CSWIP
WELDING INSPECTOR

MCE061

COURSE DESCRIPTION

This course provides the participants with the means to properly operate and support the CSWIP and BGAS/CSWIP schemes in the field of welding, inspection, NDT, painting to meet the requirement of the industry.

COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to understand CSWIP schemes to do a good job.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Understand factors which influence the quality of fusion welds in steels.
- Recognize characteristics of commonly used welding processes in relation to quality control.
- Interpret drawing instructions and symbols to ensure that specifications are met.
- Set up and report on inspection of welds, macro sections and other mechanical tests.
- Assess and report on welds to acceptance levels.
- Confirm that incoming material meets stipulated requirements and recognize the effects on weld quality of departure from specification.

WHO SHOULD ATTEND

- Professionals in welding industry.
- Persons who have minimum of 3 years' experience in the field of welding inspection or 5 years as welding Supervisor are eligible to attend CSWIP.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Introduction to CSWIP and BGAS/CSWIP schemes
    - Overview of certification and industry standards
    - Role and significance of welding inspection in various industries

2. Duties and Responsibilities of a Welding Inspector
    - Understanding the inspector's role in ensuring quality and compliance
    - Legal and ethical considerations in welding inspection
3. Fusion Welding Processes
    - In-depth exploration of various welding techniques
    - Advantages, limitations, and applications of each welding process
4. Types of Steel
    - Properties and characteristics of carbon-manganese steel
    - Differences between low alloy and stainless steels
5. Hardening of Steels
    - Heat treatment processes and their effects on steel properties
    - Controlling hardness in welding applications
6. Weldability
    - Factors affecting the ease of welding
    - Strategies for dealing with challenging materials
7. Typical Weld Defects
    - Identification and categorization of common welding defects
    - Causes and preventive measures for defects
8. Parent Metal Defects
    - Understanding defects in base metals
    - Impact of defects on weld quality and performance
9. Visual Inspection
    - Techniques for visual examination of welds
    - Interpretation of visual inspection results
10. Testing Parent Metals and Welds
    - Overview of destructive testing methods
    - Practical applications and limitations of destructive tests
11. NDT Techniques
    - Introduction to various non-destructive testing methods (e.g., radiography, ultrasonics, magnetic particle testing)
    - Selection criteria for NDT methods based on application and material

12. Welder and Procedure Approval
    - Qualification procedures for welders
    - Approval processes for welding procedures
13. Codes and Standards
    - Familiarization with industry codes and standards (e.g., ASME, AWS)
    - Adherence to international welding standards
14. Outline of Safe Working Practices
    - Emphasis on safety protocols in welding inspection
    - Risk assessment and hazard mitigation strategies
15. Continuous and End-Of-Course Assessment
    - Evaluation of participants through practical exercises and theoretical assessments
    - Preparation for CSWIP certification exam