

# NRC INSPECTION MANUAL

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INSPECTION MANUAL CHAPTER 1245 APPENDIX D3

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FIRE PROTECTION ADVANCED-LEVEL TRAINING

Effective Date: 04/11/2023

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## INTRODUCTION

Completion of Appendix C7, "Fire Protection Inspector Technical Proficiency Training and Qualification Journal," of Inspection Manual Chapter (IMC) 1245, "Qualification Program for Reactor Inspectors," is strongly recommended before beginning activities or courses in this advanced-level training. You may complete the general proficiency requirements contained in Appendix B, "General Proficiency-Level Training and Qualification Journal," and the technical proficiency requirements in IMC 1245 Appendix C7 together with requirements in this training standard. The courses and the OJT activities listed in this standard are voluntary and are not required for certification as a U.S. Nuclear Regulatory Commission (NRC) fire protection inspector.

## OBJECTIVES OF ADVANCED-LEVEL TRAINING

The objective of this training standard is to provide advanced-level training in fire protection and to assist inspectors in preparing to evaluate reactor facilities that have transitioned to National Fire Protection Association (NFPA) 805, "Performance Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition

## REQUIRED TRAINING COURSES

The first five courses listed below give instruction and training in the inspection of plants that have transitioned to NFPA 805. The remaining courses give additional training in classical fire protection.

1. [NRC Office of Nuclear Reactor Research Online Training Modules: Available at ADAMS Package Accession No. ML22052A004 \(non-public\).](#)
  - Module 1, [Fire PRA](#)
  - Module 2, [Electrical Analysis](#)
  - Module 3, [Fire Analysis](#)
  - Module 4, [Fire Human Reliability Analysis](#)
  - Module 5, [Advanced Fire Modeling](#)
2. Fire Protection Inspector Training for NFPA 805, Available in TMS.  
The references, the handbook, slides, sample amendment, and safety evaluation and other references are included in [ML17116A249](#)
3. SAPHIRE Basics (P-201).
4. [System](#) Modeling Techniques for PRA (P-200)
5. Human Reliability Assessment (HRA) Course (P-203)
6. NFPA National Fire Alarm Code Seminar (NFPA 72, "National Fire Alarm and Signaling Code.")
7. NFPA Installation of Sprinkler Systems Seminar (NFPA 13, "Standard for the Installation of Sprinkler Systems.")

8. NFPA Fire Pumps Seminar (NFPA 20, "Standard for the Installation of Stationary Pumps for Fire Protection.")
9. The Automatic Sprinkler Systems Plans Review Two Day Training And Workshop Course available at the following url: <https://catalog.nfpa.org/Automatic-Sprinkler-Systems-Plans-Review-2-day-Training-and-Workshop-P16841.aspx>

or

The National Fire Sprinkler Association (NFSA) One Day Training Seminar, "[Hydraulics for Fire Protection](https://nfpa.org/training-catalog/)," available at the following url: <https://nfpa.org/training-catalog/>

10. NFPA Inspection, Testing, and Maintenance of Water Based Fire Protection Systems Seminar (NFPA 25, "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.")

The schedule of classes for the NFPA training can be found at <https://www.nfpa.org/Training-and-Events>.

Other online fire protection courses are available from the following sources:

- University of Maryland  
<https://fpe.umd.edu/>
- Oklahoma State University  
<https://ceatpd.okstate.edu/>
- Worcester Polytechnic Institute  
<http://cpe.wpi.edu/Individual/Distance/fire.html>

## Fire Protection Inspector On-the-Job Training (OJT) Activity

## (OJT-FP-1) Fire Protection Inspection

### PURPOSE:

The purpose of this activity is to acquaint you with the fire protection inspection process by having you participate in an inspection of an operating reactor facility that has transitioned to NFPA 805, "Performance Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants"

### COMPETENCY AREAS: TECHNICAL AREA EXPERTISE

LEVEL OF EFFORT: 40 hours

### EVALUATION CRITERIA:

At the completion of this activity, you should understand the regional fire protection inspection process for a plant that has transitioned to NFPA 805.

1. Explain the objectives of the fire protection team inspection (FPTI) for a plant that has transitioned to NFPA 805.
2. Explain the difference between the FPTI for a plant that has transitioned to NFPA 805 and one that has not transitioned.
3. Explain the regulatory requirements and licensing basis against which post-fire safe-shutdown capability is assessed.

### TASKS:

The activities listed below shall be performed under the guidance of a subject matter expert.

1. Accompany a team of regional inspectors during a fire protection inspection at a plant that has transitioned to NFPA 805.
2. Discuss the evaluation criteria with a subject matter expert.
3. Before the inspection, review any documents the team leader deems necessary.
4. Participate with the inspection team leader and the regional senior risk analyst in the selection process of the inspection samples (determine which SSCs, programs, and fire areas or zones are to be inspected in this inspection).
5. Review NFPA 805, 2001 Edition.
6. Complete any other task given by the inspection team leader.

