![LSST logo] Large Synoptic Survey Telescope **DESIGN REVIEW PLAN/REPORT**	Document # **LPM-95**	Date January 16, 2014	Status Draft 7
	Decision Authority **George Angeli** SE Manager	**William Gressler** T & S Manager	
	Subsystem LSST Systems Engineering		

Title of the Review	**LSST Operations Simulator (OpSim) Review**

Type of Review: Technical Review

WBS: LSST 06C.01

Presented By:	Abhijit Saha Steve Ridgeway Francisco Delgado Kem Cook Lynne Jones Srinivasan Chandrasekharan Cathy Petry	**Review Date:** February 4-5, 2014
Review Committee :	Roc Cutri (IPAC/Caltech) - Chair ~~Mark Johnston (JPL)~~ Michael Droettboom (STSci) Eric Neilsen (Fermi Lab) Philip Pinto (University of Arizona)	

Review Materials & Supporting Documents:	https://lsstcorp.org/reviews/opsim/documents

Change History

Revision	Effective Date	Description of Change
Draft 1	October 24, 2013	Initial release
Draft 2	October 29, 2013	Edited charge
Draft 3	November 3, 2013	Further edits to the charge
Draft 4	November 6, 2013	Minor edits

Draft 5	December 18, 2013	The Review Committee and the review dates are confirmed
Draft 6	January 16, 2014	Agenda added
Draft 7	January 28, 2014	Edits to agenda; review committet

Charge to the Committee:

The Committee is asked to evaluate the status of the LSST Operations Simulator (OpSim) and its computational core, which is conceptually identical to the Scheduler component of the Observatory Control System (OCS). While the Scheduler is an LSST construction deliverable, OpSim is a tool to

  (i)   Facilitate performance estimates and early design verification, before the telescope can be operated in its real environment, taking real sky images;
 (ii)   Enable engineering trade studies during detailed design, construction, and commissioning;
(iii)   Assist early exploration of potential LSST science; and
(iv)   Enable the development and validation of the LSST Scheduler.

The Review Committee is welcome to comment on any aspect of the presented information, but is asked in particular to respond to the following questions in their report.

1. Are the requirements for the Operations Simulator understood at a level appropriate to guide its development into the construction phase of the project (including the level of fidelity required)?

2. Are there possible design elements and system constraints that affect the survey cadence that have been overlooked?

3. Are the OpSim inputs adequate and representative of the expected operational environment for LSST?

4. Is the software architecture of OpSim sufficient to explore a wide range of scheduling algorithms and observing modes?

5. Is the suite of post processing tools (both exiting and in development, taken together) adequate to evaluate simulations for their performance with regards to science priorities?

6. Do the outputs from OpSim represent a reasonable prediction of the expected sequence of observations from LSST for a given set of science priorities?

7. Are the development plans for OpSim, including the proposed timeline and allocated resources credible given the requirement that a validated OCS Scheduler be delivered by the start of commissioning in 2019?

At the conclusion of the review, the Review Committee is requested to provide verbal exit briefing to convey high priority recommendations and comments.

The LSST project also requests that the committee provide a written report within two weeks after the review. The report should present the consensus of the Committee's objective findings, subjective comments, and high priority recommendations. An appendix may be included in the report to record any comments and recommendations from individual Committee members who are not represented by the consensus remarks.

Agenda

Tuesday, February 04, 2014

8:30 am	Welcome and Introductions	George Angeli
8:40 am	LSST Overview and Context for Operations Simulation	Andy Connolly
9:30 am	Overview of Operations Simulator	Abi Saha
10:10 am	Break	
10:20 am	Scheduler & Simulator Requirements	Francisco Delgado
12:00 pm	Lunch	
01:15 pm	Operations Simulator Implementation SSTAR & Post-processing Tools Implementation	Srini Chandrasekharan
02:45 pm	Break	
03:00 pm	Operations Simulator Validation	Kem Cook
05:00 pm	Executive Session	
06:00 pm	Dinner	

Wednesday, February 05, 2014

09:00 am	Evaluating Simulations for Scientific Usefulness	Steve Ridgway
10:00 am	Metrics Analysis Framework (MAF)	Lynne Jones
10:45 am	Break	
11:00 am	Summary and Plans	Abi Saha
12:00 pm	Lunch	
01:00pm	Executive Session	
03:00 pm	Verbal Debrief	

COMMITTEE REPORT

TBD

TEAM RESPONSE (OPTIONAL)

TBD