LCLS Lessons Learned Program

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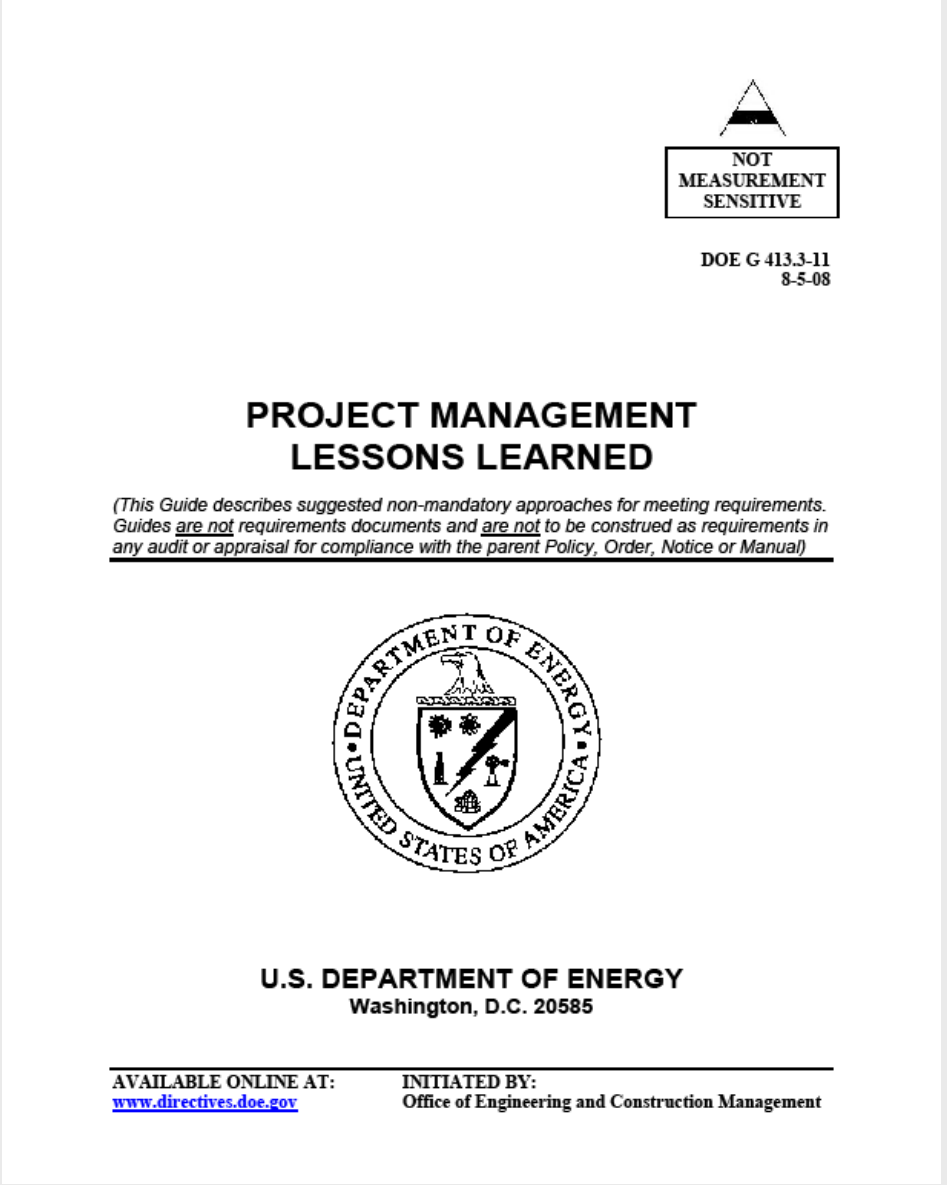
Why are Lessons Learned Important?

