

COURSE OVERVIEW PE0061
Advanced Fertilizers Plant Operations

Course Title

Advanced Fertilizers Plant Operations

Course Date/Venue

Session 1: January 27-31, 2025/Fujairah
 Meeting Room, Grand Millennium Al
 Wahda Hotel, Abu Dhabi, UAE
 Session 2: August 24-28, 2025/Boardroom 1,
 Elite Byblos Hotel Al Barsha, Sheikh
 Zayed Road, Dubai, UAE



Course Reference

PE0061



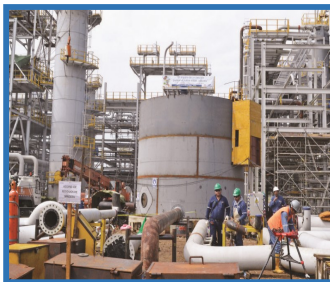
Course Duration/Credits

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 developed to provide the required knowledge to the course participants on the measures they can take at their facilities to maintain or improve the level of safety associated with the storage and handling of nitrogen fertilizers in general and ammonia & urea in particular. The course was driven by the industry's responsibility to continuously improve the stewardship of fertilizer products to meet society's demand for protecting the environment, human health and safety.



The course will cover all solid (granules, crystals, pellets, prills and pastilles) fertilizers as well as anhydrous ammonia storage facilities. The course also outlines the recommendations and technical guidelines for the storage and handling of the following types of liquid fertilizers:

- Urea ammonium nitrate solutions
- Ammonium polyphosphate
- Ammonium thiosulphate
- Muriate of potash
- Fertilizers in suspension (various)

Course Objectives

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

- Apply systematic techniques on fertilizer storage management including ammonia and urea storage facilities
- Discuss the storage of solid fertilizers covering urea and ammonium nitrate, risk assessment, storage facility layout, fertilizer blenders, bulk and bagged fertilizer storage
- Estimate the distance from rivers, lakes, streams and environmentally sensitive areas as well as from fertilizer storage facility to roadway
- Determine access to privacy roads, emergency response access and design specification for out of condition material including regular and impregnated fertilizer
- Identify the containment of run-off water, load-in/load-out pads design and construction, ventilation for indoor bulk or blender warehouse, dust collection and equipment specifications requirements
- Employ soil preparation and identify fire separation requirements, general fertilizer storage signage, emergency response or spill clean-up equipment, specific ammonium nitrate storage signage, facility and equipment inspections
- Carryout storage of anhydrous ammonia including risk assessment, storage facility layout, boundaries, sensitive areas, site recommendation, emergency response access, tank construction, site fencing and security, standard pipe layout, facility signage, safety equipment, site preparation or soil profile, facility and equipment inspections
- Develop proper the storage of liquid fertilizer covering ammonia and urea, risk assessment, storage facility layout and water sources, environmentally sensitive areas and emergency response access
- Differentiate distance from liquid storage facility to roadway and apply site preparation or soil profile, containment, site fencing and security
- Illustrate facility layout for delivery and pick-up, access to site and signage
- Enumerate equipment specification requirement of pipes, valves and fittings, spill clean-up equipment and tank specifications
- Describe secondary containment systems, containment area liners and inspections

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 is intended for plant managers, process engineers, operations supervisors and logistics personnel within ammonia or urea plants.

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

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.

- 

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 Fee

US\$ 5,500 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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. Robert Harvey, MSc (Cum Laude), BSc is a **Senior Chemical Engineer** with over **45 years** of in-depth industrial experience within the **Oil & Gas, Refinery, Petrochemical, Mining and Power** industries. His expertise widely covers in the areas of **Fertilizer Manufacturing** Process Technology, **Fertilizer Storage Management** (Ammonia & Urea), **Petrochemical & Fertilizer Plants, Nitrogen Fertilizer Production, Petroleum Industry Process Engineering, Process Equipment Design & Troubleshooting, Process Equipment & Piping Systems, Fertilizer Manufacturing Process Technology, Production Management, Process Plant Optimization & Continuous Improvement, Revamping & Debottlenecking, Pressure Vessel Operation, Heat Mass Balance, Distillation-Column Operation, & Troubleshooting, Production Process Optimization, Debottlenecking, Unit Performance Optimization, Process Analyzers, Real Time Online Optimization, Operations Planning Optimization, Engineering Problem Solving, Bag Filters Operation & Maintenance, Process Equipment Design, Chemical Reaction Engineering Application, Phosphatic Industry, Diammonium Phosphate, Monoammonium Phosphate, NPK, Troubleshooting Improvement, Production Management, Distillation-Column Operation & Troubleshooting, Vinyl Chloride Monomer (VCM) Manufacturing & Process Troubleshooting, Monomer Handling Safety, Cement Manufacturing Process Technology & Standards, Complex Operational Troubleshooting, Incident Root Cause Analysis & Corrective Action, Process Equipment & Piping System, Fertilizer Manufacturing, Process Plant Optimization & Continuous Improvement, Process Plant Performance & Efficiency, Continuous Improvement & Benchmarking, Energy Efficiency for Process Plants, Pressure Vessel Operation, Reactors & Storage Tanks, Dehydrating Columns, Heat & Material Balance, Troubleshooting Process Operations, Modern Aluminium Production Processes, Cement Kiln Process, Process Engineer Calculations, Steel Making Process, P&ID Reading & Interpretation, Detailed Engineering Design, Process Diagrams Review, Process Hazard Analysis (PHA), HAZOP Leadership, Project HSE Review (PHSER), Safe Handling of Propylene Oxide & Ethylene Oxide, Safety in Process & Industrial Plants, Environmental Impact Assessment (EIA) and Effective Risk Assessment & HAZOP Studies. Further, he is also well versed in Feasibility Studies Analysis & Evaluation, Project Gate System Procedures, Process Mapping, Change Management Skills, Change Management Strategy, Strategic Process Control in Process Industry, Developing Commercial Contracts, Project Management Skills, Project Scheduling & Cost Control, FIDIC & Other Model Contracts, EPC & EPCM Contracts, Knowledge Management, Job Evaluation, Creative Problems Solving & Innovation Skills, Problem Solving & Decision Making, Strategic Planning & Creative Thinking and Mind Mapping.**

