

**COURSE OVERVIEW HE0270-3D**  
**Safe Isolation of Plant & Equipment**

**Course Title**

Safe Isolation of Plant & Equipment

**Course Date/Venue**

August 04-06, 2020/Boardroom 3, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

**Course Reference**

HE0270-3D

**Course Duration/Credits**

Three days/1.8 CEUs/18 PDHs



**Course Description**



***This hands-on, 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 explain the requirements for the safe isolation of plant and equipment or control of hazardous energy sources set forth in the American Standards OSHA 29 CFR 1910.147 and ANSI/ASSE Z244.1-2003.



The accidental release of energy during work can and frequently does cause severe injuries, amputations, and death. Energy can be present in the form of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, potential energy (due to gravity) stored in elevated masses, spring energy, chemical corrosivity, chemical toxicity, pressure, or other energy.



The purpose of this course is to train participants on standards, procedures, techniques, designs and methods that protect personnel where injury can occur as a result of the unexpected release of hazardous energy. Unexpected release of hazardous energy can include any unintended motion, energization, start-up or release of stored energy, deliberate or otherwise, from the perspective of the person(s) at risk.

In addition to the Lockout/tagout (the primary method of hazardous energy control), the course will cover alternative methods of control that are based on risk assessment.

The course includes an e-book entitled “*The Safe Isolation of Plant and Equipment*”, published by HSE books and a complete kit of Safety Videos burned in a CD, which will be given to the participants to help them appreciate the principles presented in the course.

### Course Objectives

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

- Apply and gain an in-depth knowledge in the isolation of plant & equipment and control of hazardous energy sources
- Enumerate the types of hazards and give emphasis on chemical, fire & explosive hazards
- Implement procedures and assign escape routes in case of emergency isolation of chemical process plant
- Discuss the effects of electrical, confined space and mechanical hazards during the unexpected release of hazardous energy
- Enumerate the proper procedure for hazard identification and apply a detailed risk assessment for the different hazards
- Carryout the regulations, scope & application, procedures, training and auditing related to the safe isolation of plant and equipment (lockout/tagout)
- Create an effective Energy Control Plan to prevent injuries, amputations and death
- Demonstrate process disaster prevention & safety management to assure that it is in compliance with the American Standards OSHA 29 CFR 1910.147 and ANSI/ASSE Z244.1-2003

### 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, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

### Who Should Attend


This course provides an overview of all significant aspects and considerations of safe isolation of plant and equipment for HSE management and staff, plant department managers & engineers, electrical & electronic engineers, instrumentation & control engineers, mechanical engineers, process engineers, maintenance engineers, safety officers, environmental response leaders, site incident controllers, site main controllers, loss prevention and the emergency services.

### 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: -

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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, Virginia 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 **1.8 CEUs** (Continuing Education Units) or **18 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.

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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.

### Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.



### 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. Izak Labuschagne, PE, BSc, is a Senior Process & Safety Engineer with over 35 years of industrial experience in Process Hazard Analysis, PHA Requirements & Tools, Hazard Evaluation & Identification, Project Safety & Design, Petrochemical industry, Fertilizer Production, Oil Refineries, Polymer & Polymerization, Catalysts Technology, Plastics & Rubber Manufacturing, Process Safety Management (PSM), Safety Management (OHSAS 18001), Environmental Management (ISO 14001), Oil Spill Management, Behavioural-Based Safety (BBS), Risk Assessment, Process Design & Troubleshooting, Engineering Problem Solving, Plant Debottlenecking, Water/Wastewater Treatment, Confined Space Entry, Fall Protection, Work Permit & First Aid, Defensive Driving, Incident & Accident Investigation & Reporting, Safety in Process Design, PHA, HAZOP, HAZMAT, HAZCOM and HAZWOPER. He was the President of Flowline Technology, a company specializing in Process Design, Troubleshooting, PHA (HAZOP, FMEA & What-if) for Process Industries.**

