

Strengthening Large Facilities Processes and Procedures



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Recommendations from 2013

Major Multi-User Research Facilities Report

- * Ensure a Foundation-wide risk management approach.
- * Provide additional rigor to technical, cost, schedule, and management reviews.
- * Improve transparency, communication, and clarity on process and expectations.
- * Increase capacity for efficient and effective project planning.

Implementation of the Major Multi-User Research Facilities Report

STEP 1:

- * Revision of the NSF Large Facilities Manual (LFM)
 - Contingency Policy & Risk Management
 - Cost Analysis
 - Improved **internal NSF Coordination** of oversight & assurance via new Integrated Project Teams (IPT) – **Actions and Accountability**

STEP 2:

- * Large Facilities Lexicon (Started in Step 1) – LFM Revision
- * Roles and Responsibilities (Agency-wide) – LFM Revision

STEP 3:

- * *Feedback to Program to enhance/strengthen review process*

Resulting NSF Process Improvements

- * Total Project Cost (TPC) estimate developed **collaboratively** prior to OD and Board approval.

Activity: Newly adopted NSF Cost Analysis in progress for RCRV

- * Specify and monitor risk/contingency **confidence levels** at the various project stages (CDR, PDR, FDR & Construction) based on **probabilistic approach**.

Activity: In progress for RCRV and LSST as part of contingency review

- * Prioritized, time-phased de-scoping plan to mitigate a cost increase equal to **at least 10 percent** of the performance baseline **at PDR**.

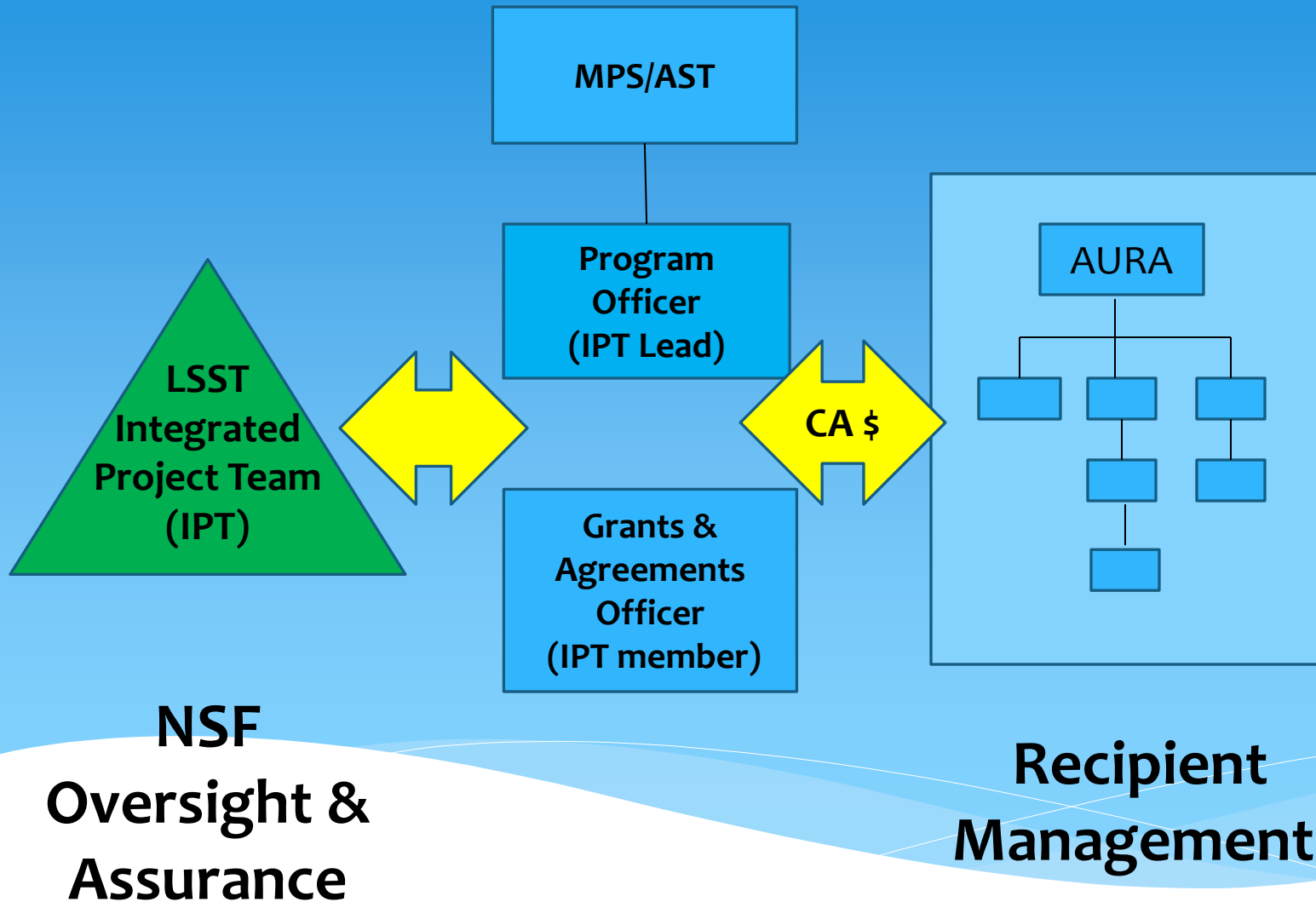
Activity: In progress for RCRV as part of contingency review

