



ACCELERATOR TECHNOLOGY & APPLIED PHYSICS FY16 ES&H FOCUS AREA SELF-ASSESSMENT REPORT

COMMUNICATION of LESSONS LEARNED

February – June 2016

Signatures:

Approval:

Sven Steinke, Team Leader

6/29/16

date signed

Patricia Thomas, Safety Coordinator

6/29/16

date signed

Wim Leemans, Division Director

7/12/16

date signed



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1.0 Scope

This assessment focused on Communication of Lessons Learned. Processes for communicating Lessons Learned and Best Practices were evaluated. These processes are most closely associated with the 5th Core Function of ISM, feedback and improvement. This Focus Area was recommended by the ATAP ES&H Operations Committee and approved by the Division Director (Wim Leemans) because of potential impact on safety culture and the safety of personnel. The scope of the assessment included locations where ATAP work takes place and ATAP employees and affiliates. ATAP personnel work throughout the LBNL site, including Buildings 6, 7, 15, 46, 47, 50, 53, the 58 complex, the 71 complex, 77/77A, and 88. There are currently about 145 people who are officially part of ATAP (employees, guests, students, etc.).

Lines of Inquiry

The assessment was designed to answer the following questions:

- Are ATAP personnel familiar with the Lessons Learned and Best Practices information systems (database and emails)?
- Have ATAP personnel made any changes to their work as a result of reading Lessons Learned and Best Practices information?
- What is the most effective way to communicate Lessons Learned and Best Practices?

2.0 Methodology

ATAP Program Heads selected representatives to serve on the assessment team:

- Marco Venturini (Advanced Light Source Accelerator Physics);
- Sven Steinke (Team Leader -- BELLA Center);
- Chad Mitchell (Center for Beam Physics);
- Tengming Shen (Superconducting Magnets).

Theresa Triplett (Office of Contractor Assurance, Lessons Learned Program Manager) was selected to provide advice. Pat Thomas (ATAP ESH Coordinator) and Tammy Welcome (Office of Contractor Assurance) provided guidance on the self-assessment process.



The assessment took place from February to May 2016:

- February 16 – Team introductions; discuss self-assessment process, scope, methodologies and schedule;
- March 10 – Discuss LBNL Lessons Learned program with Theresa Triplett, select Team Leader, discuss assessment scope and methodology;
- March 15 – Continue discussion of assessment scope and methodology;
- April 12 – Develop survey;
- April 19 – 29 – Conduct survey;
- May 23 – Discuss survey and interview results, develop observations and recommendations, review draft report;
- May 30 – Draft report to ATAP management for review;
- June 30 – Final report developed, reviewed, and submitted for signature.

The primary assessment methodology was to conduct a survey (see section 4.1 Survey and Results). The survey was created in Google Forms and the request for participation and link was emailed on April 19 to actively working ATAP personnel (people who have not “opted out” of Work Planning and Control) with request for response by April 29. 33 responses were received. A follow-up interview was conducted with one person who volunteered through survey question 12 to provide additional information.

3.0 Results

33 people responded to the survey. Most of the respondents (63.6%) were scientists, have been at LBNL more than 10 years (51.5%), and work at least part of the time in non-office environments (66.7%). We obtained the following answers to our Lines of Inquiry:

Are ATAP personnel familiar with the Lessons Learned and Best Practices information systems (database and emails)? Most of the respondents (51.5%) were familiar with the Lessons Learned emails and some of them (21.2%) were also familiar with the database; however, more than ¼ (27.3%) were not familiar with either. Most respondents (75.8%) read the Lessons Learned emails at least half the time and most (54.5%) click on the link to read the complete briefing at least half the time. Most respondents (93.9%) do not use the Lessons Learned and Best Practices Database to search for information. For the few people that do use the database, most (66.7%) got some useful information, but it was not easy for them to find what they wanted.

Have ATAP personnel made any changes to their work as a result of reading Lessons Learned and Best Practices information? Slightly more than half the respondents (57.6%) reporting that they have made changes to their work as a result of reading Lessons Learned information.

What is the most effective way to communicate Lessons Learned and Best Practices? Most of the respondents (75.8%) prefer to receive Lessons Learned information through emails. A variety of suggestions were given for improving the program. The most effective improvements may be those focused on improving the quality of the emails.



The person who was interviewed suggested:

- Include the whole write-up in the email. (The links to the database do not always work).
- Add a short summary (abstract) to the email.

An **Observation** is a practice or condition that is not technically noncompliant with an external or internal regulation or requirement, but could lead to noncompliance if left unaddressed. There were 4 Observations:

1. The Lessons Learned and Best Practices Program needs to be promoted. It is a very important part of Integrated Safety Management, underlined by the fact that about 58% of the surveyed people have changed their work as a result of reading a Lessons Learned. About 27% of the people surveyed were not aware of it.

Recommendations:

- ATAP should promote awareness of the Lessons Learned and Best Practices system by:
 - A Level 1 email (before the end of FY16); and
 - Discussion of the Lessons Learned and Best Practices system at the FY17 ATAP Safety Day all-hands meeting (March 2017).
 - When a worker accepts an Activity assignment in the Work Planning and Control Activity Manager, consider triggering a question asking the person to accept Lessons Learned emails relevant to the hazards of the Activity.

2. The most effective way to improve communication of Lessons Learned and Best Practices is to improve the emails from the system. The emails are the best-known and most preferred way that people receive information from the system.

Recommendations:

- The Lessons Learned and Best Practices emails should include a succinct abstract of the incident, the complete event description (statement and discussion), the aftermath (injuries, affects on research), and Lessons Learned/Best Practices action items.
- The Lessons Learned and Best Practices emails could be made more eye-catching by inclusion of pictures (where possible) and use of bullet points. Improvements to the graphic design of the emails would be desirable. A template might be helpful.

3. Most people do not use the Lessons Learned and Best Practices database effectively. This may be because people are not aware of the types of information available, or how to use the database. The team discovered that accessing the system through the EH&S Division website, EH&S A-Z index takes the viewer to a helpful summary page about Lessons Learned:

<http://www2.lbl.gov/ehs/Lessons/index.shtml>

but accessing Lessons Learned from the LBNL A-Z Index, L, takes the viewer directly to the database login page, with no introduction:

<https://lessonslearned.lbl.gov/general/home.aspx?message=>

This could be discouraging to new users. Also, the database was very slow to open on some attempts, which could cause people to lose patience and end the session.



Recommendations:

- Improve the introductory page for the Lessons Learned and Best Practices system and ensure links are directed through this page (similar to the Work Practice and Control introductory page).
- Consolidate the two websites: <http://www2.lbl.gov/ehs/Lessons/index.shtml> and <https://lessonslearned.lbl.gov/general/home.aspx?message=>

4. The emails will be more effective if they can be more closely matched to workers' job hazards and work environment.

Recommendations:

- Develop/improve links between Work Planning and Control Activity Manager and Lessons Learned and Best Practices databases.
- When a worker accepts an Activity assignment, consider triggering a question asking them to accept Lessons Learned emails relevant to the hazards of the Work Planning and Control Activity.

Comparison with results of previous assessment

ATAP (as AFRD) conducted a similar assessment of communication of Lessons Learned from safety incidents (accidents, occurrences, and near hits) during November 2011 – May 2012. The results of this assessment were consistent with the FY16 assessment. There were 2 Observations in FY12:

1. There was a good general awareness of the emails from the Lessons Learned database; however, familiarity with accessing and using the database could be improved.
2. Lessons Learned information was generally read and valued by AFRD personnel; however, there were some Lessons that could be improved.

The FY12 team recommended the following actions:

1. AFRD should work with the Subject Matter Expert to provide information on the Lessons Learned database and how to submit a Lessons Learned to AFRD personnel.
 - General awareness information to all staff at AFRD Safety Day all-hands (completed);
 - Detailed instruction to AFRD ES&H Operations Committee members at a Committee meeting, so they can assist others in preparing Lessons Learned (completed).
 - For new personnel, work with EHS Training to improve information about the Lessons Learned program in the EHS0010 Introduction to EHS at LBNL course (not implemented).
2. Incidents with the following characteristics should be considered for sharing through Lessons Learned:
 - Novel or unusual hazards that are not readily apparent;
 - Applicable to others doing similar work;
 - Likely to cause recordable or lost-time injuries.



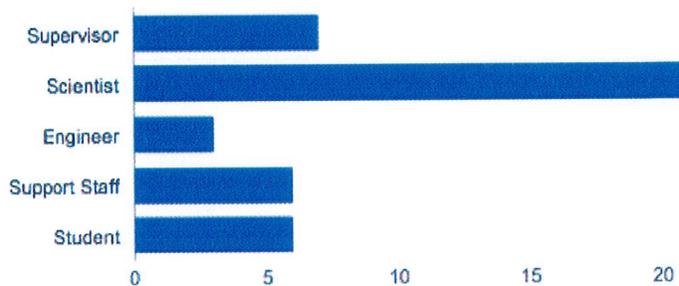
3. To help people determine quickly whether a Lessons Learned is relevant to them and what actions are expected of them, Lessons Learned emails should contain:
 - A concise topic header;
 - A brief summary including action items;
 - A picture;
 - Which part of ISM failed; and
 - A link to more detailed information.

In meeting with the current Lessons Learned Program Manager, the FY16 assessment team discovered that she had not received the FY12 report and was not aware of the recommendations. To ensure that the FY16 assessment is effective, **the assessment team recommends that ATAP send the report directly to the Lessons Learned Program Manager and request a response (acceptance/rejection) to the recommendations.**

4.0 Supporting Documents

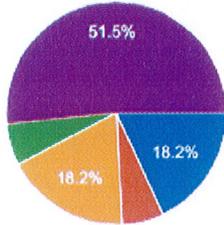
4.1 Survey Questions and Results

1. Are you a (check all that apply):



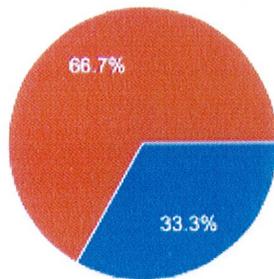
Supervisor	7	21.2%
Scientist	21	63.6%
Engineer	3	9.1%
Support Staff	6	18.2%
Student	6	18.2%

2. How long have you been at Berkeley Lab? (choose one):



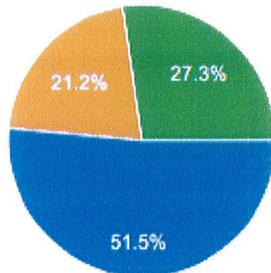
< 1 year	6	18.2%
1 - 3 years	2	6.1%
3 - 5 years	6	18.2%
5 - 10 years	2	6.1%
> 10 years	17	51.5%

3. Do you perform your work in an office environment exclusively?



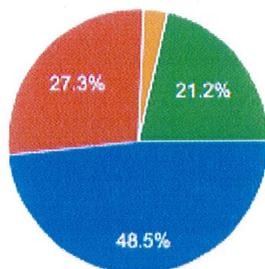
Yes, I work in an office environment only.	11	33.3%
No.	22	66.7%

4. Are you familiar with the Lessons Learned and Best Practices Database program? (choose one):



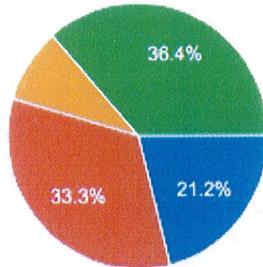
emails	17	51.5%
database	0	0%
both	7	21.2%
neither	9	27.3%

5. How often do you read the emails from the Lessons Learned and Best Practices Database program? (choose one):



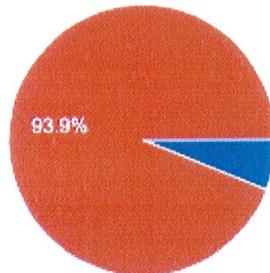
Almost all the time	16	48.5%
About 50% of the time	9	27.3%
About 20% of the time	1	3%
Less than 20% of the time	7	21.2%

6. When you receive the Lessons Learned and Best Practices Database emails, how often do you click on the link to read the complete briefing? (choose one):



Almost all the time	7	21.2%
About 50% of the time	11	33.3%
About 20% of the time	3	9.1%
Less than 20% of the time	12	36.4%

7. Do you ever use the Lessons Learned and Best Practices Database?

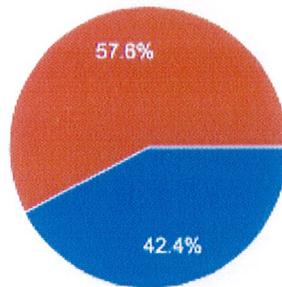


Yes	2	6.1%
No	31	93.9%

8. If yes to #7, rate your experience (choose one):

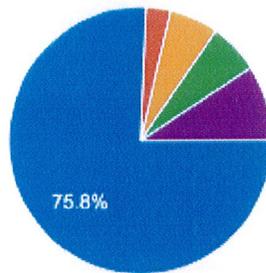
The database was very user-friendly and it was easy to find the information I wanted	1	16.7%
I got some useful information , but it was not easy to find what I wanted	4	66.7%
The database was difficult to use and I couldn't find the information I wanted	1	16.7%

9. Have you made any changes to your work as a result of reading a information from the Lessons Learned and Best Practices Database?



Yes	14	42.4%
No	19	57.6%

10. What is the most effective way to communicate the Lessons Learned and Best Practices Database? (choose one):



emails	25	75.8%
Lessons Learned and Best Practices Database	1	3%
Work Planning and Control Activities	2	6.1%
Training	2	6.1%
Other	3	9.1%



11. How could the Lessons Learned and Best Practices Database program be improved?

Link the Lessons Learned to applicable WPC hazards

Share some of it at division Ops meetings? Put in Newsletter?

Targeted emails. If I work in an electronics lab it only dilutes the message to read about safety-relevant events concerning construction work, or a chemical lab.

Target lessons learned emails to audience. Most lessons learned concern events unrelated to my work area or responsibilities. This makes one want to ignore emails after a while.

Shorter write-ups

works well for me at the moment

Put full summary of the incident & lesson learned in email.

I was not aware this existed. Additionally, I don't think that I would ever go there to review Lesson Learned/Best Practices. Perhaps with the monthly ATAP news letter a historical Lesson Learned/Best Practice anecdote could be highlighted.

n/a

Asking feedback from readers on effectivity and relevance

I don't think I receive emails from lessons learned.

Get to the point quicker in the emails. Show pictures of what happened/the aftermath. I don't want to click a link I want a headline that summarizes the lesson

Complete briefing should be in the email

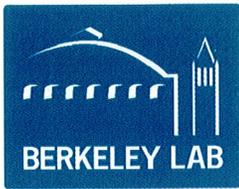
It's working well by email. It raises awareness, and even though the particular issues addressed in the Lessons Learned may not have a direct impact on my work, they often make me think about how I can carry out my own work in a safer manner and help me remind my colleagues the importance of environmental and work health and safety.

I know very little about the program, so I can not suggest on how to improve it.

12. If you want to provide additional feedback personally to the ATAP Lessons Learned and Best Practices Database Self-Assessment Team, please provide your email address below

I've not noticed it much, or maybe it appears to be common sense, so I don't notice is so much?

Good Survey. I'm glad it was multiple choice.



4.2 Current Requirements

LBNL Policy

In the LBNL *Requirements and Policies Manual, the Environment, Safety, and Health General Policy*, ES&H Core Policy, Section E requires “all persons at the Laboratory” to “actively communicate ES&H and ISM issues to promote continuous improvement.”

The ISM System Overview Section 5, Feedback and Continuous Improvement says that:

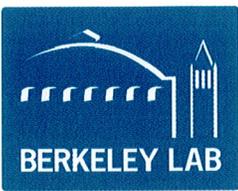
- Information is gathered from employee suggestions, assessments, **lessons learned**, operational awareness, and worker/customer/regulator and stakeholder feedback, as appropriate, to improve the work activity.
- Supervisors and work leads must regularly review work practices and operations in light of any new hazard information or changes in actual work practices. Occurrence reporting, self-assessment, peer reviews, and **lessons learned** can be used as ways of improving the cost-effectiveness and reliability of hazard controls (engineering and administrative). Based on findings from occurrence reporting and other assessments, improvements are made to work planning and, in rare instances, used as a basis for changing line management responsibility, roles and responsibilities, worker competence, or other appropriate parts of the work cycle.

Under Incident Review and Reporting, the Issues Management Policy, Section D, requires “Berkeley Lab must implement and maintain a system to promptly identify issues and effective corrective actions to prevent reoccurrence of the same or similar issues”. Section F defines Lessons Learned as “A lesson that is derived from an event, incident or implementation and evaluation of a system, process or program that is used to identify strengths and weaknesses. A lesson learned may be derived from an internal or external source and is used to improve systems, processes or programs.”

PUB-3111 *Quality Assurance Program Description, Rev. 11* Section 2.3.2 Lessons Learned and Best Practices, describes the LBNL Operating Experience Program and points to PUB-5519(4) *Lessons Learned and Best Practices Program Manual*.

PUB-3140 *Integrated Environment, Safety, and Health Management Plan, Rev. 8* describes the Core Functions and Guiding Principles of ISM and describes the overall system for implementing ISM at LBNL, including Section 6.7.1.6 Lessons Learned are Effectively Transmitted and Section 12.5 Lessons Learned.

PUB-5519(4) *Lessons Learned and Best Practices Program Manual* provides the detailed requirements and guidelines for conducting a Lessons Learned and Best Practices Program within Lawrence Berkeley National Laboratory (LBNL)



EH&S Requirements

PUB-3000, *LBNL Health and Safety Manual* Chapter 1, Section 1.7 Roles and Responsibilities, states that Supervisors and Managers “must actively communicate ES&H and Integrated Safety Management issues -- communicate pertinent safety issues and applicable Lessons Learned in staff meetings and/or through other mechanisms”; and Division Safety Coordinators “serve as a conduit for feedback on how safety is being implemented (including division point-of-contact for Lessons Learned”.

ATAP Requirements

ATAP ISM Plan is posted on the ATAP Safety website: <http://atap.lbl.gov/ism-plan/>
Under Section 2, Responsibilities:

2.3 Program Heads communicate safety information to their Program and receive and address safety concerns from their Program. [ATAP expectation: incorporation of safety discussions into regular meetings with groups and supervisors.]

2.16 ES&H Operations Committee discusses ES&H concerns of the programs and projects, lessons learned from them, and information on lab-wide ES&H issues.

2.17 ES&H Coordinator communicates status of key safety performance measures and results of audits, assessments, and incident investigations to ATAP management (Division Director, Division Deputies, Program Heads, and Program ES&H Coordinators) and recommending actions to improve performance.

2.18 Program ES&H Coordinators communicate relevant ES&H information to their Program Head, Principal Investigators, and other affected personnel and work with their Program Head to encourage improvement in their Program’s ES&H performance.