Mr. Labuschagne spent his career life in the various process industries under the **Sasol Group of Companies**. He worked as the **Operations Manager** for **Sasol Fertilizers** wherein he was responsible for the **high-grade fertilizer factory** and was the **Chairman** for the **Sasol Chemical Industries' Board**. He was the **Operations Manager** for the **Water & Environmental Systems** of **Sasol Synthetic Fuels** where he was in charge of the **Environmental Management System** in accordance with **ISO 14001**. For over a decade, Mr. Labuschagne held various key positions such as **Plant Chemical Engineer, Technical Manager, HSE Manager, Production Manager, Divisional Manager** and **Factory Manager** in **Fedmis Fertilizer Phalaborwa**, a division of **Sentrachem** also under the **Sasol Group**. He also worked as the **Technical Manager** for **Resource Recovery Systems** where he managed the over-all operations of organic by-product utilization. Prior to that, he was the **Technical Superintendent** for **Foskor Fertilizer** wherein he was responsible for the technical process investigation, plant troubleshooting, optimization & control and plant & equipment design, specification & commissioning. During his service in **Sasol**, he was a **HAZOP Leader** and a **HAZOP Member** for numerous **HAZOP studies**.

Mr. Labuschagne is a **Registered Professional Engineer** and has a **Post Graduate Diploma** in **Datametrics** and a **Bachelor** degree in **Chemical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, an active member of the Institute of Chemical Engineers and has numerous publications, presentations and technical proceedings as well as delivered innumerable trainings, workshops and conferences globally.

**Training Methodology**

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

- 30% Lectures
- 20% Workshops & Work Presentations
- 20% Case Studies & Practical Exercises
- 30% Videos, Software & Simulators

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

**Course Fee**

US\$ 3,750 per Delegate + **5% VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day. In addition to the Course Manual, participants will receive an e-book “*The Safe Isolation of Plant and Equipment*”, published by HSE books and a complete kit of Safety Videos burned in a CD.

**Course Program**

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

**Day 1: Tuesday, 04<sup>th</sup> of August 2020**

0730 – 0800	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0900	<b>Introductions</b>
0900 – 0930	<b>General Safety</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Video</b>
1100 – 1200	<b>Hazards-General</b>
1200 – 1230	<b>Chemical, Fire &amp; Explosive Hazards</b>
1230 – 1245	<i>Break</i>
1245 – 1345	<b>Emergency Isolation of Chemical Process Plant</b>
1345 – 1420	<b>Review &amp; Exercises</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

**Day 2: Wednesday, 05<sup>th</sup> of August 2020**

0730 – 0830	<b>Electrical Hazards</b>
0830 – 0900	<b>Confined Space Hazards</b>
0900 – 0915	<i>Break</i>
0915 – 1100	<b>Video</b>
1100 – 1200	<b>Mechanical Hazards</b>
1200 – 1230	<b>Hazard Identification/Risk Assessment</b>
1230 – 1245	<i>Break</i>
1245 – 1345	<b>Lockout/Tagout: Regulations &amp; Case Studies • Lockout/Tagout: Scope &amp; Application</b>
1345 – 1420	<b>Review &amp; Exercises</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Two</i>



**Day 3: Thursday, 06<sup>th</sup> of August 2020**

0730 – 0800	<i>Lockout/Tagout: The Energy Control Plan • Lockout/Tagout: Procedures</i>
0800 – 0830	<i>Lockout/Tagout: Training • Lockout/Tagout: Auditing</i>
0830 – 0900	<i>Video</i>
0900 – 0915	<i>Break</i>
0915 – 1100	<i>Process Disaster Prevention &amp; Safety Management</i>
1100 – 1200	<i>Open Forum</i>
1200 – 1215	<i>Break</i>
1215 – 1345	<i>Review &amp; Exercises</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	<i>POST-TEST</i>
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch &amp; End of Course</i>

**Practical Sessions**

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





**Book(s)**

As part of the course kit, the following e-book will be given to all participants:

	<p><b>Title</b> : The Safe Isolation of Plant and Equipment <b>ISBN</b> : 978-0717661718 <b>Author</b> : Health and Safety Executive of the UK <b>Publisher</b> : HSE Books</p>
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**Course Coordinator**

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