- To reinforce the core functions and guiding principles of Project Management, ISM and QA to enhance project success
- To provide the systematic review, identification, collection, screening, evaluation, and dissemination of lessons from events
- To share Lessons Learned with the DOE Complex



NOT MEASUREMENT SENSITIVE

DOE G 413.3-11
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PROJECT MANAGEMENT LESSONS LEARNED

(This Guide describes suggested non-mandatory approaches for meeting requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice or Manual)

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LCLS Lessons Learned Process

Capture

- Encourage Participation
- Identify
- Transmit

Check

- Screen
- Review
- Validate

Learn

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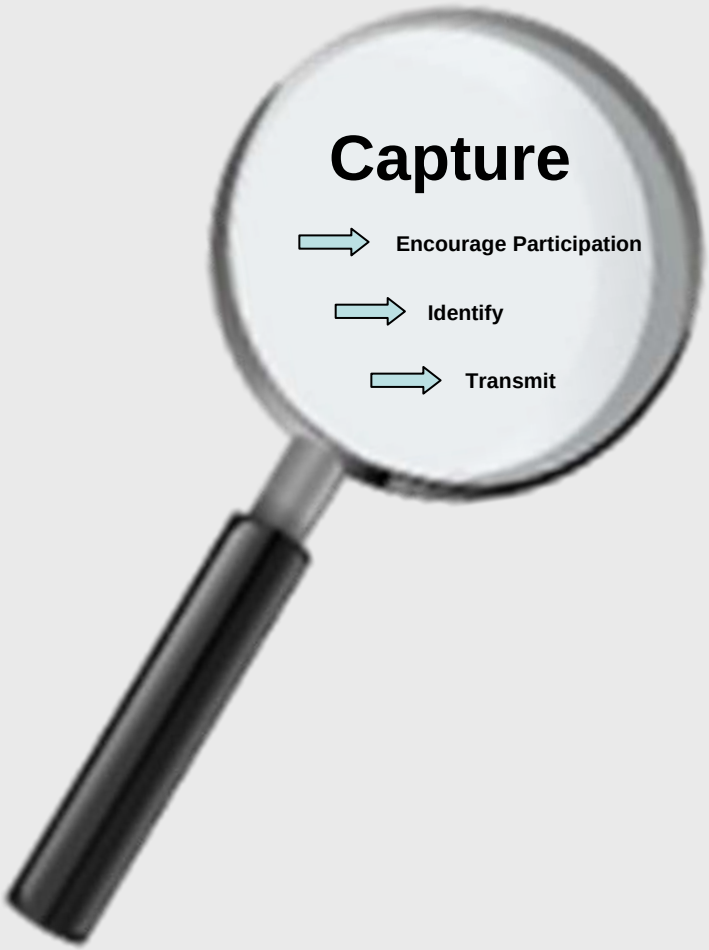
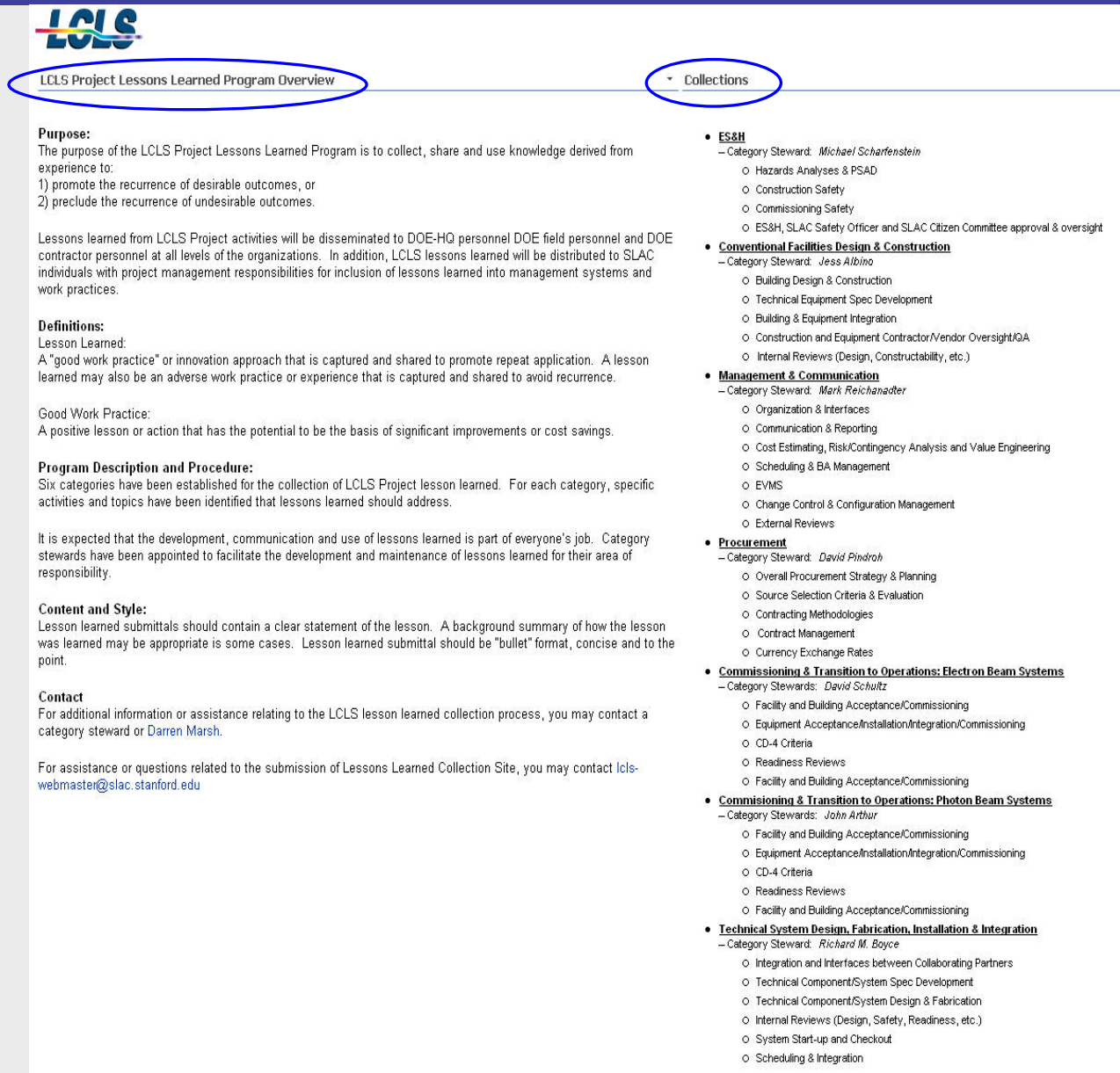
LL Identification



