

COURSE OVERVIEW PE0127 Operations Abnormalities & Plant Upset

Course Title

Operations Abnormalities & Plant Upset

Course Reference

PE0127

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Date/Venue

Session(s)	Date	Venue
1	June 02-06, 2024	Kizkulesi, Crown Plaza Istanbul Asia Hotels & Convention Center, Istanbul, Turkey
2	August 26-30, 2024	Hampstead Meeting Room, London Marriott Hotel Regents Park, London, United Kingdom
3	October 06-10, 2024	Oryx Meeting Room, Doubletree By Hilton Doha-Al Sadd, Doha, Qatar
4	December 08-12, 2024	The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.



Managing Manpower effectively and assess risk properly during plant upset are key effective factors when reacting with incidents. Incidents may start minor and become major by wrong reaction and wrong decisions. The aim of this course is to make everybody involved in the operations know exactly what to do. The incident itself may cause a certain loss, but with wrong reaction it became a massive loss. Understanding operation, effective emergency/contingency plan, rules of each one within emergency plan and makes emergency tools ready and in operational condition are the main aims of this course. One approach to overcome any incident development is to prepare yourself and emergency team to treat incidents situation professionally.



Upon review of several incidents, two common causes were identified that contributed to those incidents. The causes are improper management of manpower during upset conditions and improper risk assessment of activities to be executed or stop doing. However, on close examination the trained emergency team and correct managing of the incident besides using correct emergency tools will minimize the loss and accidents consequences.



Effective training is the necessary foundation for the successful implementation of optimum emergency managing condition and optimum consequences minimizing. This course will train participants on managing risk & manpower during plant upset to save lives, assets and company reputations.

Course Objectives

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

- Manage manpower effectively and assess risk properly during the abnormalities of the operations and plant upset
- Assess staffing level in abnormal situations and distribute manpower during plant upset conditions
- Manage shift teams, assess risk of non-routine activities and manage operational crisis
- Identify risks in the process and describe the roles, responsibilities and procedures in emergency management
- Use the risk assessment process and have enough skills in monitoring and auditing the emergency tools
- Recognize the training requirements for process emergency handling including emergency team building
- Discuss the various skills that will be acquired in controlling emergency management using different scenarios and matrix
- Identify the common mistakes during emergencies and employ the preventive measures

Who Should Attend

This course provides an overview of all significant aspects and considerations of operations abnormalities and plant upset for superintendents, supervisors and foremen in various departments of process plants (production, operations, maintenance, utility, etc.). Further, the course is suitable for emergency teams, managers, supervisors and other technical staff.

Course Fee

Istanbul	US\$ 6,000 per Delegate + VAT . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
London	US\$ 8,800 per Delegate + VAT . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	US\$ 6,000 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	US\$ 5,500 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

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




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.

Course Accreditations


Certificates are accredited by the following international accreditation organizations: -

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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.

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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.



