

The Large Synoptic Survey Telescope (LSST) will be a large-aperture, wide-field, ground-based facility designed to obtain sequential images of the entire visible sky every few nights. From its home on Cerro Pachón in northern Chile, the LSST will conduct a 10-year survey that will deliver a 200 petabyte set of images and data products that will address some of the most pressing questions about the structure and evolution of the universe and the objects in it, including:



- Understanding Dark Matter and Dark Energy
- Hazardous Asteroids and the Remote Solar System
- The Transient Optical Sky
- The Formation and Structure of the Milky Way

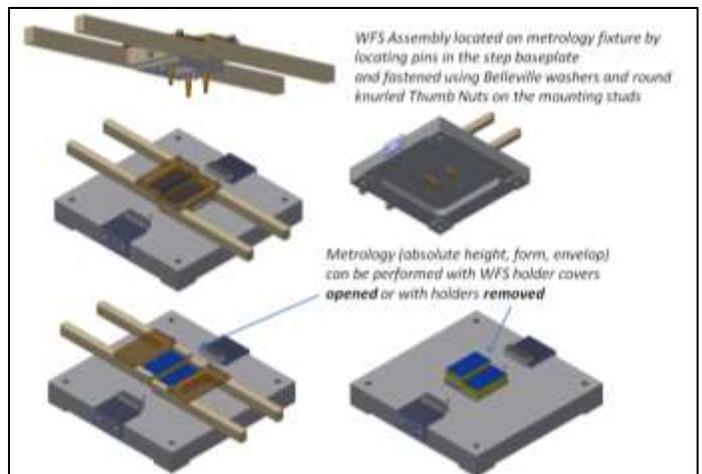
The LSST Project Office (LSSTPO), an independent AURA center, is responsible for managing the LSST construction project – a partnership between the National Science Foundation (NSF) and the U.S. Department of Energy (DOE). At the end of construction, the LSST project will have delivered an 8.4-meter aperture telescope; all required support facilities; a 3.2-gigapixel camera; a supercomputing and data storage facility in La Serena, Chile; offices for Chile-based staff; and a data archive center at the National Center for Supercomputing Applications at the University of Illinois in Urbana-Champaign. As lead agency, the NSF funds the LSSTPO and is responsible for the telescope and site facilities, the data management system, and the education and public outreach infrastructure. The DOE, through a consortium of national laboratories led by SLAC National Accelerator Laboratory, is responsible for providing the camera. Through the LSSTPO, the LSST construction project is managed as a single coordinated effort.

Selected Highlights of Progress in June:



Left: Concrete being poured for the platforms to be used as the foundation support of the building columns and floors for the LSST support building on Cerro Pachón. The effort used 1,210 cubic meters of concrete to level the site below the column footings.

Right: The camera team has ordered the Wavefront Sensors (WFS) and completed work on the wavefront-sensing assembly metrology fixture shown.



- The Camera team successfully completed six subsystem Final Design Reviews (FDRs) in June and the CD-3 Director's Review 30 June-2 July. All reviews were successful and were the final steps in preparation for the DOE CD-3 review to be held at Brookhaven National Lab on 4-6 August.



Summary Status for June 2015

- The Data Management Development Roadmap (LDM-240) has undergone an extensive update covering FY16-FY18. The team added 330 Level 3 Milestones to the plan in JIRA, the agile software planning, tracking and collaboration tool. These will be imported into the Project Management Control System to provide significantly more detail and more user-relevant terms for performance tracking and earned value reporting.
- The Telescope team has worked with the Summit Facility Architect and General Contractor to resolve soil condition issues off the main summit. Unexpected clay and loose rock were found at the support facility location and needed to be removed and replaced with concrete. The initial remedy was completed this month and a subsequent change order will follow next month.
- A design-build contract for the Camera Dewar (L3) lens assembly was awarded to Thales SESO (TSESO) 8 June. The contract Phase 1 kickoff meeting was held 23-24 June at TSESO.
- The team completed an external design review of the LSST Coating Plant on 29 June. This system deposits the reflective coatings on the Mirror surfaces. The successful outcome now leads to establishing the procurement package, scheduled for release in mid-July.
- An Operation Simulation Workshop was held 22-25 June in Tucson to update and further detail the Telescope Scheduler requirements based on feature and parameter experience derived from the Simulation efforts.
- The Information Security Officer attended the ACM/CLHS 2015 conference and discussed the LSST SCADA security plan with Center for Trustworthy Scientific Cyberinfrastructure (CTSC) professionals. The LSST Communications Officer participated in the Inclusive Astronomy 2015 Workshop held 16-19 June at Vanderbilt University in Nashville, TN.

Financial Summary - June 2015	NSF	DOE
Total Project Cost	\$473M	\$168M
Budget Cost Work Performed	\$32.6M	\$43.4M
Percent Complete	9%	32%
Cumulative CPI	1.02	1.03
Cumulative SPI	0.90	0.97
Remaining Contingency	\$82M	\$31M

Financial Status 30 June:

- NSF has authorized \$93M. In addition to work accomplished, \$60.5M more is encumbered. The final \$14M authorization for FY15 is expected next month.

Schedule Status 30 June:

- NSF Project has a -\$3.6M schedule variance due to slower hiring, and changes in large contract payment plans. Remedies are in place to recover through

temporary contract support. All critical path items are progressing as necessary to meet schedule.

- Project continues to have 13 months float and remains on schedule for October 2022 Survey Start.

Contingency and Issue Management:

- Camera team is working with Sensor vendors on schedule issues. Initial deliveries are scheduled later in 2015 and all mitigations continue to be available. Issues with competent rock under the support facility on site are being managed through additional concrete. While expensive (~\$2M), there will be no impact to performance and the building schedule continues to have float off the critical path.
- Both sides of the Project have healthy contingency levels at 23% and 33% of remaining work for the NSF and DOE respectively.