During his career life, Mr. Harvey has gained his practical and field experience through his various significant positions and dedication as the **Commercial Director, Manufacturing Director, Chief Operating Officer, Head Projects Division, Project Leader, Lead Technical Advisor/Consultant and Project Consultant** to various international companies such as the Trade and Industrial Policy Strategies (TIPS), PGBI Johannesburg, IDC Green Industries SBU/Arengo 316 Pty Ltd, Ferrum Crescent Limited, CEF Limited, Rio Tinto Alcan, Industrial Development Corporation of SA (IDC) and AECI Limited.

Mr. Harvey has **Master's (Cum Laude)** and **Bachelor's** degrees in **Chemical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and has delivered various trainings, seminars, conferences, workshops and courses 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.

Accommodation

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

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	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) Risk Assessment • Storage Facility Layout • Fertilizer Blenders and/or Bulk/Bagged Fertilizer Storage
0930 – 0945	Break
0945 – 1100	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Distance from Rivers, Lakes, Streams and/or Environmentally Sensitive Areas • Distance from Fertilizer Storage Facility to Roadway • Prevailing Wind Directions
1100 – 1215	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Access to Primary Roads • Emergency Response Access • Design Specification for Out of Condition Material (Regular Fertilizer, Impregnated Fertilizer)
1215 – 1230	Break
1230 – 1420	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Containment of Run-Off Water • Load-In/Load-Out Pads Design & Construction
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 – 0930	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Ventilation for Indoor Bulk/Blender Warehouses • Dust Collection • Equipment Specifications Requirements
0930 – 0945	Break

0945 – 1100	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Soil Preparation • Fire Separation Requirements • Location of Exits in a Warehouse
1100 – 1230	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) General Fertilizer Storage Signage • Emergency Response/Spill Clean-up Equipment (Located in a Readily Accessible Location)
1230 – 1245	Break
1245 – 1420	Storage of Solid Fertilizers (Urea & Ammonium Nitrate) (cont'd) Specific Ammonium Nitrate Storage Signage • Facility and Equipment Inspections
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0930	Storage of Anhydrous Ammonia Risk Assessment • Storage Facility Layout • Boundaries: City, Town or Village
0930 – 0945	Break
0945 – 1100	Storage of Anhydrous Ammonia (cont'd) Environmentally Sensitive Areas • General Site Recommendation • Emergency Response Access
1100 – 1230	Storage of Anhydrous Ammonia (cont'd) Tank Construction • Site Fencing & Security • Standard Pipe Layout
1230 – 1245	Break
1245 – 1420	Storage of Anhydrous Ammonia (cont'd) Facility Signage • Safety Equipment • Site Preparation/Soil Profile • Facility & Equipment Inspections
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

0730 – 0930	Storage of Liquid Fertilizer (Ammonia & Urea) Risk Assessment • Storage Facility Layout • Water Sources
0930 – 0945	Break
0945 – 1100	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Environmentally Sensitive Areas • Emergency Response Access
1100 – 1230	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Distance from Liquid Storage Facility to Roadway • Site Preparation/Soil Profile
1230 – 1245	Break
1245 – 1420	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Containment • Site Fencing & Security
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0930	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Facility Layout for Delivery and Pick-up • Access to Site – Public Roadways
0930 – 0945	Break
0945 – 1100	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Signage • Equipment Specification Requirements (Pipes, Valves, Fittings)
1100 – 1200	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Spill Clean-up Equipment • Tank Specifications
1200 – 1215	Break
1215 – 1345	Storage of Liquid Fertilizer (Ammonia & Urea) (cont'd) Secondary Containment Systems • Containment Area Liners • Inspections
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

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