Assurance within NSF Culture

“It has been increasingly apparent that a single office is challenged to perform all three functions [planning, assistance, assurance] and the lack of clarity around the performance of these three functions can leave the Foundation vulnerable. To overcome this challenge, the Foundation needs to define the functions more precisely and assign them across the agency to more than one unit.” (Major Multi-User Research Facilities Report, March 2013, pg 3)

Assurance is a shared responsibility

Primary Roles & Responsibilities



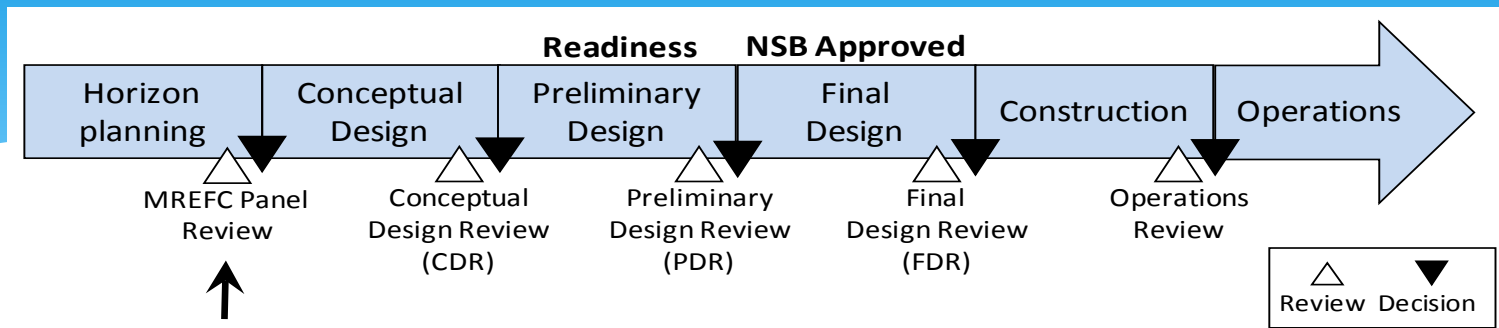
Time Line

- * NSF IPT's initiated (RCRV, LSST, DKIST, NEON and AIMS)
- * Begin Clearance of the revised LFM – Nov 3, 2014
 - * Contingency Policies, Oversight and Management
 - * Risk Management Guide
 - * Codification of IPT approach
- * Revised LFM publicly available– April 2015
- * LFO Lexicon Standardized – Early 2015
- * Roles and Responsibilities Clarified – Early 2015

**Up-date Board in February 2015
in conjunction with NSF *Large Facilities Plan***

END

NSF's large facility project planning process



* Horizon/Conceptual Design MREFC Panel Review

- * Compelling science case, aligned with NSF's strategic plan and compatible with existing facilities portfolio, reasonable development timeline, potentialities for partnership, assessment of any major challenges to NSF

* Conceptual Design Stage

- * Requirements, initial estimates of cost (including operations), risk and schedule

* Preliminary Design ("Readiness") Stage

- * Definition and design of major elements, detailed estimates of cost, risk and schedule, partnerships, siting

* Final Design ("Board Approved") Stage

- * Interconnections and fit-ups of functional elements, refined cost estimates based substantially on vendor quotes, construction team substantially in place

Integrated Project Team (IPT) Approach

