

2019년도 제1차 해외전문교육 개요

1. 교육 개요

- 목 적 : 실제 사례를 통한 심해 시추정 설계방법, 건설 및 운영 시 발생 가능한 문제 해결 방안 등 학습
- 주 제 : Deepwater Well Engineering(심해 시추정 엔지니어링)
- 기관/강사 : Esanda(영국) / Peter Aird(첨부1 참고)
- 분야/수준 : Engineering / 중급(3~5년 이상 경력)
- 개 최 : 재단-포스코대우
- 일시/장소 : 2019. 4. 8(월) ~ 4. 12(금), 09:30~17:30 / 재단 강의실

2. 교육 내용 및 일정(첨부 2 참고)

- 심해 시추에 대한 지질학적·지학적 측면 등 기본 지식 제공, BOP 및 해상 라이저 등 시추 설계 방법 학습
- 실제 사례를 통한 심해 시추정 설계 및 건설 시 발생 가능한 문제점 분석 및 이해

구분	4.8(월)	4.9(화)	4.10(수)	4.11(목)	4.12(금)
내 용	<ul style="list-style-type: none"> - 지질학, 지학, 압력 관리 - 실제 문제 해결 사례 	<ul style="list-style-type: none"> - 위험 관리 - 시추 및 시멘팅 유체 - 구조적 시추정 설계 - 예비 시추정 프로젝트 	<ul style="list-style-type: none"> - 케이싱 설계 - 해저 BOP (시추공 폭발 방지 장치) 와 해상 Riser 	<ul style="list-style-type: none"> - Riserless 시추 및 엔지니어링 - Post-Riser Drilling/ 시추정 엔지니어링 	<ul style="list-style-type: none"> - ERP contingencies (비상대응절차), P&A, 최신기술 등 - 시추정 설계

3. 교육 정원 및 대상

- 교육정원 : 15명(정원 초과 시, 추가 교육비(USD900/명)는 해당사가 부담하며 최대 수강인원은 20명)
 - KOLNG 출연사 임직원에게 재단 교육 정원(10명)* 중 5명(출연사당 1명) 우선 배정하고, 잔여 인원(5명)을 협회 회원사에 배정
 - * 공동 개최 기관인 포스코대우에게 전체 정원(15명) 중 5명을 기배정
 - 협회 회원사의 신청인원이 전체 배정인원을 초과하는 경우, 재단에서 수강자를 결정하며 회장사-이사사-정회원사 순으로 우대

첨부1

강사 주요 이력

○ 강사명 : Peter Aird

○ 국 적 : 영국

○ 학 력 : Robert Gordon 대학교 시추공학 석사

○ 주요 경력

- (2018) “Deepwater Drilling(심해 시추)”책 발간
- (2017~현재) 시추정 운영 안전 관리 및 교육 컨설턴트
- (2016~2017) Providence Resources, 울트라 심해 탐사정 관리자
- (2013~2015) Centrica Norway, 심해 시추 프로젝트 매니저
- (2011~2013) ONGC/Norwell, 인도 울트라 심해 최초탐사시추 감독
- (2009~2011) Cairn Energy, 시니어 시추 오퍼레이터 대표
- (2005~2009) Maersk Oil&Marathon Oil, 시니어 시추 엔지니어
- (1993~2005) 시추, 심해 탐사, 개발 관련 컨설턴트

※ 선정사유

- 본 강사는 석유·가스 개발 관련 시추공학 분야에서 20년 이상의 경력을 갖추었으며, 특히 심해 시추 관련 책을 발간하는 등 풍부한 경험과 전문지식을 겸비하고 있어 이번 교육 강사로 선정함

<참고> 강사 영문 이력서

<참고> 강사 영문 이력서



Peter Aird

Qualifications, Skills Development

Chartered Marine Engineer (C.Mar.Eng, MIMarEST),	Engineering Council (UK)	Jan 2004
MSc drilling engineering	Robert Gordon University	1998 – 2003
Drilling / Well Engineering / Operations Instructor	Kingdom Drilling	1998 - 2019
BP (Drilling Supervisors/Engineers) Trade Test	BP, Dyce,	1987
Shell Round 1 & II examinations_	Shell International;	1982 & 1985
2 nd Eng Certificate, Chief Eng Part A.	Edinburgh Nautical College	1979
HND Mechanical (Marine) Engineering	Glasgow College of technology	1973-1976
Member, Institute of Marine engineers science and technology		1996(23yrs)
Member, Society of Petroleum Engineers		1991 (28yrs)
IWCF combined drilling supervisor certificate		To be updated
Offshore survival:		Valid to April 2019
Status: UK National (Scottish) Resident		
Married (43yrs)		
DOB; 9 th August 1956		

Drilling Supervision, Engineering & Operational Safety Leadership.

2017- Current; Well's Operational Safety Leadership, Supervision, Engineering & Training Consultant.

Completed 'Deepwater drilling' book. Conducted deepwater, well design and engineering courses in Colombia (Ecopetrol) USA (Shell), and UK. Resourced by 'Abel Engineering' to (Junk shot) kill, bullhead and volumetrically restore a Class II, gas well blowout, onshore Egypt December 2018.

2016 - 2017 Providence Resources Ltd, Ireland, Managed, engineered and assured regulatory compliance, support to operator's successful delivery of first Ultra deepwater exploration well, Offshore Irish Atlantic Margins meeting new regulations.

2013 - 2015 Deepwater Drilling Advisor to Centrica Norway project manager. Supported successful Ultra deepwater, slant well from project start to finish.

2011- 2013 ONGC/Norwell, Supervised Ultra deepwater wildcat exploration wells offshore India. Doubled well's delivery and assured best practice during well's programs.

