COURSE OVERVIEW HE1260
Safety, Health & Environmental Issues in the Iron & Steel Industry

Course Title
Safety, Health & Environmental Issues in the Iron & Steel Industry

Course Date/Venue
Session 1: April 06-10, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
Session 2: November 16-20, 2025/Crowne Meeting Room, Crowne Plaza Al Khobar, KSA

Course Reference
HE1260

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of safety, health and environmental issues in the iron and steel industry. It covers the industry characteristics, iron and steel making and occupational hazards; the occupational safety and health management systems; the industry-specific prevention and protection; the coke ovens and by-product plants; the hazard control and other methods of producing coke; the iron and steel-making; and the prevention of fires and explosions, carbon monoxide poisoning, steam explosion, lighting of furnaces, and handling of molten metal, dross or slag.

During this interactive course, participants will learn the surface preparation and hazard control; the iron and steel foundries, safety specifications for hand-tilted transport ladles, tapping, bottom drop, protective eqipment and first aid; the hazard control strategies on rolling mills; the assessment of risk, control strategies and work practices on coating lines, heat treating and internal transport; the personal protective equipment (PPE); the noise and assessment of noise risk; the operational safety, monitoring techniques and transport of chemicals; and the monitoring and protection of chemicals and the environment.

Course Objectives

Upon the successful completion of this course, each participant will be able to: -

- Apply and gain a comprehensive knowledge on safety, health and environmental issues in the iron and steel industry
- Discuss industry characteristics, iron and steel making and occupational hazards
- Employ occupational safety and health management systems as well as industry-specific prevention and protection
- Describe coke ovens and by-product plants as well as apply hazard control and other methods of producing coke
- Carryout iron and steel-making, prevent fires and explosions, light furnaces, prevent carbon monoxide poisoning, prevent steam explosion and handle molten metal, dross or slag
- Describe hazard and employ surface preparation and hazard control
- Discuss iron and steel foundries, safety specifications for hand-tilted transport ladles, tapping, bottom drop, protective equipment and first aid
- Apply hazard control strategies on rolling mills
- Employ assessment of risk, control strategies and work practices on coating lines, heat treating and internal transport
- Discuss personal protective equipment (PPE) covering its general provisions, head protection, face and eye protection, upper and lower limb protection, respiratory protective equipment, hearing protection, protection from falls and work clothing
- Recognize noise and perform noise risk assessment covering sound level meters, frequency analysis, personal noise dosimetry and noise measurements and assessments
- Describe the hazard of vibration and perform assessment of risk, control strategies, isolation, substitution and engineering controls
- Employ operational safety, monitoring techniques and transport of chemicals in a professional manner
- Monitoring and protect chemicals and the environment

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of safety, health and environmental issues in the iron and steel industry for health and safety professionals, occupational health specialists including physicians and nurses. Specialists in subjects such as acoustics, ergonomics, human factors, occupational psychology, work organisation, biosafety, engineering, analytical chemistry and those who want a broader appreciation of how their role interfaces with other professions over health issues in the workplace.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- USA International Association for Continuing Education and Training (IACET)

  Haward Technology is an Authorized Training Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 1-2013 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 1-2013 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Association for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.25 CEUs** (Continuing Education Units) or **32.5 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Francis Almeida, PgDip, BSc, NEBOSH-ENV, NEBOSH-IGC, NEBOSH-IFC, NEBOSH-IOGC, NEBOSH-PSM, is a **Senior Health, Safety & Environmental** (**HSE**) **Consultant** with over **30 years** of practical experience within the **Oil** and **Gas** industry. He is a **NEBOSH Approved Instructor** for various certification programs. His expertise lies extensively in the areas of **Accident/Incident Investigation & Risk Management**, **NEBOSH** Environmental Management, **NEBOSH** International General Certificate, **NEBOSH** Fire Safety & Risk Management International Certificate, **NEBOSH** International Oil & Gas Certificate, **NEBOSH** Process Safety Management, **HAZOP & HAZID**, **HAZMAT & HAZCOM** Storage & Disposal, As Low as Reasonably Practicable (**ALARP**), Process Hazard Analysis (**PHA**), Process Safety Management (**PSM**), **Hazardous Materials & Chemicals** Handling, **Pollution Control**, **Environment, Health & Safety** Management, **Process Risk** Analysis, Effective Tool Box Talks, Construction Sites Safety, **HSSE Management** System, **HSSE Audit & Inspection**, **HSEQ Procedures**, **Authorized Gas** Testing, **Confined Space Entry & Rescue**, **Risk** Management, **Quantitative & Qualitative Risk** Assessment, **Working at Height**, **Firefighting** Techniques, **Fire** & **Gas** Detection System, **Fire Fighter & Fire** Rescue, **Fire Risk** Assessment, **HSE Industrial Practices**, **Manual Handling**, **Rigging Safety Rules**, **Machinery & Hydraulic Lifting Equipment**, **Warehouse Incidents & Accidents Reporting**, **Incident & Accident Investigation**, **Emergency Planning**, **Emergency Response & Crisis** Management Operations, **Waste Management** Monitoring, **Root Cause Analysis**, Hazard & Risk Assessment, Task Risk Assessment (**TRA**), **Incident Command**, Job Safety Analysis (**JSA**), Behavioral Based Safety (**BBS**), **Fall Protection**, **Work Permit & First Aid** and various international codes and standards such as the ISO 9001, OHSAS 18001, ISO 14001, SA8000, ISO 9001-2000 and ISO 9002. He was the **Offshore Safety Specialist** of **Chevron** wherein he was in-charged in HSE inspections, hazard analysis, incident investigation and implementing corrective actions.

