



COURSE OVERVIEW IE0880 **Alarm Management**

Course Title

Alarm Management

Course Date/Venue

October 18-22, 2026/Meeting Room 1, citizenM
Kuala Lumpur Bukit Bintang Hotel, Kuala
Lumpur, Malaysia

Course Reference

IE0880

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 a detailed and up-to-date overview of alarm management for process safety. It covers the importance of measuring alarm system performance; the case studies of major incidents; and the human factors associated with alarm management specifically in terms of operator performance.



During this interactive course, participants will learn how alarm management applies to stand-alone process instruments including DCS and SCADA systems; the importance of measuring alarm system performance; the case studies of major incidents; the human factors associated with alarm management specifically in terms of operator performance; the alarm management methods including analysis techniques; the basis of intelligent alarm management with the latest software systems; the Safety Instrumented Systems (SIS); and the alarm systems and effective changes.



Course Objectives/Outcomes & Benefits for the Participants

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

- Apply systematic methodological techniques and procedures in alarm management systems including alarm types and applicable standards
- Identify how alarm management applies to stand-alone process instruments including DCS and SCADA systems
- Appreciate the importance of measuring alarm system performance
- Evaluate case studies of major incidents
- Recognize the human factors associated with alarm management specifically in terms of operator performance
- Carryout the alarm management methods including analysis techniques
- Review the basis of intelligent alarm management with the latest software systems
- Gain a working knowledge on Safety Instrumented Systems (SIS)
- Optimize alarm systems and implement effective changes

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 for all significant aspects and considerations of alarm management for process safety for process control engineers and supervisors, instrument and control system engineers, plant operation personnel, automation and application engineers, process engineers and supervisors, safety engineers and those involved in the design, implementation, up-grading and security of industrial control systems.

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.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.

-  The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors 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 2018-1 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 2018-1 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 Accreditors 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 **3.0 CEUs** (Continuing Education Units) or **30 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. John Vorster, MSc, BTech, is a **Senior Instrumentation & Control Engineer** with over **25 years** of industrial experience within the **Oil, Gas, Process, Refinery, Power** and **Nuclear** industries. His wide expertise includes **Field Indication Instruments, P&ID & Technical Specification, Test Equipment Calibration, Field Bus & Field Communications**, Testing, Calibration & Maintenance of **Flow, Level, Pressure & Temperature; Flow Measurement & Custody Measurement, Flow Computer, Turbine Flowmeters, Ultrasonic Flowmeter, Positive Displacement Flowmeter, Coriolis Flowmeter, Flow Rate Corrections, Pressure Flow Transmitters, Pressure Methods, Flow Nozzles, Orifice Plates, Venturi Tubes, Pitot Tubes, Process Control Design & Plant Modelling, Instrumentation, Automation, Process Control Instrumentation, Analyzer Measurement Systems, Pressure Management, Selection & Sizing of all Instrumentation, SIL Criteria, Calibration & Configuration of Installed Instrumentation, PLC & DCS, Bearing Replacement and Control Valves**. Further, he is also well-versed in HAZOP, LOPA Studies, Radiation Protection, Hazardous Substances, Hazardous Area Classification, Nuclear Devices Maintenance, Loop Drawings, Loop Calculations, Engineering Drawings, Shutdown Maintenance & Planning, Asset Management, Six Sigma, Energy Management & Measurements, Project Management, Strategic Resource Planning, Budget Preparation, ISO 9001, ISO 14000 and ISO 18000 standards. He is currently the **Instrumentation Analyzer & Engineer of Sasolburg** wherein he is in-charge of the design and monitoring of the analyzer measurement systems.

During his career life, Mr. Vorster has gained his practical and field experience through his various significant positions and dedication as the **Project Manager, Senior Trainer/Instructor, Senior Instrumentation Engineer, Instrumentation Engineer, Green Belt Project Leader, Instrumentation Technologist, Senior Instrumentation/Electrical Artisan, Instrumentation Artisan** and **Apprentice Instrumentation** for numerous international companies including **Sasolburg, DOW Chemical Company, Safripol** and **Iscor**.

Mr. Vorster has a **Master's** degree in **Engineering Development & Management**, as well as a **Bachelor's of Technology** degree and a **National Diploma in Electrical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, an **Appointed Radiation Protection Officer** and a **Qualified Instrument Mechanician**. Moreover, he is an active member of Project Management Institution (**PMI**) and South African Institute of Measure and Control (**SAIMC**) and has delivered numerous courses, workshops, conferences and seminars internationally.

Accommodation

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

Course Fee

US\$ 7,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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: Sunday, 18th of October 2026

0730 – 0745	Registration & Coffee
0745 – 0800	Welcome & Introduction
0800 – 0815	PRE-TEST
0815 – 0845	Review of Seminar Objectives of Seminar • Timetables
0845 – 0930	Introduction General • Objectives • Current Problems • Case Study
0930 – 0945	Break
0945 – 1030	Alarm Types General • Process Alarms • Equipment Alarms • Alarm Modes • Conclusions
1030 – 1130	Alarm Standards Introduction • EEMUA 191 • ISA S18.02 • NUREG 0700 • NFPA 85 • NAMUR NA 102 • IEC 61511
1130 – 1200	Video Presentation HAZOP
1200 – 1215	Break
1215 – 1315	History of Alarm Issues Introduction • Background • Influences on an Alarm System • Bad Actors • Conclusions
1315 – 1420	Strategies for Alarm Management What Should be an Alarm? • Alarm Management Crisis • Business Considerations • Role of the Operator • Alarm Behaviour & Effectiveness
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: Monday, 19th of October 2026

