



Topics Covered

I. Radiation Fundamentals

- A. Basic Atomic Structure
- B. Radiation and Radioactivity
- C. Radiation Units
- D. Typical Doses

II. Introduction Nuclear Gauges

- A. General Discussion of Gauge Types & Applications
 - 1. Transmission vs Backscatter
 - 2. Density, Level, Belt Weigh Scale, etc.
- B. Typical Gauge Construction
- C. Types & Operation of Shutter Mechanisms

III. Radiation Safety Principles & Instrumentation

- A. Time, Distance & Shielding
- B. Types of Instruments
 - 1. Dosimeters
 - 2. Survey Meters
- C. Performing Surveys

IV. Health Effects from Radiation Exposure

- A. Prompt (Non-stochastic)
- B. Delayed (Stochastic)

- C. Genetic
- D. Teratogenic

V. Radiation Protection Standards

- A. Definitions
- B. Regulatory Requirements
 - 1. Dose Limits
 - 2. Leak Testing
 - 3. Personnel Monitoring Requirements
- C. Posting and Labeling Requirements

VI. Nuclear Gauge Procedures (Routine Operations)

- A. Receiving & Storing New Gauges
- B. Gauge Mounting (not commissioning)
- C. Gauge Inventories & Inspections
- D. Gauge Lockouts & Vessel Entry

- E. Leak Testing Gauges
- F. Posting Requirements
- G. Record keeping
- H. Performing Routine Maintenance
 - 1. Shutter Function & Lubrication
 - 2. Managing Corrosion
 - 3. Replacing Tags & Labels

VII. Non-Routine Gauge Operations

- A. Commissioning Gauges
- B. Gauge Removal
- C. Relocation of Gauges
- D. Emergency Guidelines
- E. Record keeping

VIII. Final Exam



SUNTRAC SERVICES INC.

FOR MORE INFORMATION VISIT OUR WEBSITE OR CONTACT OUR CUSTOMER EXPERIENCE COORDINATOR, EMILY JONES