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. Mervyn Frampton is a **Senior Process Engineer** with over **30 years** of industrial experience within the **Oil & Gas, Refinery, Petrochemical** and **Utilities** industries. His expertise lies extensively in the areas of **Process Troubleshooting, Distillation Towers, Fundamentals of Distillation** for Engineers, **Distillation Operation and Troubleshooting, Advanced Distillation Troubleshooting, Distillation Technology, Vacuum Distillation, Distillation Column Operation & Control, Oil Movement Storage & Troubleshooting, Process Equipment Design, Applied Process Engineering Elements, Process Plant Optimization, Revamping & Debottlenecking, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant Monitoring, Catalyst Selection & Production Optimization, Operations Abnormalities & Plant Upset, Process Plant Start-up & Commissioning, Clean Fuel Technology & Standards, Flare, Blowdown & Pressure Relief Systems, Oil & Gas Field Commissioning Techniques, Pressure Vessel Operation, Gas Processing, Chemical Engineering, Process Reactors Start-Up & Shutdown, Gasoline Blending for Refineries, Urea Manufacturing Process Technology, Continuous Catalytic Reformer (CCR), De-Sulfurization Technology, Advanced Operational & Troubleshooting Skills, Principles of Operations Planning, Rotating Equipment Maintenance & Troubleshooting, Hazardous Waste Management & Pollution Prevention, Heat Exchangers & Fired Heaters Operation & Troubleshooting, Energy Conservation Skills, Catalyst Technology, Refinery & Process Industry, Chemical Analysis, Process Plant, Commissioning & Start-Up, Alkylation, Hydrogenation, Dehydrogenation, Isomerization, Hydrocracking & De-Alkylation, Fluidized Catalytic Cracking, Catalytic Hydrodesulphuriser, Kerosene Hydrotreater, Thermal Cracker, Catalytic Reforming, Polymerization, Polyethylene, Polypropylene, Pilot Water Treatment Plant, Gas Cooling, Cooling Water Systems, Effluent Systems, Material Handling Systems, Gasifier, Gasification, Coal Feeder System, Sulphur Extraction Plant, Crude Distillation Unit, Acid Plant Revamp and Crude Pumping. Further, he is also well-versed in HSE Leadership, Project and Programme Management, Project Coordination, Project Cost & Schedule Monitoring, Control & Analysis, Team Building, Relationship Management, Quality Management, Performance Reporting, Project Change Control, Commercial Awareness and Risk Management.**

During his career life, Mr. Frampton held significant positions as the **Site Engineering Manager, Senior Project Manager, Process Engineering Manager, Project Engineering Manager, Construction Manager, Site Manager, Area Manager, Procurement Manager, Factory Manager, Technical Services Manager, Senior Project Engineer, Process Engineer, Project Engineer, Assistant Project Manager, Handover Coordinator and Engineering Coordinator** from various international companies such as the **Fluor Daniel, KBR South Africa, ESKOM, MEGAWATT PARK, CHEMEPIC, PDPS, CAKASA, Worley Parsons, Lurgi South Africa, Sasol, Foster Wheeler, Bosch & Associates, BCG Engineering Contractors, Fina Refinery, Sapref Refinery, Secunda Engine Refinery** just to name a few.

Mr. Frampton has a **Bachelor's degree in Industrial Chemistry** from **The City University in London**. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management (ILM)** and has delivered numerous trainings, courses, workshops, conferences and seminars internationally.





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

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Introduction
0930 – 0945	<i>Break</i>
0945 – 1100	Understanding Operational Principles & Why Plants Get Upset
1100 – 1230	Roles & Responsibilities
1230 – 1245	<i>Break</i>
1245 – 1420	Emergency Team Buildings & Responsibilities of Each Member - Case Study
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0900	How Incidents Develop & Common Reasons
0900 – 0915	<i>Break</i>
0915 – 1100	Review of Several Incidents <i>Two Common Causes were Identified that Contributed to those Incidents</i>
1100 – 1230	Improper Management of Manpower During Upset Conditions
1230 – 1245	<i>Break</i>
1245 – 1420	Improper Management of Manpower During Upset Conditions (cont'd)
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>

Day 3

0730 – 0930	Root Cause Analysis (RCA)
0930 – 0945	<i>Break</i>
0945 – 1100	Risk Register
1100 – 1215	Incidents Development Scenarios - Discussion
1215 – 1230	<i>Break</i>
1230 – 1420	Incidents Development Scenarios - Discussion (cont'd)
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0930	Emergency Team Building & Improper Management of Manpower During Upset Conditions
0930 – 0945	<i>Break</i>
0945 – 1100	Improper Risk Assessment of Operation Conditions During Plant Upset



1100 – 1215	Risk Assessment & Risk Evaluation <i>Risk Matrix</i>
1215 – 1230	<i>Break</i>
1230 – 1420	Recognizing Key Points & Controlling Elements in Different Process
1420 – 1430	Recap
1430	<i>Lunch & End of Day Four</i>