DOCUMENTATION: Fire Protection Inspector Advanced-Level Signature Card OJT-FP-1.

# Fire Protection Inspector Advanced-Level Signature Card

<u>Inspector</u> <u>Name:</u> _____	<u>Employee</u> <u>Initials/ Date</u>	<u>Supervisor's</u> <u>Signature/</u> <u>Date</u>
<u>Training Courses for Fire Protection Inspector</u>		
<b>NRC Office of Nuclear Reactor Research Online Training Modules</b>		
Module 1 <b>Fire PRA</b>	_____	_____
Module 2 Electrical Analysis	_____	_____
Module 3 Fire Analysis	_____	_____
Module 4 <b>Fire</b> Human Reliability Analysis	_____	_____
Module 5 Advanced Fire Modeling		
SAPHIRE Basics (P-201)		
Fire Protection Inspector Training for NFPA 805		
System Modeling Techniques for PRA (P-200)		
Human Reliability Assessment (HRA) Course (P-203)		
National Fire Protection Association National Fire Alarm Code Seminar (NFPA 72)		
National Fire Protection Association Installation of Sprinkler Systems Seminar (NFPA 13)		
National Fire Protection Association Fire Pumps Seminar (NFPA 20)		
The Automatic Sprinkler Systems Plans Review Two Day Training and Workshop Course or The National Fire Sprinkler Association (NFSA) One Day Training Seminar		
NFPA Inspection, Testing and Maintenance of Water Based Fire Protection Systems (NFPA 25)		
<u>On-the-Job Training Activity</u>		
OJT-FP-1 Participate in a regional fire protection team inspection of a plant that has transitioned to NFPA 805		

Supervisor's signature indicates successful completion of all required courses and activities listed in this training standard.

Supervisor's Signature/Date \_\_\_\_\_

This signature card and certification must be accompanied by the appropriate Form 1, Fire Protection Inspector Advanced-Level Equivalency Justification, if applicable. (The electronic signature card, which is located on the Digital City SharePoint website is also acceptable.) Record completion in TMS by sending a request to [TrainingSupportResource@nrc.gov](mailto:TrainingSupportResource@nrc.gov).

Copies to:     Inspector  
                  Supervisor

Form 1: Fire Protection Inspector Advanced-Level Equivalency Justification

<u>Inspector</u> Name: _____	<u>Identify equivalent training and experience for which the inspector is to be given credit</u>
<u>Training Courses for Fire Protection Inspector</u>	
NRC Office of Nuclear Reactor Research Online Training Modules Module 1 Fire PRA Module 2 Electrical Analysis Module 3 Fire Analysis Module 4 Fire Human Reliability Analysis Module 5 Advanced Fire Modeling	_____ _____ _____ _____ _____
SAPHIRE Basics (P-201)	
System Modeling Techniques for PRA (P-200)	
Fire Protection Inspector Training for NFPA 805	
Human Reliability Assessment (HRA) Course (P-203)	
National Fire Protection Association National Fire Alarm Code Seminar (NFPA 72)	
National Fire Protection Association Installation of Sprinkler Systems Seminar (NFPA 13)	
National Fire Protection Association Fire Pumps Seminar (NFPA 20)	
The Automatic Sprinkler Systems Plans Review Two Day Training and Workshop Course or The National Fire Sprinkler Association (NFSA) One Day Training Seminar	
NFPA Inspection, Testing and Maintenance of Water Based Fire Protection Systems (NFPA 25)	
<u>On-the-Job Training Activity</u>	
OJT-FP-1 Participate in a regional fire protection team inspection of a plant that has transitioned to NFPA 805	

Supervisor's Recommendation      Signature/Date \_\_\_\_\_

Division Director's Approval      Signature/Date: \_\_\_\_\_

Copies to:      Inspector

Supervisor



Attachment 1: Revision History IMC 1245, Appendix D3

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML090360535 07/08/09 CN-09-017	Initial issuance. Completed 4-year historical CN review.	None	ML091590710
N/A	ML11166A136 12/29/11 CN-11-044	This revision updates required training.	None	ML11340A128
N/A	ML12251A071 12/19/12/12 CN 12-029	This revision updates required training by deleting NFPA e-learning series, "Fire Stopping Series" which is no longer offered.	None	Closed FF: 1245D3-1809
N/A	ML20077L278 06/26/20 CN 20-026	This revision removed the NFPA Sprinkler Hydraulics Seminar training requirement which was no longer offered and provided new training choices that were recommended by the NRR technical program office. Also, this revision updated links that were not functional.	None	ML20079E420
N/A	ML23088A403 04/11/23 CN 23-011	This revision updated the list of required training courses	None	