

GAS CONDITIONING AND PROCESSING TECHNOLOGY

“State-of-the-Art and Beyond”

BY : ARI A. MINKKINEN

HIGHLIGHT OF INSTRUCTOR



Ari Minkkinen is an acclaimed chemical engineer with over 40 years of fruitful professional experience in the petrochemical, oil, gas and energy field wherein he has authored over 17 process technology papers and over 30 worldwide patents.

He was the Chairman of the Gas Processors Association GPA Europe from 1988-1990 and active member of the Editorial Review Board of the 11th edition of the GPSA Engineering Data Book.

From his previous affiliations with CE Lummus, Total, IFP, and IFP Training, he has gained a solid world reputation as a creative process engineer, advisor, innovator and instructor.

WHO SHOULD ATTEND?

Participants to this course should be professionals from national and foreign technology licensors, EPC contractors and oil, gas and energy companies operating in Indonesia. These include national employees as well as foreign company expatriate employees with the following quality:

- Process engineers
- Process engineering managers
- Process consultants and technologists
- Research and development engineers
- Chemical engineers open to new concepts and ideas



COURSE OVERVIEW

This course will transfer pertinent technology “know-how” to enhance the knowledge and competency of professionals involved in process design, evaluation, selection and development of gas processing, conversion and utilization facilities. The course will mentor inroads towards future innovation towards a better more sustainable energy environment.

The trainer will discuss advanced processes used to dehydrate natural gas, remove acid gas components and mercury to meet existing and future specifications for pipeline gas dew point control to natural gas liquefaction and (LNG) regasification.

The participants will learn how to apply thermodynamic and physical properties and their correlations to evaluate various options to meet desired gas processing objectives and quickly determine efficiency and energy requirements.

The trainer will share many original patented conceptual ideas, equipment designs and “outside-the-box” process schemes from CO₂ capture and sequestration (CCS) to Fischer Tropsch Gas-to-Liquids (FT GTL) in order to stimulate “brain-storming” discussions.

Finally each participant will receive valuable professionally prepared CD ROM and bound photo copy documentation containing original course presentation material (in over 600 graphic color slides) to bring back to their home office, to keep for future review, and/or freely share with colleagues and other interested parties.

MASTER CLASS CONTENT

◆ Day 1 Overview to Gas Processing

- Worldwide gas production and consumption overview
- Objectives of gas processing
- Impurities in wellhead gas and the levels to which they need to be removed to meet today’s and future specifications
- Novel conceptualization of the thermodynamic paths in gas processing

◆ Day 2 Advanced Gas Conditioning Technologies

- Hydrate prediction and inhibition
- Dehydration
- Mercury removal
- Hydrocarbon dew point control

◆ Day 3 Advanced Gas Treatment Technologies

- Acid gas (H₂S, CO₂) removal
- Bulk H₂S removal for re-injection
- Bulk CO₂ removal for EOR and sequestration
- Sulfur recovery and tail gas treatment

◆ Day 4 Advanced Gas Processing Technologies

- Crude oil associated gas processing to reduce flaring
- Natural gas liquids (NGL) extraction
- Natural gas liquefaction (LNG) and re-gasification
- CO₂ capture within the LNG chain
- Gas to liquids (GTL) conversion

◆ Day 5 Overview of Gas Process Plant Design and Data

- Compression, turbo-expansion and gas turbine drivers
- Refrigeration and heat exchange systems
- Overview of the GPSA Engineering Data Book

COURSE OBJECTIVES

Today, through his association with RHENINDO offers the oil and gas industry a unique training event characterized by:

- ◆ Overview of the “state-of-the-art” global gas processing technologies
- ◆ Objective presentation of advanced gas technologies
- ◆ Novel methodology to visualize thermodynamics of gas processing
- ◆ Original “food-for-thought” conceptual ideas for future development



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