had.

- *Upper Instrument Access Platform<sup>1</sup> (UIAP)*

The L-N team provided to LBT a sketch of the UIAP-to-cover interface. LBT noted that this gives the mechanical interface, but, in addition, the information needed to analyze the loads (seen moving from zenith to horizon for example), are needed. In particular, the moments, CG and mass, that the cover can tolerate are requested. Dave confirmed that LBT is taking care of human and equipment loading for UIAP.

**Action to L-N:** *Provide to LBT load information as above.*

- *Vibration Collaboration*

Al gave a summary of the previous day's teleconference (Dave Ashby, Jörg-Uwe Pott, Michael Böhm, and Al) to discuss the possibility to apply the predictive method described in Michael's publication [Böhm et al., MNRAS, **442**, 2446]. LBTI has been

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<sup>1</sup> AKA, the "roof garden."

exploring a different predictive method (Kalman estimator). Dave gave a brief description of the tiger team (includes JPL experts who were involved in the Keck Interferometer); problems experienced with phase aliasing; and progress made addressing that via group delay.

We agreed that the best way forward regarding Michael's method (which can be summarized as a broad-band filter method) is to provide to Michael a data set (which Dave said he has also been pursuing, and Martin mentioned had been requested at OVMS meetings in the past). In particular, the required data set combines at-the-focal-plane phase information with OVMS accelerometer data, taken simultaneously.

**Action to Al:** *Once the OVMS-plus-phase dataset is available, forward it to Michael.*

- *What is required for LBT Visiting Committee review*  
The visiting committee will be provided with SPIE papers, and for many areas this gives an up-to-date picture. But for L-N there may be more detail needed. Tom said he could provide this by mid-November. He also pointed out that, regarding the existing information in SPIE papers, his 2014 paper contains a list of all L-N SPIE papers presented at that meeting.  
**Action to Tom:** *Provide to Christian the aforementioned L-N update information.*
- *Feedback on the Organization Note for PAE*  
No progress.  
**Action to Al:** *Provide feedback on the organization note for PAE before the next teleconference (09oct2014).*
- *Temporary permit*  
Christian points out that this is not possible in the current permitting environment (i.e., the permit is pending).
- *Regular shuttle service*  
Yes, LBT could organize this. The question of who pays is TBD.
- *TCS Gen-2*

Thomas suggested we should add TCS Gen-2 as a topic for future meetings. We discussed it briefly. It is likely that the L-N need date comes after the general LBT need date. But it would be good to use these meetings for further discussion of L-N specific requirements. Al suggested including the general topic of L-N interferometry in future teleconferences.

## 2. Updates from L-N

- *Work plan until PAE and progress toward milestones*

A planning and coordination meeting on the work to be done before PAE was held 18.sep.2014. Many details are still to be worked out; however, one top level determination was the need to have instrument integration complete by the end of the year in order to have time for verification tests before PAE in May. The list of major system level integration steps still required includes cryostat-to-bench and installing the SX (i.e., non-Pathfinder) GWS. Both of these are planned for the next few weeks.

Al asked about closing the loop on the SX side with the MHWS. Thomas reported that that task is in progress and that closing the loop, with an infrared test source imaged on the science detector (thus showing directly the AO correction achieved) is one of the major/last instrument level verification tests to take place before PAE.

- *Disassembly and reassembly plan*

The pillars of the plan were provided in an email sent by Ralph before the meeting and are repeated here:

LN AIV at MPIA	2013 Jun 11 - 2015 Apr 30
PAE + action closing	2014 May 04 - 2015 May 30
MPIA Open House Day 2015	2015 Jun 08 - 2015 Jun 22
Disassembly and packing	2015 Jun 22 - 2015 Aug 17
Departure from MPIA	2015 Aug 17 - 2015 Aug 17
Shipping to the US	2015 Aug 17 - 2015 Sep 17
Arrival at Base Camp	2015 Sep 17 - 2015 Sep 17
Road haulage to LBT summit	2015 Sep 17 - 2015 Sep 26
Arrival at LBT	2015 Sep 26 - 2015 Sep 26
Unpacking and Lab AIV	2015 Sep 26 - 2016 Apr 02
Marriage LN-LBT	2016 Apr 02 - 2016 Jul 05
Day-time calibration	2016 Jul 05 - 2016 Sep 03
On-sky commissioning	2016 Sep 03 - 2016 Dec 02

The discussion focused on the question of how to react if a repair intervention becomes necessary during the approx. 6 months that L-N will be in the clean room (planned for 26.sep.2015 to 02.apr.2015). There was general agreement that one AdSec could cohabitate, but some details are TBC. The big question was what to do if LUCI needed work. Thomas described why covering L-N and moving it out of the clean room in the middle of Lab AIV would be impractical. The discussion included the possibility of using a temporary clean room structure in the high-bay for either L-N or LUCI. The problem is the crane. Further discussion of the pros and cons is required; this discussion was just a kick-off.

