

EFCOG Best Practice #104

Title: Fire Protection Program Assessments

Facility: Sandia National Laboratory

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Brief Description of Best Practice: The Fire Protection Program Assessment Best Practice can be used as a guide for conducting comprehensive fire protection program assessments as required by DOE Order 420.1B. The defined structure also provides a framework for describing a comprehensive fire protection and emergency response program that enables the contractor to demonstrate compliance to 10 CFR 851 fire protection requirements.

Why the best practice was used:

DOE O 420.1B, Attachment 2 (CRD) Chapter II Section 3.b. (13) (Fire Protection Program) states that "A documented comprehensive fire protection self assessment program performed every 3 years." (sic) Rather than conducting a program assessment every 3 years, this best practice performs annual assessments that provide load-leveling of work and more timely feedback for continuous improvement.

10 CFR 851 Worker Safety and Health Program, Appendix A, 2 defines the general elements of a comprehensive fire safety and emergency response program. However, the Rule does not specifically identify what a "comprehensive" fire safety and emergency services program entails. Thus, the best practice provides a framework in which compliance can be demonstrated in an efficient and effective manner.

What are the benefits of the best practice: Benefits of this Best Practice include:

- Provides a risk-based approach to fire safety management;
- Load levels the assessment activity over a 3-year period for more effective and timely feedback, thus driving continuous improvement;
- The structure defines five major program areas that provide a framework in which the contractor can more efficiently manage risk and drive performance improvement of the overall fire protection and emergency response programs;
- NNSA fire protection assessment criteria is integrated into the guidance to align DOE fire protection objectives with contractor performance thus achieving more efficient compliance and oversight activities
- The structure provides objective evidence that can be used by the contractor to demonstrate compliance with DOE Order 420.1B and with 10 CFR 851 in regards to implementing a "comprehensive" program;

What problems/issues were associated with the best practice: Self assessments can be resource intensive, not necessarily performed using a risk-based approach, and may not be aligned with DOE objectives and expectations. In addition, performing a comprehensive assessment every 3rd year may not be timely in addressing significant performance deficiencies.

How the success of the Best Practice was measured: This Best Practice was developed and successfully implemented at Sandia National Laboratories. Idaho National Laboratory also reported successful implementation.

Description of process experience using the Best Practice: see link [insert link]

- The fire protection and emergency services programs are comprised of five major

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program elements

- Assessment objectives for each element are defined and include specific criteria from Site Office oversight assessments to assure alignment is consistent between contractor and regulator
- Goal is to conduct at least one assessment in each Program element in the first two years and use the third year as an option to either re-visit previous assessment areas to measure effectiveness or to address other more significant concerns.
- Assessment areas should be selected by considering current risk perception, past performance, extent of condition surveys, lessons learned, etc.

ISMS Core Function: Provide Feedback and Improvements

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Attachment to Best Practice on Fire Protection Program Assessments: Sample Annual Self-Assessment Outline

1. Inspection, Testing, and Maintenance (ITM) (SSO FP CRAD 8,9). Program element objective is to ensure:
 - a. the program appropriately flows down fire protection system ITM requirements defined by the applicable building codes and NFPA codes and standards
 - b. adequate records exist that document the required ITM is being performed
 - c. a method exists for identifying concerns and generating corrective maintenance
 - d. a method exists for the maintenance craft to provide feedback for improving efficiency
 - Example target areas include:
 - Job Plans
 - Fire Alarms
 - Sprinklers
 - Special Suppression
 - Hydrants/Water Supply (FY10)
 - Barriers
 - Fire Extinguishers (FY11)
 - NFPA 25, 72 (aligned with scheduled updates)
 - ITM Records
 - Processes / Procedures
2. Emergency Response. This program element objective is to ensure:
 - a. A method exists to periodically assess the site emergency response needs
 - b. A method exists for identifying gaps in these needs and generating corrective measures
 - Example target areas include:
 - A Baseline Needs Assessment (BNA) has been performed within the last 3 years
 - A Master Plan defines actions to address BNA gaps
 1. Run Times
 2. Pre-fire plans (FY11)
 - Wildland Fire Management
 3. Preventive maintenance for addressing overgrowth
 - Fire Apparatus Access
 - Processes / Procedures
3. Construction – (SSO FP CRAD 3,8). This program element objective is to ensure:
 - a. A process or procedure is in place to control design and review of fire protection systems
 - b. A process or procedure is in place to ensure life-safety provisions are incorporated into new construction projects
 - Example target areas include:
 - Certificate of Occupancy (COO) (FY11)
 - Design submittals (A/E Audit plans examination for code compliance)
 - Required Code Inspections

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- Final Acceptance
 - Code Compliance Traveler (serves as COO for new construction)
 - COO Documentation Maintenance System
 - FPA Template (serves as COO for existing buildings)
 - Process / Procedures
4. Operations. This program element objective is to ensure:
- a. A method exists to periodically assess the adequacy of fire and life safety systems
 - b. Procedures are in place to control fire safety hazards
 - Example target areas include:
 - Process / Procedures
 - Configuration Management (performance based analysis; equivalencies) - (SSO FP CRAD 3, 10)
 - Hazardous Materials Management (FY10)
 - Halogenated agent disposition strategy – (SSO FP CRAD 7)
5. Administrative. This program element objective is to ensure:
- a. A policy statement exists that implements DOE fire protection requirements (SSO FP CRAD 1,4)
 - b. A mechanism exists to track corrective actions from assessments (SSO FP CRAD 1)
 - c. Fire safety training needs are identified and provided to the members of the workforce (SSO FP CRAD 5)
 - d. The fire protection program is adequately staffed and trained (SSO FP CRAD 3)
 - e. Configuration control of key documents is maintained, e.g., a document management system (SSO FP CRAD 1)
 - f. The program develops and utilizes metrics to manage risk