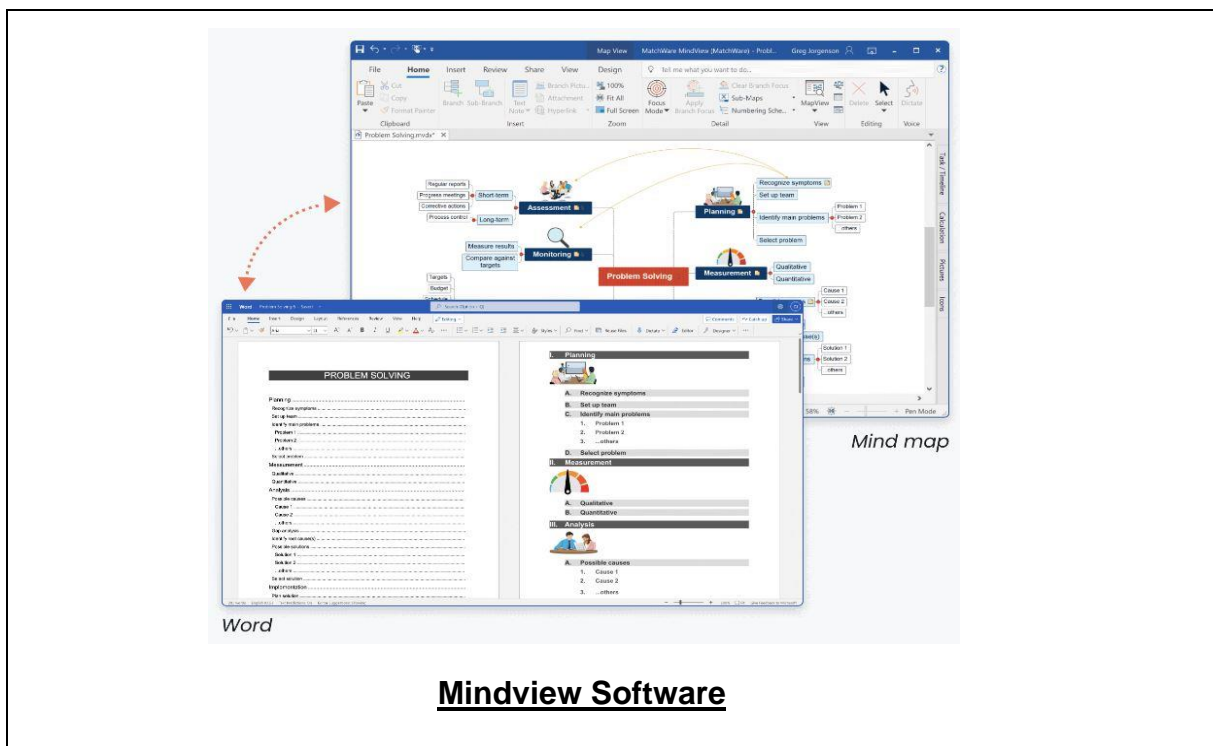
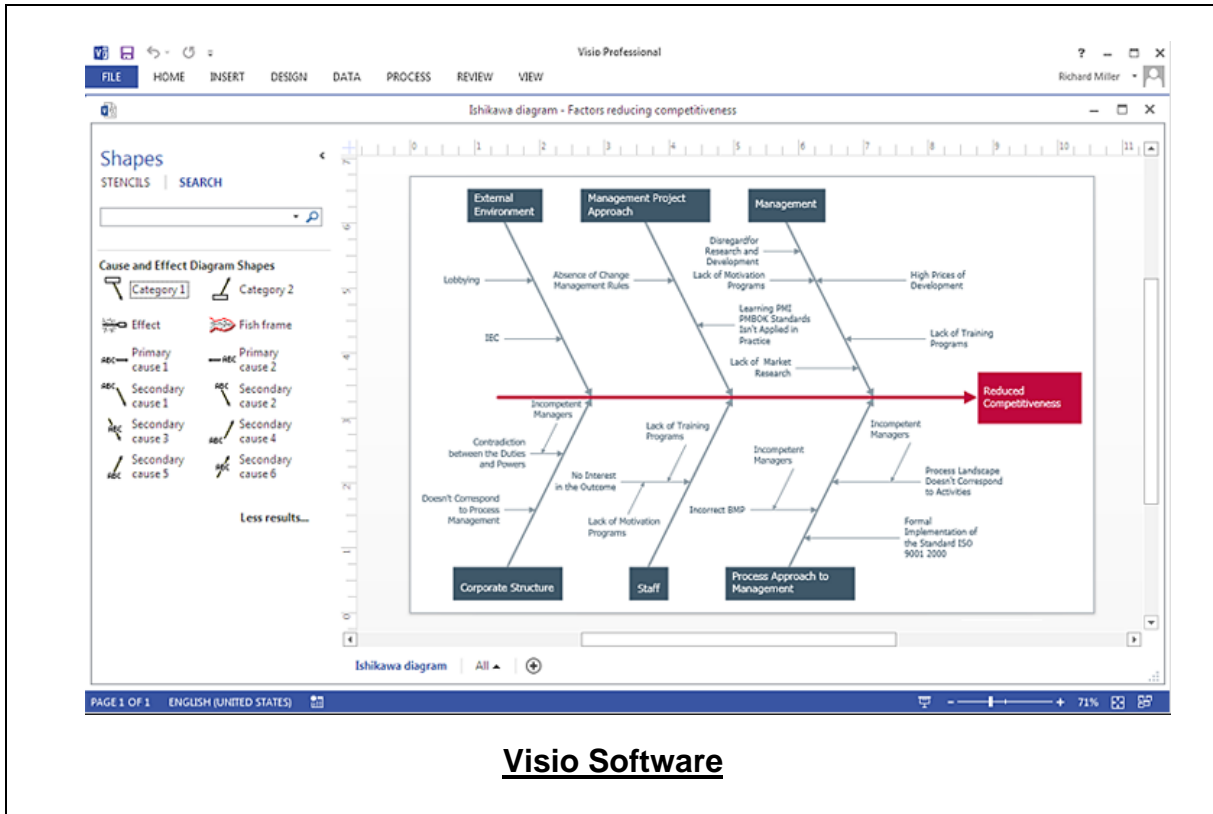
Day 5

