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HS077- 10D:
Safety Equipment in Oil and Gas Industry

Training Description:

Oil and gas companies are repeatedly cited by regulatory organizations for poor training and maintenance on providing safety equipment to their refinery workers. Managers of refinery and petrochemical plants are responsible for instructing their workers with the types of equipment available, how to properly wear the equipment, how to properly care and maintain the equipment, and, most importantly, it's their responsibility to enforce these regulations and safety requirements. While there are many reference materials on the subject, most are too broad to apply directly to the unique and highly volatile atmosphere of an oil and gas operation. Safety Equipment for the Oil and Gas Industries answers the call for safety managers onsite as well as workers to understand all the safety equipment available specifically for the energy sector. This course is designed to inform on several types of personnel protective clothing, firefighting protective clothing, respiratory protective devises available as well as many other types of protective equipment including fall protection and vehicle safety belts and harnesses.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Identify the different types of safety and protective equipment specific to the oil and gas industry
- ✓ Enumerate the types and selection of breathing apparatus used for safety and protection that includes hose, respirators, masks and other respiratory equipment
- ✓ Select, inspect and maintain the use of respiratory and safety protective equipment
- ✓ List all the personal safety protective equipment such as for head protection recommended for construction, eye protection, hand protection, ear protection, foot protection, body protection and face protection
- ✓ Determine protection against radiation
- ✓ Apply first aid as well as sanitation in plants and workshops
- ✓ Use safety belts, safety portable ladders and safety firefighting equipment

Training Designed for:

This course is intended for oil and gas Facility Managers, Safety Engineers, Safety Inspectors, Maintenance Engineers and Managers, Operation Managers, Risk Managers, drilling companies and Operators, Product Manufacturers and Designers, safety training organizations, Pipeline Engineers, Process Engineers and Managers and Corrosion Engineers.

Training Program:

DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction
- ❖ Personnel Protective Equipment and Protection
  - Introduction
  - OSHA and local rules regarding PPE
  - Selection of PPE as per job nature
  - Severity and Location of the Hazard
  - Specific Considerations

- Classification of Respiratory Protective Equipment
- Fresh-air Hose and Compressed Air-line Breathing Apparatus
- Positive-pressure, Powered Dust Respirators
- Respirators for Protection Against Harmful Dust and Gas
- Dust Respirators
- Gas Respirators, Canister Type
- Gas Respirators, Cartridge Type
- Positive-pressure, Powered Dust Hoods and Suits
- Underwater Breathing Apparatus
- Ventilatory Resuscitators
- Case Study and related video
- Day (1) Recap

DAY TWO:

❖ Head and Eyes Protection:

- Introduction
- Selection of Hard hat as per job requirement
- Expiry date & hard hat validity
- Face shield
- Goggles and safety sun glasses
- Wielding PPE
- Tests and Certification
- Case Study and related video
- Day (2) recap

DAY THREE:

❖ Hand Protection:

- Introduction
- Severity and Location of the Hazard
- Work Requirements and Conditions
- Use of suitable gloves
- Mechanical effort
- Electrical Jobs
- PVC Gloves
- Protective Leather Gloves for Welders
- Rubber Gloves
- Performance Requirement
- Rubber Gloves for Electrical Purposes
- Construction
- Typical Dimensions
- Color Codes
- Performance
- using energized tools
- PTW and job planning
- Case Study and related video

DAY FOUR:

- Foot and Ear (Hearing) and safety protection
  - Foot Protection
  - Selection of suitable safety shoos
  - Validity and certificate
  - Ear Protection
  - Test Result
  - Information
  - Ear Plugs
  - Sonic Ear Valve
  - Foot Protection
  - Conductive Safety Footwear
  - Conductance (Electrical Resistance Inverse)
  - Electrical Hazard Footwear
  - Material and Workmanship
  - Case study and related video
  - Day (4) recap

DAY FIVE:

- Personnel Protection Against Radioactive
  - Specific Considerations
  - Types of Sources used in Industrial Gamma Radiography
  - Selection of Radiography Site
  - Radiation Exposure to Human Beings
  - Biological Basics of Radiation
  - Radiation-Measuring Techniques
  - Radiation-Protection Techniques
  - Classification Designation of Sealed Source
  - General Requirements for Radiography Equipment
  - Apparatus for Gamma Radiography
  - Source Marking
  - Container Marking
  - Radio Toxicity and Solubility
  - General Consideration of Exposure Container
  - Handling Facilities of Exposure Containers
  - Manufacturing and Production Tests for Exposure Containers
  - Packing and Transportation of Radioactive Substances
  - Procedure to Establish Classification and Performance Requirements for Sealed Source
  - Sealed-Source Application and Exchange Procedures
  - Waste Disposal
  - Specific Safety Procedures for Radiography
  - Radiation-Protection Safety
  - Technical Information
  - Test Device

- Case study and related video

DAY SIX:

❖ First Aid and Sanitation

- Sanitation and Hygiene of The Plants and Workshops
- Mechanical and Electronic Equipment and Radiation
- Radiation
- Chemical Substances
- Personal Sanitation
- Medical Examinations
- Site Conditions
- Dust, Spray, Gases, and Vapors
- Infectious Disease
- First Aid and Rehabilitation
- Principles of Wound Treatment
- Bleeding
- Sting, Insect Bites, and Blisters
- General Effects of Serious Injury
- Fractures
- Care of Fractures, Strains, and Sprains
- Burns and Scalds, Electrical and Heat Injuries
- Varieties of Burns
- First-Aid Treatment of Burns
- Heat Stroke
- Chemical Burns, Injuries, and Poisons
- Chemical Skin Irritation
- Chemical Poisons
- Unconsciousness, Gassing, and Asphyxia
- Rescue Operation of Gas Casualty
- Industrial Gases
- Artificial Respiration
- External Heart Massage
- Eye Injuries
- Aches and Pains, Transport, and Records
- Record-Keeping