2009-2011 STAFF Cairn Energy UK, Snr Drilling Operator Rep. Part of leadership team that delivered successive Greenland Exploration campaigns plans and engineering through to rig-site leadership, delivery and close out.

2005-2009 STAFF: Snr Drilling Engineering positions at Kerr McGee, (Maersk Oil UK) & Marathon Oil UK. Delivering Subsea, Horizontal, HPHT, Deep water, infill Development, Workover, Abandonment and partner wells (High performance teams delivering wells >1000ft/day (Ref. Rushmore benchmarks in this period.)

1993 - 2005 Worldwide Drilling Consultant, Deepwater, Exploration, Development, HPHT wells safety leadership and engineering positions. Including; UK's 1st deepwater development wells (Foinaven, 1996 months ahead of schedule). Exploration campaigns; Norway, Faroes, Grand Banks, Vietnam, Black Sea,

West Africa, India, (Falkland's 1998 6-well campaign), Malaysia, Indonesia in this period. Self-financed MSc Drilling Engineering and pertinent technical/safety leadership skill development as per resume.

1980-93 STAFF: Trainee to Snr Drl Supv (1987). Shell / BP International. Exploration, appraisal and development well projects. Early UK Deepwater, HPHT, Salt Diaper exploration and platform development ERD, horizontal wells through 90's.

Drilling / Well Engineering Instructor 1998 – Current.

Various technical courses delivered in Canada, USA, Venezuela, Colombia, Mexico, Argentina, Vietnam, China, Indonesia, Malaysia, Myanmar, India, Angola, Nigeria, Morocco, Egypt, Saudi Arabia, Kuwait, UAE, UK, Spain, Italy, Eire, Norway, and Greenland.

Pre-Oilfield, 1973 – 1979 STAFF positions.

Marine Engineer. Marine engineering duties as Junior, to 4th and 2nd Engineering officer serving on foreign going vessels. 1st Engineers part A, and 2nd engineers (Combined Steam/Motor) certificate examination of competency gained in Jan 1979.

Marine Engineer Cadet. Completed 7 blocks of DOT training (inclusive of 9 months at sea and 12 month's workshop training and marine engineering project.) HND mechanical (Marine) Engineering gained in this period.

PERSONAL TRAINING SUMMARY

Extended reach drilling
Deepwater Development drilling workshop
Advanced casing design
Walking the line 5-day MPD course
HPHT workshop
2-day Mathcad course.
Horizontal drillstring & BHA design.
MSc Drilling engineering.
Horizontal well control
HPHT Workshop
Drillstring Failure prevention
Productivity awareness workshop
Horizontal Drilling techniques / application.
Subsea Drilling and production technology
HPHT well control
Stuck pipe prevention
Mud engineering
Introduction to Petroleum Engineering
Petroleum Economics
Presentation skills and report writing
Formation damage / sand control

Merlin ERD, Feb 2019
SPE, SE Asia, 2018.
Prentice Training 2009
Signa Engineering Corp 2008
Maersk Training 2007
Adept-science, Feb 2004
Drill Tech. Inc. IADC/SPE Feb. 2000
Robert Gordon's University 1998-2002
Aberdeen Drilling School 1998
Maersk Training Jan 1997
T.H. Associates 1996
BP Exploration 1995
Herriot Watt University 1993
Herriot Watt University 1993
BP Exploration 1992
BP Exploration 1992
BP Sunbury 1991
BP Exploration 1990
BP Exploration 1989
BP Exploration 1987
Brunei Shell 1986

Safety 'soft skills' related.

Loss control Safety Leadership program.
Latent Cause Analysis (4 day)
Instructor Excellence, (5day) workshop.

DNV-GL self-study program. 2017.
Failsafe Network Dec 2014, 2015, 2017
Petroskills 2015.

Negotiating skills course (3day)
Apollo Root cause analysis
VPSi, Problem solving course.
Facilitation course (3day)
Media training.
Advanced Presentations skills
Effective Business writing
Advanced Negotiating skills
Advanced safety Auditing
Hazard/Risk assessment (3days)
Safety delegates training (40hrs)
Permit to work
COSHH
Loss control Leadership

Languages

Intermediate Working Bahasa, Dutch & Norwegian.

Hobbies & Interests

Golf, Table tennis (local, national leagues, veterans tournaments), Tennis, Sailing, Music, Gardening.
Voluntary worker: At local Glenrothes foodbank.

Karrass Internal course 2009
Marathon internal course 2008
Marathon internal course 2008
W2 2008
Aberdeen, May 2008.
IRR 2007 (5 days)
IRR 21st -22nd June 2006 (3days)
IRR 18th – 19th July 2005 (3days)
BP Amoco October 98, May 2000.
Norway, Scotec June 97
Norway, PTI, May 97
BP Exploration 1992
BP Exploration 1992
ILCI 1988 (5 days course)

Proposed Course Agenda / Outline

Monday	Tuesday	Wednesday	Thursday	Friday
History, challenges and differences	Projects, planning, Hazards, risks and change.	Casing design	Riserless Drilling & engineering	ERP contingencies, P&A, Emerging Technologies
Geology, Geoscience, Pressure management	Drilling and cementing fluids	Class Project <i>Casing design / engineering</i>	Class Project <i>Riserless drilling / engineering</i>	Class Project <i>Final project work.</i> <i>Well plan presentations.</i>
Metoccean conditions, situations.	Structural well design	Subsea, BOP's and marine risers.	Post-Riser Drilling / well engineering	
Class Project. <i>Day 1 post test.</i>	Class Project; <i>Preliminary Well Plan</i>	Class Project <i>Subsea, BOP's marine risers.</i>	Class Project <i>Post well Drilling / Engineering.</i>	Course <i>Feedback, Q&A, close-out</i>