0730 – 0930	Building Successful Emergency Team & Each One Roles & Responsibilities
0930 – 0945	<i>Break</i>
0945 – 1100	Building Successful Emergency Team & Each One Roles & Responsibilities (cont'd)
1100 – 1215	Closing Gaps & Correcting Scenarios
1215 – 1230	<i>Break</i>
1230 – 1345	Case Study & Discussion
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>



Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art simulators “Visio Software”, “Mindview Software” and “QRA”.





The screenshot displays the QRA System Simulator interface with several key components:

- Top Left:** A hierarchical tree view of the system components, including Engine System, Fuel System, Propeller, Wings System, Avionics, and Wheels.
- Top Center:** A fault tree diagram showing the relationship between various failure events and their contributing factors.
- Bottom Left:** A Cumulative Distribution Function (CDF) graph showing the probability of failure over time. The y-axis is labeled 'CDF' and the x-axis is 'Parameters'.
- Bottom Center:** A statistics table with the following data:

STATISTIC	VALUE
Mean	0.3501
1st	0.1163
5th	0.2262
10th	0.2544
50th	0.3513
90th	0.4439
95th	0.468
99th	0.5157
- Bottom Right:** A timeline or event log window showing the sequence of events during the simulation.

QRA System Simulator

Course Coordinator

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