- Lessons Learned can be identified by any individual
- Category Stewards established for Lessons Learned categories
- Database used to capture and retrieve all Lesson Learned
- Best Practices and Opportunities for Improvement captured

LL Database

- Implemented a web-based LL collection system
- LL Program description
- Collection site for each category
  - ES&H
  - CF Design & Construction
  - Management & Communications
  - Procurement
  - Commissioning & Transition to Operations
  - Technical System Design, Fabrication, Installation & Integration



LCLS Project Lessons Learned Program Overview

Collections

Purpose:
The purpose of the LCLS Project Lessons Learned Program is to collect, share and use knowledge derived from experience to:
1) promote the recurrence of desirable outcomes, or
2) preclude the recurrence of undesirable outcomes.

Lessons learned from LCLS Project activities will be disseminated to DOE-HQ personnel DOE field personnel and DOE contractor personnel at all levels of the organizations. In addition, LCLS lessons learned will be distributed to SLAC individuals with project management responsibilities for inclusion of lessons learned into management systems and work practices.

Definitions:
Lesson Learned:
A "good work practice" or innovation approach that is captured and shared to promote repeat application. A lesson learned may also be an adverse work practice or experience that is captured and shared to avoid recurrence.

Good Work Practice:
A positive lesson or action that has the potential to be the basis of significant improvements or cost savings.

Program Description and Procedure:
Six categories have been established for the collection of LCLS Project lesson learned. For each category, specific activities and topics have been identified that lessons learned should address.

It is expected that the development, communication and use of lessons learned is part of everyone's job. Category stewards have been appointed to facilitate the development and maintenance of lessons learned for their area of responsibility.

Content and Style:
Lesson learned submittals should contain a clear statement of the lesson. A background summary of how the lesson was learned may be appropriate is some cases. Lesson learned submittal should be "bullet" format, concise and to the point.

Contact
For additional information or assistance relating to the LCLS lesson learned collection process, you may contact a category steward or Darren Marsh.

