



## **RADIOGRAPHIC TESTING – Level I** **40 hours (5 Days)**

### **COURSE DESCRIPTION**

This 40 hours course is a preparatory course designed for personnel without prior experience in the method. The course provides a full appreciation in the techniques and method of radiographic testing. A high theory and practical content is offered. This course is designed to meet ANSI/ ASNT CP-105: "Topical Outlines for Qualification of Nondestructive Testing Personnel".

### **COURSE TOPICAL OUTLINE**

#### **BASIC RADIOLOGY PHYSICS**

1. Introduction
2. Fundamental Properties of Matter
3. Radioactive Materials
4. Types of Radiation
5. Interaction of Radiation with matter
6. Exposure Devices and Radiation Sources
7. Radiological Safety Principles Review

#### **RADIOGRAPHIC TECHNIQUE**

1. Introduction
2. Basic principles of Radiography
3. Radiographs
4. Radiographic Image Quality
5. Film Handling, Loading and Processing
6. Exposure Techniques - Radiography

#### **WHO SHOULD ATTEND**

This course will benefit NDT personnel, maintenance personnel, Quality Assurance/ Quality Control Inspectors, engineers, surveyors, technicians, trainees in the aerospace, metal fabrication, oil refinery, petrochemical, offshore, shipbuilding, ship-repairing and building construction industries.

## **RADIOGRAPHIC TESTING – Level II** **40 hours (5 Days)**

### **COURSE DESCRIPTION**

This 40 hours course covers all theory aspects of the method including Gamma Radiography as well as working through their own supervised practical exercise, students will receive full instruction on darkroom procedures and radiographic interpretation. This course is designed to meet ANSI/ ASNT CP-105: "Topical Outlines for Qualification of Nondestructive Testing Personnel".

### **COURSE TOPICAL OUTLINE**

#### **FILM QUALITY AND MANUFACTURING PROCESSES**

1. Review of Basic Radiographic Principles
2. Darkroom Facilities, Techniques and Processing
3. Indications, Discontinuities and Defects
4. Manufacturing Processes and Associated Discontinuities
5. Radiological Safety Principles Review

#### **RADIOGRAPHIC EVALUATION AND INTERPRETATION**

1. Radiographic Viewing
2. Application Techniques
3. Evaluation of Castings
4. Evaluation of Weldments
5. Standards, Codes and Procedures for Radiography

#### **LEARNING OBJECTIVES**

1. Basic principles of the radiographic test method
2. Applications of the radiographic test method
3. Types of discontinuities detected with the radiographic test method
4. Cause and effect of various types of discontinuities
5. Operational steps in the radiographic test method and the importance of each step
6. Radiographic examination following a written procedure
7. Manually process film for high contrast and resolution
8. Interpretation and evaluation of test results with respect to the applicable standards
9. Overview of the safety precautions necessary when using ionizing radiation and an overview of film interpretation
10. Test reports and procedure
11. Location of defects in various materials, components and structures with a high probability of detection

#### **WHO SHOULD ATTEND**

This course will benefit NDT personnel, maintenance personnel, Quality Assurance/ Quality Control Inspectors, engineers, surveyors, technicians, trainees in the aerospace, metal fabrication, oil refinery, petrochemical, offshore, shipbuilding, ship-repairing and building construction industries.