DAY SEVEN:

❖ Safety Belts and body protection

- Body Protection
- Protective Apron for Wet Work
- High-visibility Garments and Accessories
- Chemical Protective Clothing
- Types and Construction
- Use and Maintenance
- Sizing of Jackets, Coats, Over-Trousers, and One-Piece Suits

- Face Protection
- Body-protection Method for the Determination of Seam Strength
- Body-protection Measurement and Sizes
- Body protection: Method of Measuring Garments
- Body-protection Guidance for the Use of Garments and Accessories
- Chemical-protection Guidelines on Selection and Use of Chemical-protective Clothing
- Job Design
- Use of Belts and Harnesses
- Means of Adjustment
- Materials for Belts and Harnesses
- Lanyards
- Manufacture
- Performance Requirements
- Inspection
- Markings
- Storage, Examination, and Maintenance of Safety Belts and Harnesses
- Maintenance of Equipment
- Recommendations for the Selection and Use of Appropriate Appliances
- Case study and related video

DAY EIGHT:

❖ Safety Portable Ladders

- Types and Classes
- Materials (Industrial)
- Other Components and Material
- Specific Types of Ladders
- Single-Section and Extension Sections (Wood-Class I)
- Shelf Ladders (Aluminum)
- Shelf Ladders (Wood Class 1)
- Swing-Back Steps (Aluminum)
- Swing-Back Steps (Wood)
- Backed Steps (Aluminum)
- Folding Trestles (Aluminum)
- Wood-Type Folding Trestles (Class (1))
- Aluminum-Type Lightweight Stagings
- Wood-Type Lightweight Stagings Class 1
- Performance Tests
- Performance Test of Aluminum-Type Shelf Ladders
- Performance Test of Aluminum Swing-Back Steps
- Tolerances on Sizes
- Care and Use of Ladders
- Determination of Slope of Grain
- Test for Deflection of Ladders and Step Fronts
- Strength Test for Ladders, Step Fronts, and Trestle Frames

- Ladder Twist Test
- Sideways Bending (Sway) Test for Ladders, Step Fronts, and Trestle Frames
- Cantilever Bending (Horn End Strength) Test for Ladders, Step Fronts, and Trestle Frames
- Test for Rungs
- Test for Treads of Shelf Ladders
- Tests for Steps
- Test for Trestles
- Test for Lightweight Staging
- Test for Extension Ladder Guide Brackets

DAY NINE:

❖ Safety and Firefighting Equipment, Part 1

- Safety-and Fire-Training Centers
- Firefighting Training Ground
- Other Requirements
- Fire-Station Facilities
- Fire-Water Distribution and Storage Facilities
- Water Supplies
- Basis for a Firefighting Water System
- Fire-Water Pumping Facilities
- Plans
- General Winterizing
- Water Tanks for Fire Protection
- Fire-Hose Reels (Water) for Fixed Installations
- Water-Spray Fixed Systems for Fire Protection
- System Design and Installation
- Fire and Explosion Prevention
- Valves
- Automatically Controlled Valves
- Fixed-Roof Tanks Containing High-Flash Liquids
- Floating-Roof Tanks
- Instructions and Markings
- Fire-Resistant Blanket
- Fire Blanket
- Proscenium Fire-Resisting Curtain
- Fire-Resisting Shields
- Notes on Design, Maintenance, and Operating Instructions
- Maintenance
- Safety Provisions
- Inspection, Storage, and Maintenance
- Used and Reconditioned Garments
- Glass-Fiber Fire Blankets
- Delivery, Inspection, Quality Control, and Commissioning of Firefighting Pumps
- Acceptance, Service Test, Operation and Maintenance of Fire-Service Pumping Units

- Installation, Inspection, and Testing of Firefighting Fixed Systems
- Installation, Testing, and Quality Control of Firefighting Sprinkler Systems
- Sign and Notices
- Installation, Testing, and Quality Control of Water-Supply Systems
- Installation, Testing, and Quality Control of Foam Systems
- Training Facilities and Firefighter Qualifications
- Firefighter Qualifications
- Safety Boundary Limit
- Case study and related video

DAY TEN:

- ❖ Safety and Firefighting Equipment, Part 2
  - Fire-Service Valves
  - Hose Reels
  - Firefighting Hoses and Couplings
  - Firefighting Nozzles
  - Firefighting Monitors
  - Butterfly-Valve Specifications
  - Foam-Making Branch Nozzles
  - Material and Equipment Standard for Firefighting Vessels
  - Initial Consultations and Planning Before Purchasing
  - Quotation and Technical Information
  - Quality Control
  - Inspections
  - Bollard Pull-Testing Procedure
  - Foam-Liquid Concentrate (FLC) Proportions, Generators, and Twin Agents
  - Medium-and High-Expansion Foam Generators
  - Twin-Agent Dry-Chemical Powder and Foam System
  - System Operation and Control
  - Paint and Finishing
  - Items to be Furnished by Manufacturer
  - Case Study and related video
  - Course review
  - Competency test
- ❖ Course Conclusion
- ❖ POST-TEST and EVALUATION

Training Requirement:

"**Hand's on practical sessions, equipment** and **software** will be applied during the course if required and as per the client's request".

Please note that the above topics can be amended as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

As per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

For training registrations or in-house enquiries, please contact:

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