



Communities of Practice & **LESSONS LEARNED**

Budget, Finance, and Award Management

Large Facilities Office

May 2016

Large Facilities Workshop 2016

S. Dillon Ripley Center

Washington, D.C.



NATIONAL ACADEMY OF PUBLIC ADMINISTRATION

*Use of Cooperative Agreements to Support
Large Scale Investment in Research
December 17, 2015*

RECOMMENDATION 6.9





Recommendation 6.9

"To facilitate project management knowledge sharing across the agency and with award recipients"



"NSF should formally establish communities of practice to share best practices and implement a "lessons learned" requirement for all MREFC projects."



KNOWLEDGE SHARING

"The NSF Academy should promote the formation of **communities of practices** and encourage staff participation."

INTERNAL

"The LFO should develop a **lessons learned** process and template to capture instructive experiences from projects and to inform policies and practices to strengthen the management of future projects."

EXTERNAL



Focus Today



NAPA Likes & Dislikes & NSF PLANS

Likes -	Dislikes -	NSF Plans to -
LFM tasks LFO with sharing Lessons Learned (LL). ¹	No collection or distribution guidance provided	<ul style="list-style-type: none">• Introduce a means to collect and distribute LL.
DOE and NASA have LL policy and databases.		<ul style="list-style-type: none">• Review DOE and NASA systems.
DOE and NASA collect both positive and negative lessons.		<ul style="list-style-type: none">• Collect both positive and negative lessons• Inform agency policy with LLs

1. LFM NSF 15-89, Sec. 2.1.6



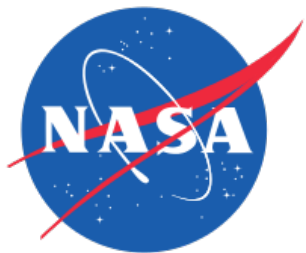
Questions

1. What kinds of lessons learned would assist a project at each of its various stages?
2. What elements should a lessons learned template include?
3. How might NSF motivate projects to share both positive and negative lessons learned?
4. Who should input lessons learned and how often?
5. Who should have access to the lessons learned and under what circumstances would these groups have access?

Who in Government has Lessons Learned Systems?



Smithsonian
Institution





Advice on Lessons Learned

- ▶ “Structure by lifecycle stage or role, not by project.”
- ▶ “Collect lessons in a form.”
- ▶ “Input lessons throughout the project.”
- ▶ “Review lessons before posting.”
- ▶ “Associate an action with each lesson.”
 - ▶ *Repeatable or adaptable*
 - ▶ *Preventative measure or response*
- ▶ “Turn lessons into policy.”
- ▶ “Open access as widely as possible.”
- ▶ “Enable filter and free text searching.”
- ▶ “Prompt for inputs and notify following posts.”
- ▶ “Track usage metrics.”
- ▶ “Archive closed or obsolete lessons.”

What
else?



Elements for a Template

Category or Categories	Lifecycle stage or role
Name	Title representative of the problem or success
Description	Explanation of the problem or success in two to three sentences
Root Cause(s)	Brief summary of what created the issue or opportunity
Impact(s)	Costs the problem or benefits the success introduced
Action(s)	What a project or the sponsor could do to prevent the problem or claim the success

What else?