For assistance or questions related to the submission of Lessons Learned Collection Site, you may contact lcls-webmaster@slac.stanford.edu

- **ES&H**
  - Category Steward: *Michael Scharfenstein*
    - Hazards Analyses & PSAD
    - Construction Safety
    - Commissioning Safety
    - ES&H, SLAC Safety Officer and SLAC Citizen Committee approval & oversight
- **Conventional Facilities Design & Construction**
  - Category Steward: *Jess Albino*
    - Building Design & Construction
    - Technical Equipment Spec Development
    - Building & Equipment Integration
    - Construction and Equipment Contractor/Vendor Oversight/QA
    - Internal Reviews (Design, Constructability, etc.)
- **Management & Communication**
  - Category Steward: *Mark Reichanadter*
    - Organization & Interfaces
    - Communication & Reporting
    - Cost Estimating, Risk/Contingency Analysis and Value Engineering
    - Scheduling & BA Management
    - EVMS
    - Change Control & Configuration Management
    - External Reviews
- **Procurement**
  - Category Steward: *David Pindroh*
    - Overall Procurement Strategy & Planning
    - Source Selection Criteria & Evaluation
    - Contracting Methodologies
    - Contract Management
    - Currency Exchange Rates
- **Commissioning & Transition to Operations: Electron Beam Systems**
  - Category Stewards: *David Schultz*
    - Facility and Building Acceptance/Commissioning
    - Equipment Acceptance/Installation/Integration/Commissioning
    - CD-4 Criteria
    - Readiness Reviews
    - Facility and Building Acceptance/Commissioning
- **Commisioning & Transition to Operations: Photon Beam Systems**
  - Category Stewards: *John Arthur*
    - Facility and Building Acceptance/Commissioning
    - Equipment Acceptance/Installation/Integration/Commissioning
    - CD-4 Criteria
    - Readiness Reviews
    - Facility and Building Acceptance/Commissioning
- **Technical System Design, Fabrication, Installation & Integration**
  - Category Steward: *Richard M. Boyce*
    - Integration and Interfaces between Collaborating Partners
    - Technical Component/System Spec Development
    - Technical Component/System Design & Fabrication
    - Internal Reviews (Design, Safety, Readiness, etc.)
    - System Start-up and Checkout
    - Scheduling & Integration

LL Review & Validation

- Lessons Learned screened and consolidated by Quality Manager
- Category Stewards review, edit and revise LL as necessary
- Two LL discussion meetings held with Category Stewards and DOE-SSO
- LL Metrics to date:

Category	Best Practices	Opportunities for Improvement
ES&H	3	6
CF Design & Construction	*	*
Management & Communication	7	2
Procurement	3	5
Commissioning & Transition to Operations	1	2
Technical System Design, Fabrication, Installation & Integration	1	3

* >50 Lesson Learned received for CF activities. J. Albino is process of editing CF Lessons Learned.

