COURSE OVERVIEW DE0048
Blowout Preventer (BOP) Closing Unit and Stack

Course Title
Blowout Preventer (BOP) Closing Unit and Stack

Course Date/Venue
Session 1: May 11-15, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
Session 2: October 13-17, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
DE0048

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 blowout preventer (BOP) control systems-choke manifold. It covers the well control, barriers, risk management and causes of kicks; the kick warning signs and kick indicators; the well control management, influx characteristics and behaviour, barriers and shut-in procedures; the well control equipment's /BOP/diverters including blowout preventer (BOP) equipment and redundant BOP equipment; and the casing bowls, sliplock, lower kelly cock valve and bleed-off system.

During this interactive course, participants will learn the mud-gas separator(s) (degasser), primary degasser and secondary degasser (critical sour wells); the flare line(s), flare pits, flare tanks and kill system; the flexible hoses, degasser vent line, winterizing BOP, accumulator, bleed-off, and kill systems; the BOP control systems, accumulator system and backup nitrogen (N2) system; the BOP floor controls, remote controls, master hydraulic control manifold location; the BOP function test and accumulator sizing calculations; the BOP component hydraulic fluid requirements and sizing calculation; and the backup nitrogen sizing calculations and usable backup N2 fluid volume at a minimum pressure of 8400 KPA.

Course Objectives

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

- Apply and gain an in-depth knowledge on blowout preventer (BOP) control systems-choke manifold
- Discuss well control, barriers, risk management and causes of kicks
- Recognize kick warning signs and kick indicators, well control management, influx characteristics and behaviour, barriers and shut-in procedures
- Identify well control equipment's/BOP/diverters including blowout preventer (BOP) equipment and redundant BOP equipment
- Discuss the casing bowls, sliplock, lower kelly cock valve and bleed-off system including class I wells, well classes II–VI and critical sour wells
- Identify mud-gas separator(s) (degasser), primary degasser and secondary degasser (critical sour wells)
- Discuss the flare line(s), flare pits, flare tanks and kill system
- Identify flexible hoses, degasser vent line, winterizing BOP, accumulator, bleed-off, and kill systems
- Discuss the BOP control systems, accumulator system and backup nitrogen (N2) system
- Recognize the BOP controls covering floor controls, remote controls, master hydraulic control manifold location
- Carryout BOP function test and accumulator sizing calculations
- Discuss BOP component hydraulic fluid requirements and apply sizing calculation
- Carryout backup nitrogen sizing calculations and identify usable backup N2 fluid volume at a minimum pressure of 8400 KPA

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 blowout preventer (BOP) control systems-choke manifold for drilling engineers, field engineers, petroleum engineers, supervisors, directional drillers and assistant drillers.

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

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$ **8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course 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:

Dr. Hesham Abdou, PhD, MSc, BSc, is a **Senior Drilling & Petroleum Engineer** with over **35 years** of integrated industrial and academic experience as a **University Professor**. His specialization widely covers in the areas of **Drilling & Completion** Technology, **Directional Drilling**, **Horizontal & Sidetracking**, **Drilling Operation** Management, **Drilling & Production** Equipment, **ERD Drilling & Stuck Pipe** Prevention, **Natural & Artificial Flow Well Completion**, **Well Testing** Procedures & Evaluation, **Well** Performance, **Coiled Tubing** Technology, **Oil Recovery Methods** Enhancement, **Well Integrity** Management, **Well Casing & Cementing**, **Acid Gas** Removal, **Heavy Oil Production** & Treatment Techniques, **Crude Oil Testing & Water Analysis**, **Crude Oil & Water** Sampling Procedures, **Equipment Handling** Procedures, **Crude & Vacuum Process** Technology, **Gas Conditioning & Processing**, **Cooling Towers** Operation & Troubleshooting, **Sucker Rod Pumping**, **ESP & Gas Lift**, **PCP & Jet Pump**, **Pigging** Operations, Electric Submersible Pumps (**ESP**), Progressive Cavity Pumps (**PCP**), **Water Flooding**, **Water Lift Pumps** Troubleshooting, **Water System Design** & Installation, **Water Networks Design** Procedures, **Water Pumping** Process, **Pipelines**, **Pumps**, **Turbines**, **Heat Exchangers**, **Separators**, **Heaters**, **Compressors**, **Storage Tanks**, **Valves** Selection, **Compressors**, **Tank & Tank Farms** Operations & Performance, **Oil & Gas Transportation**, **Oil & Gas Production** Strategies, **Artificial Lift** Methods, **Piping & Pumping** Operations, Oil & Water Source Wells Restoration, **Pump** Performance Monitoring, **Rotor Bearing** Modelling, **Hydraulic** Repairs & Cylinders, **Root Cause Analysis**, **Vibration & Condition** Monitoring, **Piping Stress** Analysis, **Amine Gas Sweetening & Sulfur Recovery**, Heat & Mass Transfer and Fluid Mechanics.