**Action to Al:** Make figure 35 of the ICD available (see below). This figure illustrates the space requirements for L-N, the laminar flow unit, the mask exchanger, and other L-N equipment that will occupy the Mountain Lab during AIV.

**Action to Al:** Produce a cost/benefit trade study that includes the costs of providing an alternate service area for LUCI during 26.sep.2015 to 02.apr.2015, versus the costs of moving L-N during AIV. [Since the meeting: Robert Reynolds agreed to provide the information for costing the former: temporary LUCI servicing area.]

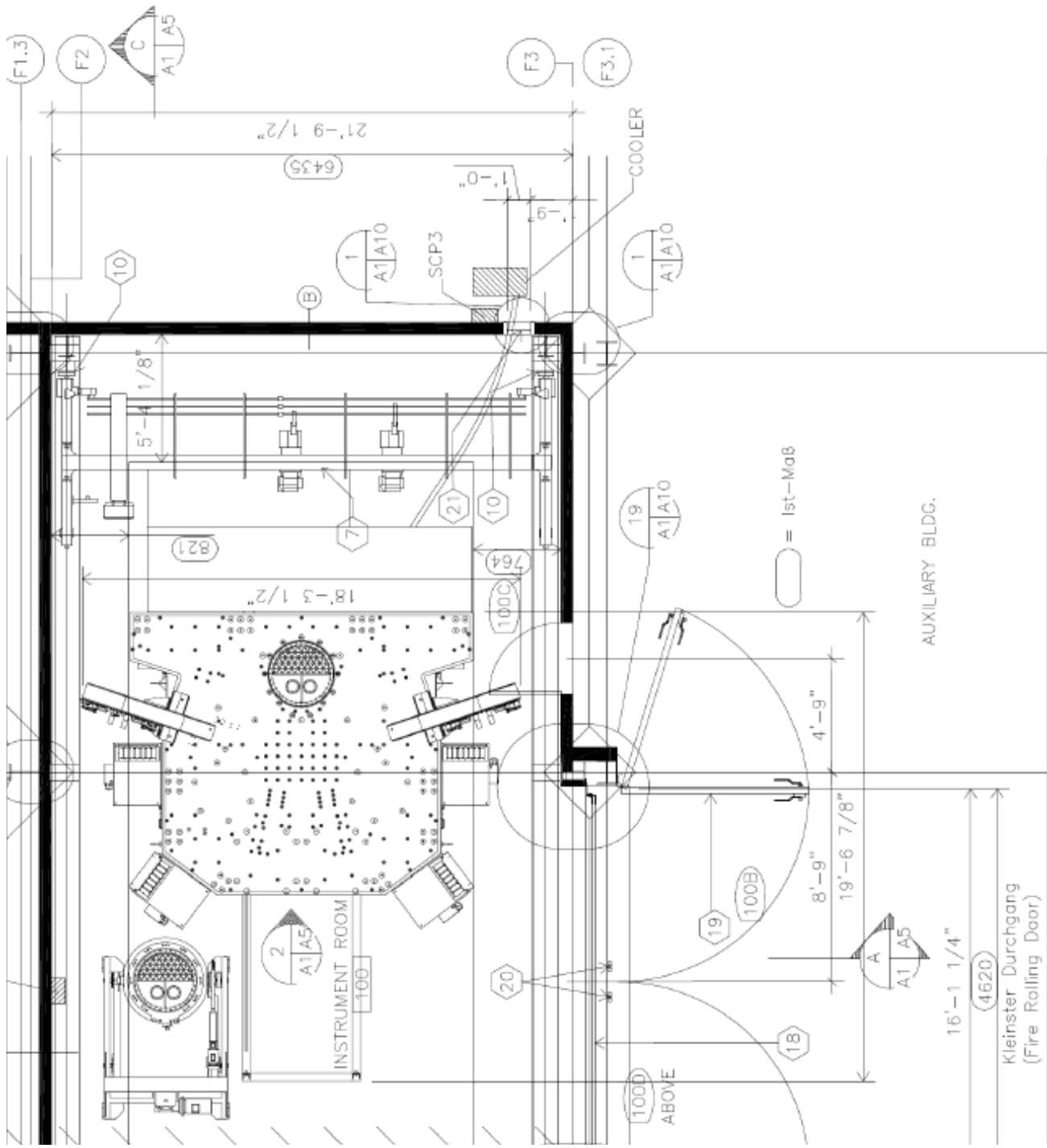
- *PF/E2*

PF will use one night during the 10-15 Nov LBTB block:

[http://www.lbto.org/schedule/LBT\\_2014B.pdf](http://www.lbto.org/schedule/LBT_2014B.pdf)

The team will likely arrive approx. 08.nov.2014 and at least some members will remain through the 15<sup>th</sup>.

**Next Meeting:** Thursday 09.oct.2014, 0800 MST (1700 CEST).



will be used for the clean room tent and LUCIFER maintenance. The LN Stirling cooler is accessible via a hole in the right wall.