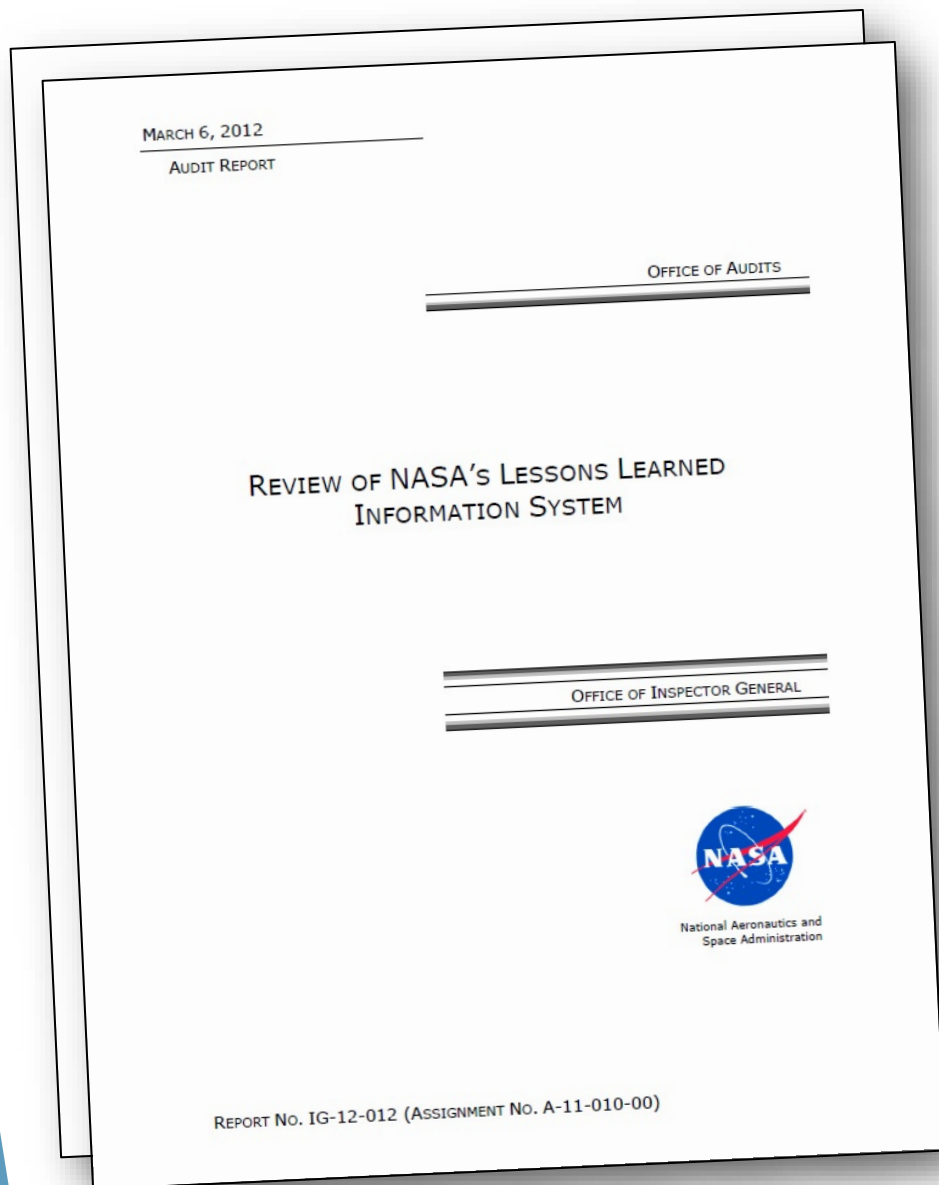


Findings

- Infrequent entries
- **Low usage**
- Policies not encouraging entries or usage
- **Minimal monitoring**

Action

- Broadened policy on lessons learned to create a “**Chief Knowledge Officer**” and assign other responsibilities



Barriers to Recording Lessons Learned

Costs (time) to . . .

Initiate and maintain the system

Prompt recipients for submissions

Prepare, edit, and approve entries

Review and archive past submissions

Fear of . . .

Embarrassment

Harm to reputation

Reduced responsibilities or funding

Administrative

Culture

Trust

Policy changes

What else?



Institutionalizing Lessons Learned

- ▶ Reduce the stigma -
 - ▶ *Minimize who at NSF knows what each project has submitted.*
 - ▶ *Anonymize listings of lessons learned.*
- ▶ Broaden submissions - accept from:
 - ▶ *Project and facility personnel*
 - ▶ *NSF program officers, grants and agreement officers, etc.*
 - ▶ *Reviewers and other stakeholders*
- ▶ Require submissions in conjunction with reviews
- ▶ Report annually including
 - ▶ *Submission and access counts*
 - ▶ *Lessons that changed policies or procedures*

What
else?

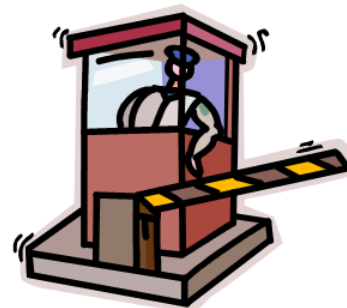
Selecting a Medium

	Spreadsheet	Database
Pros	<ul style="list-style-type: none"> • Quick implementation • Low maintenance • Low first cost 	<ul style="list-style-type: none"> • Accommodates multiple roles • User-friendly searches and outputs
Cons	<ul style="list-style-type: none"> • Time consuming compiling • Querying not user friendly • Low security • Usage metrics not available 	<ul style="list-style-type: none"> • High initial investment • Learning curve • Routine maintenance

What else?

Access to the Lessons Learned

- ▶ Who?
 - ▶ National Science Foundation
 - ▶ Program officers and Grants and agreements officers?
 - ▶ Large Facilities Office?
 - ▶ Office of the Director?
 - ▶ Office of Legislative and Public Affairs?
 - ▶ Office of General Counsel?
 - ▶ Office of the Inspector General?
 - ▶ Projects
 - ▶ . . . in development or design?
 - ▶ . . . in construction?
 - ▶ . . . in operations or divestment?
 - ▶ Office of Management and Budget?
 - ▶ Public?
- ▶ How much access?
 - ▶ Read some?
 - ▶ Read all?
 - ▶ Comment?
 - ▶ Write?
 - ▶ Edit others?