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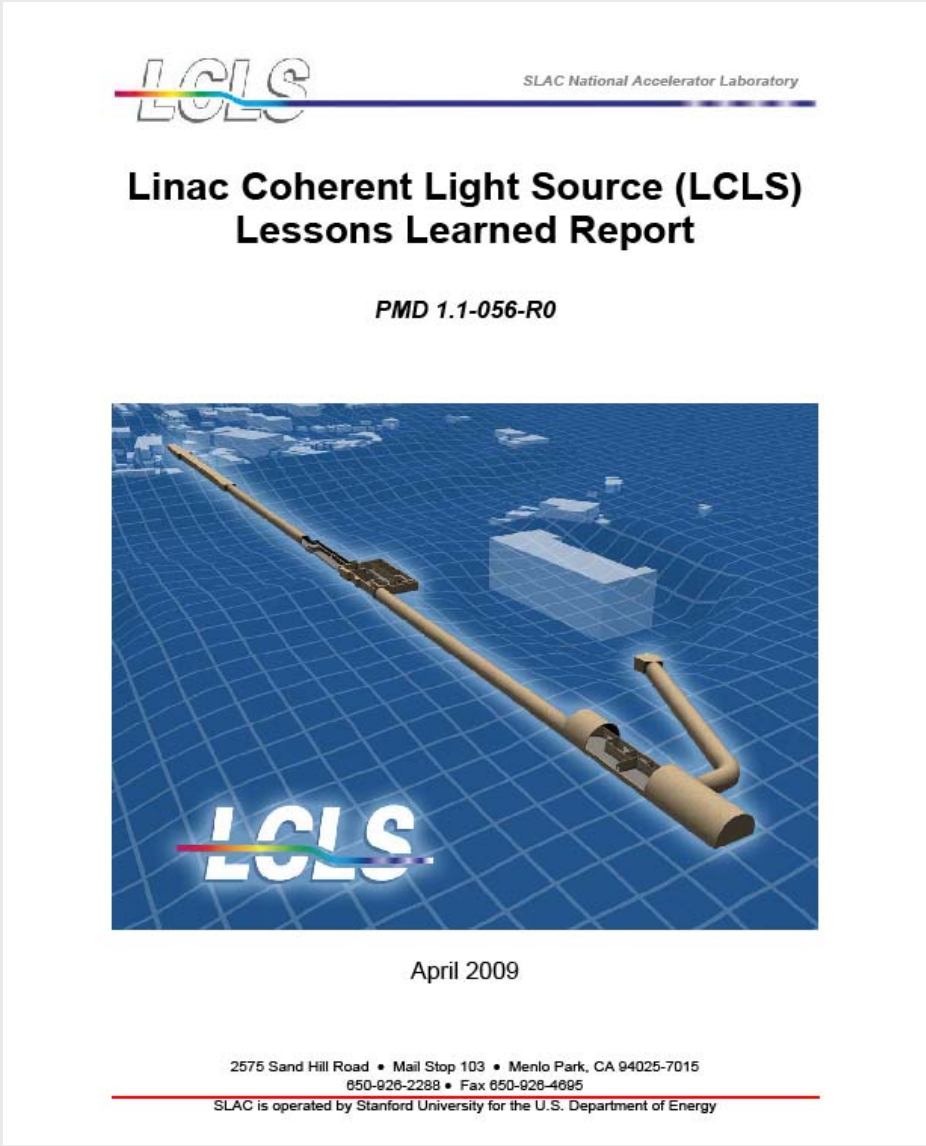
LCLS LL Report

- First revision of LCLS Lessons Learned Report released
- Available as part of review documents & back-up information
- Living document with further revisions expected



LCLS

SLAC National Accelerator Laboratory

Linac Coherent Light Source (LCLS)
Lessons Learned Report

PMD 1.1-056-R0

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Project Execution Improvement

- **Implemented an integrated web page for DOE Major Project Lessons Learned Reports**
- **Shared initial information with other SLAC Projects & Divisions**
- **Maintained as part of Directorate QA Program**

DOE Major Project Lessons Learned

New ▾ | Upload ▾ | Actions ▾

Type	Title
	Lessons Learned from Neutron Instrument Beamline Construction
	Lessons Learned from Neutron Instrument Beamline Construction - PowerPoint Presentation
	Nanoscale Science Research Centers (NSRC) Lessons Learned
	LBNL Molecular Foundry Project - Construction Safety Lessons Learned
	LBNL Molecular Foundry Project - CM/CG Contracting Lessons Learned
	LBNL Molecular Foundry Project - Architectural, Civil and Structural Design Lessons Learned
	LBNL Molecular Foundry Project - MEP Design Implementation Lessons Learned
	U.S. Large Hadron Collider (LHC) Project Lessons Learned
	Building a World-Class Safety Culture: The National Ignitin Facility and the Control of Human and Organizational Error - Publication
	Spallation Neutron Source Safety Lessons Learned
	Spallation Neutron Source Site Services Lessons Learned

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Going Forward

- **Continue to identify LCLS Lessons Learned and Opportunities for Improvement**
- **Share LCLS Lessons Learned with other SLAC personnel through a LL Forum**
- **Ensure integration with other feedback and improvement mechanisms**
- **Share LCLS Lesson Learned with other DOE Projects**

"Those who don't read have no necessary advantage over those who can't"

Mark Twain