

FIRE PROTECTION

Computer Based Training Module



ABSTRACT

This CBT looks at fire protection as applied to commercial nuclear power plants in the United States. Fire protection impacts design, operation, maintenance, and training at a plant. The CBT attempts to address major issues in this complex and changing fire protection landscape.



INTENDED AUDIENCE

1. Licensing Personnel, Managers, Directors, and Officers, who wish to get an overview of the scope, issues, and challenges associated with a fire protection program.



DURATION

- 4.5 hours
- An additional 8-12 hours for reading materials provided within the CBT

TERMINAL LEARNING OBJECTIVES

1. Describe the key aspects related to the Browns Ferry Nuclear Power Plant fire in March 1975.
2. Describe why this event brought a fundamental change in fire protection regulations in the US commercial nuclear power industry.
3. Identify the main causes of fire in commercial nuclear power plants.
4. Describe the key industry documents related to fire protection in nuclear power plants.
5. Define the fire protection Defense-in-Depth (DID) philosophy.
6. Describe the fundamental fire protection differences in power reactors.
7. Identify the primary documents that typically define a plant's fire protection license basis (CLB).
8. Distinguish between a deterministic (Appendix R, NUREG-0800) and a performance-based (NFPA 805) fire protection program.
9. Identify key predecessor and successor activities associated with a post-fire safe shutdown analysis.
10. Describe the main aspects of a plant's Fire Protection Program.
11. Describe the major features of a plant's Fire Protection System.
12. Describe the fire impact of significant event operating experience (OE).
13. Identify common NRC fire protection issues and violations.
14. Identify the postulated failure modes and mechanisms associated with fire protection aging management.
15. Describe the interactions between fire protection and External Events/Beyond Design Basis Events.

KEY INDUSTRY DOCUMENTS

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| 1. GDC 3 | 18. SER 5-01 |
| 2. NFPA 805 - 2001 | 19. SER 3-08 |
| 3. RG 1.189 | 20. TR9-65 |
| 4. NFPA 51B | 21. IER L2 12 27 |
| 5. CSB_Hot_Work_Safety_Bulletin | 22. SEN 218 |
| 6. NRC IN 2013-09 | 23. 2016 Emergency Classification Report |
| 7. NRC IN 2013-06 | 24. Grand Gulf 2009003-05 |
| 8. FC Untimely Correction | 25. NEI 99-01 Rev 6 Methodology EAL |
| 9. IER L3 11 15 | 26. RIS 200318s2 |
| 10. OSHA NRC MOU 9-06-2013 | 27. EPRI Aging Assessment Field Guide |
| 11. OSHA Respiratory Protection - 1910.134 | 28. INPO SOER 82-10 |
| 12. IER L2 1348 | 29. EPRI Guide for System Monitoring by SE |
| 13. IER L3 1337 | 30. NRC NUREG 1801 GALL Report |
| 14. IER L3 1265 | 31. NRC IN 88-56 Potential Problems with Silicone Foam |
| 15. IER L3 1104 | 32. NRC IN 200503 |
| 16. SER 1-09 | 33. INPO SER 3-98 |
| 17. SEN 275 | |