0730 – 0900	Alarms & Distributed Control Systems Abnormal Situation Management • Full Rationalisation • Master Alarm Database • Human Machine Interface • Model Based Alarming • Alarm Testing • Alarm Suppression Technology • Need for Progress • Advantage of Shutdowns
0900 – 0915	Break



0915 – 1100	Alarm System Performance Introduction • EEMUA 191 References • Alarm System Measurements • Alarm System Performance Levels • Appropriate Performance • Conclusions • Bibliography
1100 – 1230	Alarms in Process Control Instruments Single Loop Systems • Hard Alarms • Soft Alarms • Limit Alarm Functions • Voting System
1230 – 1245	Break
1245 – 1400	Case Studies Bhopal Gas Tragedy • Piper Alpha Disaster • Chernobyl Catastrophe • Buncefield Oil Depot Explosion • Milford Haven Refinery Fire
1400 – 1420	Video Presentation BP Texas City Explosion
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: Tuesday, 20th of October 2026

0730 – 0900	Annunciators Introduction • Review • Basic Concepts of Alarm Annunciators • Alarm Annunciators in Safety Systems • Conclusions
0900 – 0915	Break
0915 – 1030	Alarm Management for Pipelines Background • SCADA Perspective • Differences Between Oil & Gas Pipelines • Key Performance Indicators • Operations • Review Practice
1030 – 1100	Video Presentation HART Digital Communications
1100 – 1115	Break
1115 – 1300	Operator Considerations Graphics • Alarm Hierarchies • Asset Management • Speed of Response • Up-Date Times • Practical Examples
1300 – 1420	DMAIC Methodology Define • Measure • Analyse • Improve • Control • Workflow Examples • Continuous Application
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: Wednesday, 21st of October 2026

0730 – 0900	Root Cause Analysis Human Factors • Design Issues • Legacy Problems • Benchmarking • Alarm Overload • Sequence of Events
0900 – 0930	Video Presentation Back to Basics
0930 – 0945	Break



0945 – 1100	Intelligent Alarm Management <i>Incident Forensics • Bad Actor Removal • Rationalisation & Detail Design • Mangement of Change • Benchmark Alarm Performance • Automated Alert System</i>
1100 – 1230	Alarm Management Software <i>Typical System</i>
1230 – 1300	Video Presentation <i>Tips Alarm Management Demonstration</i>
1300 – 1315	<i>Break</i>
1315 – 1420	Safety Instrumented Systems <i>Introduction • Overview • Ensuring Safety • Layers of Safety • Factors Affecting Safety • Anatomy of a Disaster • Disaster Prevention</i>
1420 – 1430	Recap <i>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</i>
1430	<i>Lunch & End of Day Four</i>

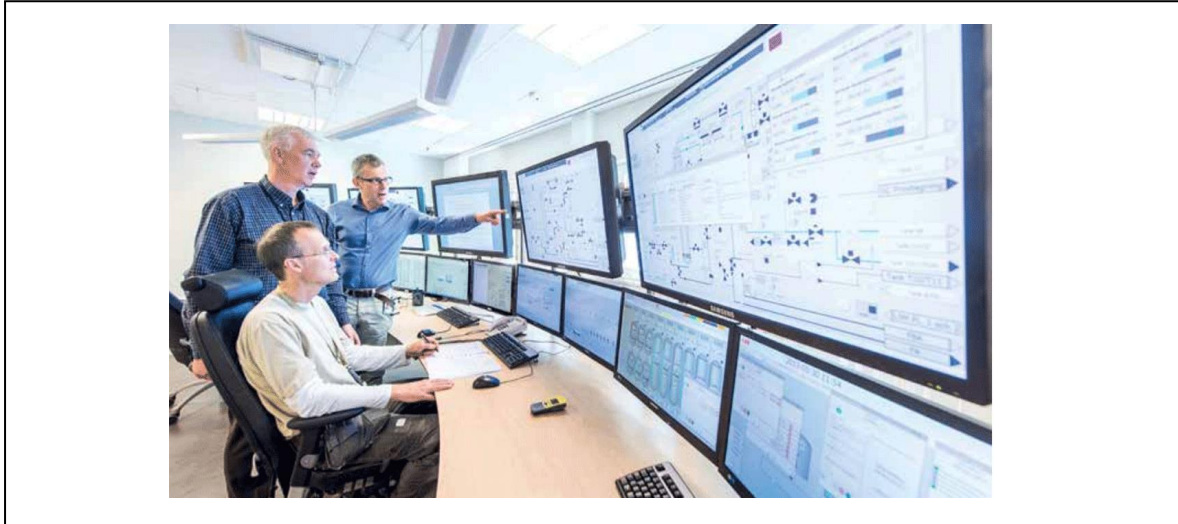
Day 5: Thursday, 22nd of October 2026

0730 – 0900	Alarm System Optimisation <i>Establishing a Reliable System • Considerations • Conclusions</i>
0900 – 0915	<i>Break</i>
0915 – 1100	Practical Alarm Management <i>Ineffective Alarm Systems • Typical Problems • Alarm System Survey Analysis • HSE Recommendations • Seven Steps to Alarm Management • Thoughts for the Future • Conclusions</i>
1100 – 1230	Alarm Management Implementation <i>Introduction • Objectives • Benefits • Installation of Enterprise Alarm & Event Historian</i>
1230 – 1245	<i>Break</i>
1245 – 1345	Alarm Management Implementation (cont'd) <i>Creation of Alarm Philosophy • Top 20 Review • Documentation & Operator Assist • Management of Change • Dynamic Alarming • Conclusions</i>
1345 – 1400	Course Conclusion <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course</i>
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>



Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org