

## Talk on

# “Chemical Enhanced Oil Recovery (CEOR) Strategy and Approach- Offshore Peninsular Malaysia Case Study”

*Oil, Gas and Mining Technical Division, IEM & in collaboration with  
Energy Institute Malaysia*

**Date** : 10<sup>th</sup> March 2018 (Saturday)  
**Time** : 9.00am to 11.00am (*Refreshments will be served at 8.30am*)  
**Venue** : C&S and TUS Lecture Room, 2<sup>nd</sup> Floor, Wisma IEM, Petaling Jaya  
**Speaker** : Mr. Ali Sabzabadi

BEM Approved CPD/PDP Hours: 2  
Ref. No.: IEM17/HQ/522/T

### SYNOPSIS

The term Enhanced Oil Recovery (EOR) is being used in petroleum industry as Tertiary oil recovery whereby additional recovery can be obtained after natural recovery processes and conventional methods (e.g. water injection) have been exhausted. The EOR processes can be broken down into three main categories, Thermal EOR (e.g. Steam injection), Immiscible/Miscible EOR (e.g. Lean Gas, CO<sub>2</sub> injection) and Chemical EOR (e.g. Alkaline/Surfactant/Polymer injection). The field in focus that has been studied for Chemical EOR (CEOR) is an offshore oil field development in the Malay Basin in Peninsular Malaysia operated by PETRONAS Carigali, with Exxon as 50% stake holder. The field has been developed via a Central Processing Platform (CPP); bridge-linked to a drilling and connected to four (4) other satellite platforms via subsea pipelines. The CPP consists of gas and oil handling facilities and is equipped with water injection module (WIM) capable of injecting up to 145MMstb/d for waterflooding and pressure maintenance. In general, CEOR development in an offshore environment is being postulated as of "high cost" with "logistical and operational" complexity and challenging. As part of decision making process for a mid-life field in an offshore environment, one may require to ascertain whether strategy of framing, assess and selection with risks and uncertainties have clearly been mapped, and can lead to a final decision of execution. The Peninsular Malaysia field is an example of process for a mid-life field that has gone through a chemical EOR evaluation based on industrial and conventional "staged approach". Front End Loading (FEL) gates of initiation, scope selection and scope definition (FEL1 to FEL 3) were set up to ensure the best concept and associated strategies have been selected, and project with execution will be a success in phase 4 and 5. Project governance and an assurance plan have been put in place to make sure the steer, supervision, support and assurance are given at all stages of the project. To ensure that uncertainties and risks associated with each gate were captured, understood and mitigation plans were being put in place, the project was sub divided into 4 main categories (subsurface, Technology, Projects and Operations). Each section's significant risks that may impact the viability of the project were identified, and further scrutinised and designed with exit sign posts approach.

### SPEAKER BIODATA

Ali Sabzabadi holds a MEng. in Petroleum Engineering from Imperial College London, and a Chartered Petroleum Engineer with Energy Institute and member of UK Engineering Council. He has over 19 years of experience in Petroleum Engineering specialised in classical and applied reservoir engineering, Numerical Simulation, Full Field Development and Planning, Reservoir Management and Surveillance. His current role is leading an integrated subsurface technical team responsible for reservoir studies, full field reviews and developments up to EOR evaluations For Angsi and Besar fields in peninsular Malaysia, and recently with Sarawak Oil FDP division. He has completed Full Field Development (FDP) plan for first offshore Chemical Enhanced Oil Recovery project for biggest oil producer field in Peninsular Malaysia. Have authored and co-authored few technical papers (SPE 165294, IPTC 18150, IPTC 18257).

**Ir. Mohd Azwira Mohd Azmi**  
Chairman,  
Oil, Gas and Mining Technical Division

### ANNOUNCEMENT TO NOTE

**EFFECTIVE  
1<sup>ST</sup> OCTOBER 2017**

#### FEES FOR TALKS

##### Members

Registration Fee : FOC

Administrative Fee :

Online: RM15.00

Walk-In: RM20.00

##### Non-Members

Registration Fee : RM50.00

Administrative Fee : RM20.00

Limited seats are available on a "first come first served" basis (maximum 100 participants).

**To secure your seat, kindly  
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