During his career life, Mr. Almeida has gained his practical and field experience through his various significant positions and dedication as the **Quality Manager**, **HSE Specialist/Acting On-Scene Commander**, **Quality Auditor**, **Quality Supervisor**, **QHSE Engineer**, **Metallurgical Engineer**, **HSE Coordinator**, **Suppliers Auditor**, **Senior Instructor/Consultant**, **Oil & Gas Construction Specialist**, **Business Administration Specialist** and **Oil & Gas Management Technology Specialist** for various international companies and institutions such as the IBEC, Lopes & Almeida, IMA, EXPRO Group, UNESA, Vetco Aibel, ABB Oil & Gas, Brazilian Aluminum Foundry, DNV and ABIFA.

Mr. Almeida has a **Bachelor** degree in **Metallurgical Engineering** and a **Post Graduate Diplomas** in **Safety Engineering** and **Industrial Administration**. Further, he is a **Certified Instructor/Trainer**, an **Approved Lead Tutor** in **NEBOSH Environmental Management Certificate**, **NEBOSH International General Certificate**, **NEBOSH International Oil & Gas Certificate** and **NEBOSH Process Safety Management Certificate** and an **Approved Practical Assessor/Lead Tutor** in **NEBOSH Fire Safety & Risk Management**. Moreover, he is a **Certified ISO 9001:2000 Lead Auditor**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**) and has further delivered numerous trainings, courses, seminars, conferences and workshops globally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons

Course Fee

US$ 10,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction*** *Industry Characteristics ● Iron & Steel Making ● Occupational Hazards*
0930 – 0945	*Break*
0945 – 1100	***Occupational Safety & Health Management Systems*** *Introduction ● OSH Management Systems ● Reporting, Recording & Notification of Work-Related Injuries & Diseases & incidents ● Occupational Health Services*
1100 – 1215	***Industry-Specific Prevention & Protection*** *Hazards & Health ● Physical Hazards ● Chemical Hazards ● Safety Hazards ● Ergonomics*
1215 – 1230	*Break*
1230 – 1420	***Coke Ovens & By-Product Plants*** *Hazard Description ● Hazard Control on By-Product Coke Batteries ● Hazard Control in Non-Recovery Batteries ● Hazard Control in By-Product Recovery Plants ● Other Methods of Producing Coke*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Iron & Steel-Making*** *General ● Preventing Fires & Explosions ● Lighting Furnaces ● Dusts & Fibres ● Preventing Carbon Monoxide Poisoning ● Preventing Steam Explosion ● Handling Molten Metal, Dross or Slag*
0930 – 0945	*Break*
0945 – 1100	***Surface Preparation*** *Hazard Description ● Hazard Control*
1100 – 1215	***Iron & Steel Foundries*** *General ● Safety Specifications for Hand-Tilted Transport Ladles ● Safety Inspection of Ladles ● Tapping ● Bottom Drop ● Protective Equipment ● Preventing Fire & Explosion ● Abrasive Blasting ● Abrasive Wheels ● Process & Waste Gases ● First Aid*
1215 – 1230	*Break*
1230 – 1420	***Rolling Mills*** *Hazard Description ● Control Strategies*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Coating Lines*** *Hazard Description ● Assessment of Risk ● Control Strategies ● Work Practices*
0930 – 0945	*Break*
0945 – 1100	***Heat Treating*** *Hazard Description ● Hazard Control*
1100 – 1215	***Internal Transport*** *Hazard Description ● Control Strategies*
1215 – 1230	*Break*
1230 – 1420	***Personal Protective Equipment (PPE)*** *General Provisions ● Head Protection ● Face & Eye Protection ● Upper & Lower Limb Protection ● Respiratory Protective Equipment ● Hearing Protection ● Protection from Falls ● Work Clothing*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Noise*** *Measurement Units ● Human Response to Noise ● Noise Exposure Limits ● Machinery Noise ● Hazard Description*
0930 – 0945	*Break*
0945 – 1100	***Noise (cont'd)*** *Assessment of Risk ● Control Strategies ● Workers Training & Information ● Isolation, Substitution & Engineering Controls*

1100 – 1215	***Assessment of Noise Risk*** *Sound Level Meters ● Frequency Analysis ● Personal Noise Dosimetry ● Noise Measurements & Assessments*
1215 – 1230	*Break*
1230 – 1420	***Vibration*** *Hazard Description ● Assessment of Risk ● Control Strategies ● Training & Information ● Isolation, Substitution & Engineering Controls*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Operational safety*** *Sources of Oxygen & Acetylene ● Gases on Welding & Cutting Operations*
0930 – 0945	*Break*
0945 – 1100	***Monitoring Techniques*** *Selected General Analytical Techniques for Monitoring Environmental Pollution ● Gases & Vapours ● Particulates ● Monitoring Water Quality ● Monitoring Land Pollution ● Monitoring Air Pollution*
1100 – 1215	***Transport of Chemicals*** *Road Transport ● Rail Transport ● Air Transport ● Sea Transport ● Modes of Transport for Liquids, Gases & Solids ● Loading & Unloading ● Container Filling/Discharging ● MSDS*
1215 – 1230	*Break*
1230 – 1345	***Chemicals & the Environment: Monitoring & Protection*** *Legislative Control ● Waste Management ● Environmental Impact Assessment ● Control of Atmospheric Emissions ● MSDS ● Liquid Effluent Treatment Operations ● Control of Solid Waste ● Monitoring & Auditing*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This hands-on, highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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