Next steps

- ▶ Slides posted on the workshop Web page
- ▶ Notes from the session included in the workshop proceedings
- ▶ Large Facilities Office (LFO) will pilot test a collection tool in fiscal year 2017
- ▶ The **Large Facilities Manual (18-XX)** will identify recipient requirements with options and approaches –
 - ▶ NSF will publish a public comment draft in April 2017 with comments accepted for three months
 - ▶ NSF will publish the final Large Facilities Manual in October 2017 to take effect in January 2018.
- ▶ LFO will issue its first report on its lessons learned system in March 2018.

For more
information:

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Backup

U. S. Department of Energy
Lessons Learned System
Screen Shots

Input Screen, 1 of 3



OFFICE OF ENVIRONMENT, HEALTH, SAFETY AND SECURITY

LESSONS LEARNED DATABASE

Lessons Learned Database

- Home
- Defense Nuclear Security Lessons Learned Center
- Logout
- Establish Profile
- Apply to Security Lessons Access
- Search Database
- About This Site
- Submit Lesson
- Change Password
- Contact Us
- Help
- Related Links
- Corporate Operating Experience Review Program
- Corporate Safety Analysis



Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

Submit Project Management Lesson

Users may now submit their final PM lessons learned on this page but are asked to have their lessons learned reviewed by their Site PMLL Point of Contact first. Please refer to the Project Management Lessons Learned (PMLL) Guide for complete instructions.

LINK: [Project Management Lessons Learned \(PMLL\) Guide Rev. 4a \(February 10, 2011\)](#)
LINK: [Submission Template / Required Data Input form](#)

*** The system will time-out in 20 minutes if no activity is detected ***

PLEASE NOTE: Information to be submitted must not contain any UNCL or OUO level information.



The input fields below are for FINAL Project Management Lessons Learned ONLY.

* denotes a required field

* Date: (mm/dd/yyyy)

* PMLL Title:

* Project Name:

* PMLL Identifier:

NOTE: The sequence for PMLL ID is: PMLL- Year-Site-Project acronym-Sequential #
(Example: PMLL-2009-SR-MFFF-0001)

* Lesson Learned Statement:

* Discussion:

Input Screen, 2 of 3



*** Recommended Actions:**

*** Critical Decision Level:**
NOTE: Hold down the Ctrl key to select multiple items below.

CD-0
CD-1
CD-2
CD-3
CD-4
Non-CD

*** Facility Type:**
NOTE: Hold down the Ctrl key to select multiple items below.

Administrative
D&D - NonNuclear
D&D - Nuclear
Infrastructure
Other
Production - NonNuclear

*** Priority Descriptor:**
NOTE: Select item below.

Blue = Information
Green = good work practice
Red = Critical
Yellow = Caution

*** Work/Function Categories:**
NOTE: Hold down the Ctrl key to select multiple items below.

Budget/Finance
Business and Support Services
Communication
Construction
Crosscutting/Multiple
Design/Engineering

Technical Discipline Categories:
NOTE: Hold down the Ctrl key to select multiple items below.

Architectural
Biological
Chemistry/Chemical
Civil/Structural
Electrical
Energy

Estimated Savings:

Input Screen, 3 of 3



* Validator:

* Contact Name/ Phone Number:

* Authorized Derivative Classifier:

* Lessons Learned Coordinator:

* Site:

* Originating Organization or Contracting Company:

Subject Matter Experts:

References:

Relevancy Rating:

Files:

File 1: No file chosen

File 2: No file chosen

File 3: No file chosen

File 4: No file chosen

File 5: No file chosen

Search Screen



OFFICE OF ENVIRONMENT, HEALTH, SAFETY AND SECURITY

LESSONS LEARNED DATABASE

Lessons Learned Database

- Home
- Defense Nuclear Security Lessons Learned Center
- Logout
- Establish Profile
- Apply to Security Lessons Access
- Search Database
- Fact Sheets
- About This Site
- Submit Lesson
- Change Password
- Contact Us
- Help
- Related Links
- Corporate Operating Experience Review Program
- Corporate Safety Analysis



Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#)

Search Database

Search Text:

Lesson ID (LL Identifier):

Date:

From: To:

-- OR --

Start Date: End Date:

- Search All Lessons
- Restrict Search to Safety & Health
- Restrict Search to Project Management

Project Name:

Site:

Work Function:

Technical Disciplines:

Critical Decision Level:

Facility Type: