

QAM 12010: FERMILAB LESSONS LEARNED PROGRAM AND PROCEDURES

Revision History

Author	Description of Change	Revision Date
Dave Baird	<ul style="list-style-type: none">• Revised chapter to reflect the move to utilize the OPEXShare Lessons Learned (LL) and Best Practices (BP) Database System.• Modified the Roles and Responsibilities to have topic area Subject Matter Experts (SMEs) disseminate LL and BP.• Included reference to DOE 413 projects lessons learned database system.• Added LL/BP Flow Diagram	February 2019
T.J. Sarlina	<ul style="list-style-type: none">• Removed reference to “Operating Experience Program”, this is now Fermilab’s Lessons Learned Program.• Removed reference to iTrack as lessons learned are not entered into iTrack.	January 2016
Rafael Coll	QAM 12010 is a new chapter that incorporates OQBP Procedure #3903 into the Quality Assurance Manual.	July 2013

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59 1.0 INTRODUCTION

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61 Instituting a process to capture, evaluate, and implement lessons learned, enables both projects and
62 operations to effectively evaluate past experiences and determine what is needed to promote
63 desirable outcomes, prevent unwanted outcomes and repeated mistakes, and minimize the impact of
64 the consequences to unwanted outcomes.

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66 This chapter establishes the responsibilities and actions required to process and communicate lessons
67 learned both at Fermilab and Fermilab leased spaces as well as other Department of Energy (DOE)
68 locations. This chapter is applicable to all products, services, processes, management systems, and
69 projects at Fermilab. It is important to note that DOE Order 413.3B Projects have their own Lessons
70 Learned documentation requirements. These are captured in a [FermiPoint Lessons Learned site](#)
71 [specific to DOE Order 413.3B Projects](#).

72 73 2.0 DEFINITIONS

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75 Actions - Responses to lessons learned. Examples are:

- 76 (1) Corrective actions in response to occurrence analysis
- 77 (2) Preventive actions to preclude the recurrence of a negative event
- 78 (3) Improvement actions based on best practices or innovative approaches

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80 Best Practice - A positive example of a work process or innovative approach with the potential to be
81 the basis for significant operational improvements or cost savings.

82
83 Lesson Learned (LL) - A best practice that is captured and shared to promote repeat application or
84 an adverse work practice or experience that is captured and shared to prevent recurrence.

85
86 Subject Matter Expert (SME) - An individual with qualifications and experience in a particular field
87 or work process; an individual who by education, training, and/or experience is a recognized expert
88 on a particular subject, topic, or system. See Appendix 1 for the list of Fermilab SMEs Groups.

89 90 3.0 RESPONSIBILITIES

91 92 3.1 Quality Section Head

- 93 • Responsible for the development, implementation, assessment, and improvement of the
- 94 Lessons Learned Program.
- 95 • Coordinates all substantive changes to the Lessons Learned Program. Provides support to
- 96 senior managers and Management System Owners.
- 97 • Appoints the Lessons Learned Program Coordinator.
- 98 • Ensures computer-based systems provide access to lessons learned.

99 100 3.2 Lessons Learned Program Coordinator (LLPC)

- 101 • Determines the suitability of internally generated LL for distribution to the OPEXShare LL
- 102 Database.
- 103 • Sends internally generated LL to Chief Safety Officer (CSO) and Chief Operating Officer
- 104 (COO) for OPEXShare LL Database distribution concurrence.

- Uploads internal lessons to the OPEXShare LL Database as authorized by the CSO and COO.
- Acts as the point-of-contact for the DOE Corporate Operating Experience Program and the DOE Operating Experience Committee.
- Monitors Fermilab LL database for entries, activities, and use.

3.3 Division/Section Heads, Management Systems Owners (MSO), and Project Managers

- Provide the necessary resources to implement this process in their areas of responsibility.
- Incorporate lessons learned into organizational activities and processes.

3.4 Subject Matter Experts (SMEs)

- Screens externally (i.e., [OPEXShare](#)) and internally (i.e., [iTrack](#), Human Performance Improvement reports, Projects Lessons Learned database, etc.) generated lessons learned to identify topics relevant to the organization.
- Disseminates lessons learned summaries to the organization via Management Systems Owners, Division/Section Heads, or Project Managers for review, analysis, implementation of actions, and routine use, as applicable.

4.0 PROCEDURE

Lessons Learned can be received from external sources or generated internally. In some cases, internally generated lessons are appropriate to share outside of the laboratory with concurrence from the Chief Safety Officer and the Chief Operating Officer. The steps involved in each process are explained here and captured in the process flow diagram in Appendix 2 below.

4.1 Lessons Learned Receipt

The SMEs shall review all Lessons Learned from both internal Fermilab sources and external sources.

- For externally generated Lessons Learned, an email is sent from the [OPEXShare](#) Lessons Learned Database to the Fermilab SME for review.
- For internally generated Lesson Learned, the SME reviews [iTrack](#) monthly.

4.2 Lessons Learned Screening for applicability of externally and internally generated LL

The SME determines the applicability to Fermilab operating activities and processes based on the guidelines in Appendix 3 and Appendix 4 below.

If determined to be applicable, the SME [enters Lessons Learned into iTrack and places under the Lessons Learned Review Category](#).

- Includes link to Lessons Learned
- Enters corrective action(s)/preventive action(s)
 - Sends Lessons Learned as FYI (minimal response) to applicable Fermilab staff
 - Assigns corrective action(s)/preventive action(s) for follow-up

4.3 External Communication

- The LLPC reviews [iTrack](#) monthly to identify and screen new internally generated lessons. The LLPC determines the applicability of these lessons to other DOE organizations.

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- If the LLPC determines the lesson is not applicable outside Fermilab, then no further processing is necessary.
 - If the LLPC deems the lesson to be applicable to other DOE organizations, then the LLPC forwards the lesson to the CSO and COO for review and approval prior to uploading to the DOE system.
 - After review and approval by the CSO and COO, the LLPC enters Fermilab lessons learned information into the OPEXShare Lessons Learned Database. The lesson is then distributed by the DOE via email.
 - All communications relative to external lessons received by Fermilab must be done by the Fermilab LLPC.

162 *Note: Direct communications between a lesson user and the lesson contact may be made directly for*
 163 *obtaining clarifying information relative to the lesson only.*

164 4.4 DOE 413 Project Managers

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- Gather Lessons Learned inputs. These could include:
 - Best Practices
 - Safety Incidents/Near Misses
 - Safety-By-Design Implementation
 - Cost Savings
 - Nonconformances or Opportunities for Improvement
 - Issues, opportunities, and lessons learned from other Projects
 - Process Breakdowns/Gaps
 - Formal Project Reviews
 - Internal Project Reviews
 - Assessment/Effectiveness Reviews
 - Nonconformances at Partners/Vendors/Subcontractors
 - Perform Lessons Learned Criteria Screening (Appendix 3 below) and Benefit Analysis (Appendix 4 below) of the Lessons Learned.
 - Decide if Lessons Learned will be incorporated into the Project.
 - Document & Disseminate utilizing the Office of Integrated Planning & Performance (IPPM) Lessons Learned Database for [DOE Order 413.3B Projects](#).
 - Create implementation plan.
 - Track corrective and preventive actions in [iTrack](#)
 - Perform effectiveness reviews as directed by iTrack.
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176 5.0 RECORDS

177 5.1 Records of Internal LLs

178 Records of applicable internal lessons are contained in the [Fermilab Lessons Learned Database](#), and
 179 in [iTrack](#) after March 2019.

180 5.2 Records of External LLs

181 Records of applicable external lessons are contained in the [Fermilab Lessons Learned Database](#) and
 182 in [iTrack](#) after March 2019.

183 5.3 Review Cycle

184 This procedure shall be reviewed in accordance with schedules set for FESHM by the Chief Safety
 185 Officer.

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6.0 REFERENCES

191

192 [DOE O 413.3B Chg 5 \(MinChg\), Program and Project Management for the Acquisition of](#)
193 [Capital Assets](#)

194

195 [DOE- O- 210.2A, The DOE Corporate Experience Program](#)

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196 **7.0 TECHNICAL APPENDICES**

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 198 **7.1 Appendix 1: Fermilab Subject Matter Expert (SME) List**

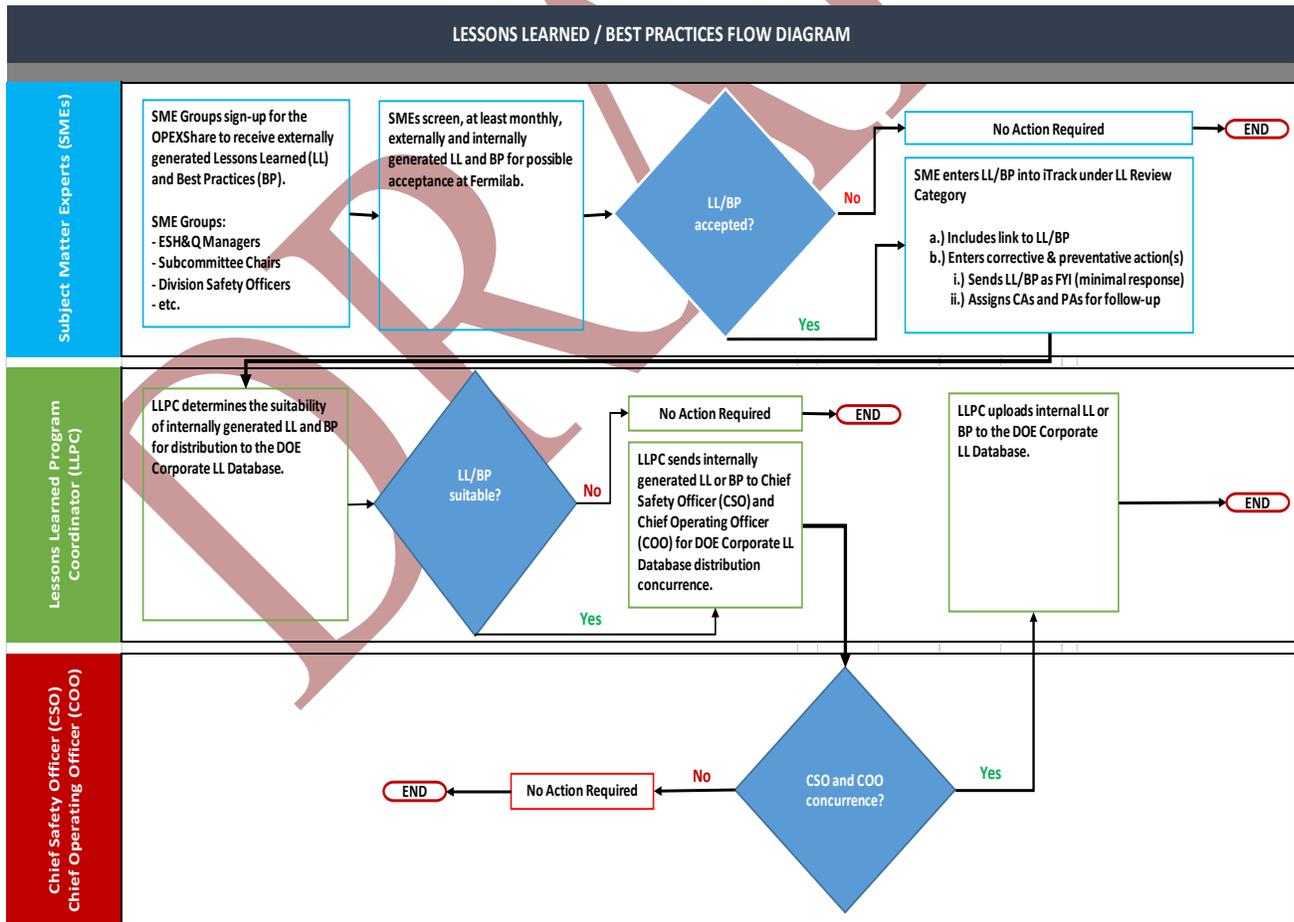
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- 200 • Chief Safety Officer
- 201 • Deputy Chief Safety Officer
- 202 • ESH Managers
- 203 • ESH Group Leads
- 204 • Division Safety Officers
- 205 • Authority Having Jurisdiction
- 206 • Fire Chief
- 207 • Security Chief
- 208 • Fermilab ESH Committee Subcommittee Chairs
- 209 • ESH Project Point-of-Contacts
- 210 • Quality Section
- 211 • Medical Office Manager

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 213 **7.2 Appendix 2: Process Flow Diagrams**

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216 7.3 Appendix 3: Screening Criteria

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- 218 • Does Fermilab perform work affecting facilities that utilize the same equipment (safety,
219 production, monitoring, etc.) described in the document being screened?
- 220 • Does Fermilab perform work affecting facilities that employ the same designs described in
221 the document being screened?
- 222 • Does Fermilab utilize an administrative or management control system similar to that
223 described in the document being screened?
- 224 • Does Fermilab perform work affecting facilities that use, store, or produce the same or
225 similar chemicals/products described in the document being screened?
- 226 • Are the same activities or operations described in the document being performed by
227 Fermilab?
- 228 • Does Fermilab implement the same regulations/codes/standards described in the document
229 being screened?
- 230 • Is there the opportunity for a similar problem or situation to affect Fermilab work?
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233 7.4 Appendix 4: Benefit Analysis (Questions to answer/discuss)

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- 235 • Are the lessons learned informational only?
- 236 • Has this previously occurred or previously identified?
- 237 • Can this happen again (or to us) if no changes are made?
- 238 • What other areas of the project could be impacted?
- 239 • What can we learn from this?
- 240 • How can this benefit us?
- 241 • Is this applicable to other areas of the Project? to Partners?
- 242 • Could this be applicable to other Projects?