During his career life, Dr. Hesham held significant positions and dedication as the **General Manager**, **Petroleum Engineering Assistant General Manager**, **Workover Assistant General Manager**, **Workover Department Manager**, **Artificial Section Head**, **Oil & Gas Production Engineer** and **Senior Instructor/Lecturer** from various companies and universities such as the Cairo University, Helwan University, British University in Egypt, Banha University and Agiba Petroleum Company.

Dr. Hesham has a **PhD** and **Master** degree in **Mechanical Power Engineering** and a **Bachelor** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** and a **Peer Reviewer**. Dr. Hesham is a member of Egyptian Engineering Syndicate and the Society of Petroleum Engineering. Moreover, he has published technical papers and journals and has delivered numerous trainings, workshops, courses, seminars and conferences 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	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Well Control*** *Barriers • Risk Management • Causes of Kicks*
0930 – 0945	*Break*
0945 – 1100	***Kick Warning Signs & Kick Indicators*** *Well Control Management • Influx Characteristics & Behaviour • Barriers • Shut-in Procedures*
1100 – 1230	***Well Control Equipment's/BOP/ Diverters*** *Blowout Preventer (BOP) Equipment • Metallic Material for Sour Service • Pipe Rams • Casing Rams*
1230 – 1245	*Break*
1245 – 1420	***Well Control Equipment's/BOP/ Diverters (cont'd)*** *Ram • Locking Devices (Hand Wheels) • Double Drilling/Studding • Flange- and Clamp-Type Connections • Redundant BOP Equipment*
1420 – 1430	***Recap***
1430	*End of Day One*

Day 2

0730 – 0930	***Casing Bowls*** *Sliplock • Threaded • Welded • Casing Bowl Flange • Outlet(s) and Valve(s) • Pressure Rating • Drill-Through Components • Stabbing Valve and Inside BOP• Lower Kelly Cock Valve • Stripping Operations • Drill-Through Equipment*
0930 – 0945	*Break*
0945 – 1100	***Bleed-Off System*** *Class I Wells • Diverter Line • Well Classes II–VI and Critical Sour Wells • Bleed-off Line(s) • Choke Manifold • Remote Drill Pipe Pressure Gauge Assembly at Choke Control*
1100 – 1230	***Bleed-Off System (cont'd)*** *Mud-Gas Separator(s) (Degasser) • Primary Degasser • Secondary Degasser (Critical Sour Wells) • Degasser Inlet • Degasser Vent Line • Flare Line(s)*
1230 – 1245	*Break*
1245 – 1420	***Flare Pits***
1420 – 1430	***Recap***
1430	*End of Day Two*

Day 3

0730 – 0930	***Flare Tanks***
0930 – 0945	*Break*
0945 – 1100	***Kill System*** *Well Classes II–IV and Critical Sour Wells • Well Classes V and VI and Critical Sour Wells*
1100 – 1230	***Flexible Hoses*** *Bleed-off • Kill or Diverter Line(s)• Flare and Emergency Flare Line(s)• Degasser Inlet Line(s)• Degasser Vent Line*
1230 – 1245	*Break*
1245 – 1420	***Winterizing*** *Winterizing BOP • Accumulator • Bleed-off • Kill Systems*
1420 – 1430	***Recap***
1430	*End of Day Three*

Day 4

0730 – 0930	***BOP Control Systems*** *Accumulator System • Additional BOP Equipment*
0930 – 0945	*Break*
0945 – 1100	***Backup Nitrogen (N2) System*** *Additional BOP Equipment*
1100 – 1230	***BOP Controls*** *Floor Controls • Remote Controls • Master Hydraulic Control Manifold Location*
1230 – 1245	*Break*
1245 – 1420	***BOP Function Test*** *Procedure • Daily and Weekly • Recording*
1420 – 1430	***Recap***
1430	*End of Day Four*

Day 5

0730 – 0930	***Accumulator Sizing Calculations*** *System Specifications • Determining Precharge Pressure• Determining Usable Accumulator Hydraulic Fluid Volume at a Minimum Pressure of 8400 kPa • Method 1*
0930 – 0945	*Break*
0945 – 1100	***Accumulator Sizing Calculations (cont'd)*** *Determining BOP Component Hydraulic Fluid Requirements • Completing the Sizing Calculation*
1100 – 1200	***Backup Nitrogen Sizing Calculations*** *System Specifications • Determining Usable Backup N2 Fluid Volume at a Minimum Pressure of 8400 kPa • Method 1*
1230 – 1245	*Break*
1245 – 1345	***Backup Nitrogen Sizing Calculations (cont'd)*** *Determining BOP Component Backup N2 Requirements • Completing the Sizing Calculation*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*End of Course*

Practical Sessions

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

Course Coordinator

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