



# Pennsylvania State Fire Academy

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## Minimum Standard for Accreditation (MSA)

Revised February 2, 2000

**Course Title:** *Radiological Officer Refresher Course* (formally Fundamentals Course for Radiological Officers Refresher (ROREF))

**Length of Course:** 8.5 hours

**Lecture/Lab Breakdown:** 6.5/2

**Prerequisites:** *Radiological Officer Initial Course (ROIC)*

**Course Goal:** The purpose of this course is to qualify selected individuals to serve as local Radiological Officers (ROs) who are responsible for developing, managing, evaluating, and exercising a radiological protection system (RPS).

**Description of Course:** Provide participants with an understanding of the roles and responsibilities of the county or agency Radiological Officer, describe the framework within which the radiological response team functions, provide fundamental knowledge of radiation and its affects, and proper response and pre-recovery procedures for a RAM incident.

**Description of Methodology to be used:** Lecture, discussion, and practical exercises.

**IMPORTANT NOTICE:** Maximum class size for this course is 30 students; no exceptions.

**Student Equipment/Supply Needs:** DOE Modular Emergency Radiological Response Transportation Training Student Workbook, PEMA Radiological Officer Student Workbook, 1993; 1996 North American Emergency Response Guidebook, DOT P5800.4, DOE Response Wheel for Radioactive Materials, REAC/TS Transport of Radioactive Material – Q&A About Incident Response Pocket Guidebook; their own county Emergency Operation Plan (EOP).

**Equipment/Audiovisual/Supply Requirements:** DOE Modular Emergency Radiological Response Transportation Training (MERRTT) Instructor Workbook; PEMA Radiological Instructor Workbook, 1993; “The Transportation of Radioactive and Other Hazardous Material... Safety Our Prime Concern” FEMA VT 326.1; Pre-Hospital VT 320; Hazardous Material Awareness: Response to Rail Accidents” FEMA VT 326.1;

**Equipment/Audiovisual/Supply Requirements: continued**

“Step by Step .... The Transportation of Radioactive and Other Hazardous Materials” FEMA VT 326.3; “Highway Shipments of Spent Nuclear Fuel” FEMA VT 326.4; “Ionizing Radiation and its Biological Effects” FEMA VT 326.5 (323); Radiological Assessment Case Study & Exercise” FEMA VT 326.6

## COURSE OUTLINE

<u>Radiological Officer Modules (Refresher Training)</u>	<u>Time</u>
Registration, Introduction, and Overview	30 min
1. Radiological Basics	15 min.
2. Biological Effects of Ionizing Radiation	15 min.
3. Hazard Recognition	15 min.
4. Initial Response Actions	15 min.
5. RAM Shipping Packages	30 min.
6. Patient Handling	15 min.
7. Notifications & Resources	15 min.
8. Scene and Incident Control	15 min.
9. Radiation, Terminology and Units	30 min.
10. Radiological Instrumentation	30 min.
11. Assessing Packaging Integrity	15 min.
12. Tactics & Strategy	15 min.
13. Decontamination	15 min.
14. Incident Commander-Response Phase	30 min.
15. Incident Commander-Recovery Phase	30 min.
16. PEMA Module 3	15 min.
17. PEMA Module 4	15 min.
18. PEMA Module 5	30 min.
20. Full-Field Exercise	120 min.
<b>Total</b>	<b>8.5 hours</b>

**Competency Evaluation Mechanism (brief description – attach copy):** Each module has a quiz and then students will need to take a final facilitated exam; instructor conducted evaluation procedures for practical exercises. A minimum test score of 70% is recommended to enable course attendees to receive a PEMA or State Fire Academy Certificate of Training.

**Course Objective (specific):** Upon completion of this course, the trainee will:

- 1) Cite examples of the types of radiological emergencies likely to occur in his or her community and list the probabilities of occurrence and the possible consequences.
  
- 2) Describe the radiological emergency response system for his or her community, organization, or governmental entity; the role of the RO in that system; and the relationship of the radiological protection system within the Integrated Emergency Management System (IEMS) and other organizations having related responsibilities

**continued**

**Course Objective (specific): continued**

- 3) Apply radiation fundamentals and concepts of biological effects of radiation exposure to radiological operations and risk evaluations in radiation emergencies.
- 4) List the characteristics, capabilities, and limitations of civil defense and other radiological detection equipment when used in radiological incidents and be able to select the appropriate instrument for various situations.
- 5) Develop a radiological plan for his or her jurisdiction or organization and describe the procedures for (and problems of) staffing, providing resources for, and implementing the plan.
- 6) Use a radiological plan in a simulated response to a radiological incident and evaluate the effectiveness of its procedures.
- 7) Describe the differences and similarities between operations for nuclear device detonation incidents and other radiation emergencies.
- 8) Recognize the need for communications channels with other agencies and organizations, and improve communication skills needed to present and discuss radiological information with technical, non-technical, and administrative personnel.
- 9) Describe the role of the RO as the technical advisor to public officials and jurisdictional authorities regarding radiological incidents and emergencies.

**Questions/Comments: Contact the Curriculum Specialist**