Model Observing Schedule

A third model observing schedule was constructed, based on the following priorities (derived from Board reaction to the consequences of the first set of priorities):

1) Completion of LUCIFER commissioning and beginning of LUCIFER science.
2.5) Increased reliability through completion of basic telescope commissioning.
2.5) Minimum of 1/3 of nighttime allocated to partner science
4) Commissioning of FLAO as soon as it is available.
5) Commissioning of MODS.

A major difference between this draft schedule and the previous version arises from the lack of progress on LUCIFER commissioning in the run at the end of June and beginning of July. As of this writing, the team was able to use two half nights out of nine, with the rest clouded out from the early arrival of monsoons. They have therefore requested 24 more commissioning nights in the fall in two blocks separated by two weeks. Then, partly because of the very limited manpower available to the team with expertise sufficient for deep analysis of the commissioning data and difficulties in utilizing some real expertise available within LBTO, a month is needed to complete analysis and produce documentation suitable for SDT that reports final results for deep imaging and faint long-slit spectroscopy. SDT is scheduled promptly after four weeks, during which the November shutdown provides most of that interval.

That three-week shutdown in November is provided for an upgrade of the MCS (servo) electronics. That period will be used intensively for enclosure and Hydrostatic Bearing commissioning activities as well. Those priorities lead to the following specific schedule issues. Upgrading the primary mirror support hardpoints requires removal, rework, calibration, reinstallation, and recommissioning of those for one mirror, then the other. Since we wish to enable work with LUCIFER at highest priority, the first system reworked will be that for the DX primary. Now that LUCIFER commissioning is extending into the fall, we will defer pulling those hardpoints until the November shutdown. As seen in the project schedule, the interval required for the first set means that DX will be back in service for January science observing. There is about a one-month push to the MODS installation, which would now be just after New Year's 2010.

It is anticipated that the SX primary system rework will take about six weeks. In the first draft of the schedule, that work was scheduled to start along with commissioning of the DX front bent Gregorian focus, to minimize the impact on science time. However, to meet the condition of 1/3 of the nights available for science, in this model we defer the SX hardpoint upgrade to summer shutdown, 2010. There are two consequences: any Operational Readiness Review marking the completion of basic telescope commissioning will be pushed to mid-fall of 2010 from June, 2010. The actual performance of the primary will still lead to small angle jumps if collimation is commanded during open shutter time for the instrument. The guider will pull the target back to the reference point. For imaging with LBC and MODS, there can be measurable image elongation. For slit spectroscopy, the most likely outcome is modest loss of signal.

To balance progress in commissioning with steady acquisition of science data, this model produces 1/3 of the nights for science observing. For the 10 months per year of telescope operation, that corresponds to 25 nights for each major partner. That target cannot be met for every partner in the coming year because of conflicting priorities. Half a science run is effectively lost to the three-week shutdown of the telescope in November for the replacement of servo hardware, although extended science time is scheduled in December. It is highly desirable to hold that shutdown as soon as the servo hardware is ready, because there are many months of work following to complete MCS preparation and commissioning. Therefore, the total number of science nights in this model schedule comes out to be LBTB 25, Italy 25, AZ 20, and OSU/RC 24.

We have been conservative in allowing six weeks in total for commissioning each of the SX Direct and DX Bent Gregorian focal stations. That leaves only twenty-four nights of true AO commissioning before summer shutdown 2010, out of some 80 required (although in a statistically good weather period). Should the AGw/focal station commissioning go faster, we will work flexibly with the FLAO team to get them started sooner, and similarly with the MODS team for the commissioning of their AGw unit.

The schedule now assumes that MODS can be on the telescope in early January, which gives some contingency to the team's latest projection. MODS commissioning can possibly be completed before summer, 2010. The cadence in late spring is representative of a productive way forward over the next two years, with 1/3 science time, and the remainder of each month split between two commissioning activities. We have found empirically that the two-week commissioning blocks become inefficient because of the strain on the limited commissioning resources available to both the observatory and the instrument teams. The downside would be four-night observing blocks per partner every other month.

This schedule can be further modified in a number of ways, depending on alternate choices of priority.

The following nighttime schedule is the realization of the current model:

Sep 3 - 13	Re-commissioning – SX Prime, SX Bent
Sep 14 - 17	Italy – LBC
Sep 18 – 21	LBTB – LBC
Sep 22	LBTO – LFBG prep
Sep 23 – Oct 4	LUCIFER commissioning
Oct 5 – Oct 11	SX Direct commissioning
Oct 12 - 13	LBTO science prep
Oct 14 - 17	Arizona – LBC
Oct 18 – 21	OSU/RC – LBC
Oct 22 – 23	LBTO – LFBG prep
Oct 24 – Nov 4	LUCIFER commissioning

Nov 5 - 23	Telescope down for MCS upgrade
Nov 24 – Dec 1	SX Direct Commissioning
Dec 2 – 3	LBTO – LFBG prep
Dec 4 – 15	LUCIFER SDT
Dec 16 - 19	LBTB – LUCI 1
Dec 20 - 23	AZ – LUCI 1
Dec 24 - 25	Closed
Dec 26 – Jan 3	SX Direct commissioning
Jan 4 - 8	MODS installation & AGw commissioning
Jan 9 – 10	LBTO Science Prep
Jan 11 – 15	OSU/RC – LBC + LUCI 1
Jan 16 – 20	Italy – LBC + LUCI 1
Jan 21 – Feb 4	MODS AGw commissioning
Feb 5 – 6	LBTO science prep
Feb 7 – 11	Italy – LBC + LUCI 1
Feb 12 – 16	AZ – LBC + LUCI 1
Feb 17 – 21	LBTB – LBC + LUCI 1
Feb 22 – Mar 8	AGw1 commissioning on DX
Mar 9 – 10	LBTO science prep
Mar 11 – 14	Italy Science
Mar 15 – 18	OSU/RC Science
Mar 19 – Mar 28	AGw1 commissioning on DX, incl (1-sided) binocular TCS comm.
Mar 29 – Apr 7	MODS AGw + MODS commissioning
Apr 8 – 9	LBTO Science prep
Apr 10 – 13	AZ Science
Apr 14 – 17	LBTB Science
Apr 18 – 26	AGw1 commissioning on DX
Apr 27 – May 5	MODS commissioning
May 6 - 9	LBTO science prep + binocular TCS commissioning
May 10 – 13	OSU/RC Science
May 14 – 17	Italy Science
May 18 – 27	FLAO commissioning
May 28 – Jun 5	MODS commissioning
Jun 6 – 7	LBTO science prep
Jun 8 – 11	OSU/RC Science
Jun 12 – 16	LBTB Science – Mtn Lab payback
Jun 17 – Jun 30	FLAO commissioning
Jul 1 – Jul 4	MODS 1 commissioning