Gas Business Fundamentals Workshop

This very popular program is designed for specialists and general managers who wish to broaden their knowledge of today’s international gas business with an emphasis on the commercial aspects of gas project development.

Unit One covers the upstream sectors of the gas value chain with focus on exploration, drilling and well completions, reserves calculations, and field development planning topics.

Unit Two subjects describe the entire midstream and downstream gas sectors with emphasis on technology, project economics, and markets that shape the international gas industry today.

INSTRUCTORS
Ehsan Ajab, PhD
John B. (Jack) King, MBA

UNIT ONE
UPSTREAM GAS BUSINESS (2 DAYS)
NOVEMBER 4 – 5, 2019

Gas Properties, Measurements, and Conversion Factors
Gas components and their properties; measurement of gas volume and heating values; conversion of gas to gas liquids; conversion to barrels of oil equivalent; pricing of crude oil, natural gas and coal on the basis of heating value; major conversion factors.

Gas Market Structures and Analysis
Structure of the gas value chain; regional gas markets; key world markets; analysis of gas market opportunities; free market pricing formulations.

Host Government Agreements
Overview only
Various forms of host government agreements: concession, PSC, service agreement, risk service agreement; major fiscal terms that impact gas projects; review and analysis of sample agreements and their financial analysis.

Exploration Methods
Overview only
The Stage-Gate process, petroleum geology, seismic processes; prospect generation; formation evaluation; reservoir delineation; prospect economics and risk analysis; successful exploration workflows and practices.

UNIT TWO
MIDSTREAM/DOWNSTREAM GAS BUSINESS (3 DAYS)
NOVEMBER 6 – 8, 2019

Surface and Gas Processing Facilities and LPG / Ethylene Markets
Surface facilities design, overview of gas processing systems to recover NGLs, liquid separation processes, LPG fractionation options; compression, metering, the international market for LPGs, ethylene processes and markets.

Load Balancing and Underground Gas Storage
Measuring market demand variations; load factors; options to manage load swings with power, cavern, and LNG storage systems; typical capacity and delivery profiles of storage system; capital and operating costs; integration into the supply system; design of load balancing tariffs.

Gas Pipeline Systems
Overview of pipelines in the gas system; pipeline design; pipe sizing and compression; capital costs and pipeline economics; project cost estimating; structure of pipeline tariffs; project examples.

Gas-Fired Power Plants
Overview of the power value chain; power system fundamentals and terminology; traditional and combined-cycle; gas turbine power systems; technology; plant design; fuel efficiency; available packages; IPP project structure; project feasibility: capital costs; comparative economics; power market structure: traditional, merchant and tolling plants; fundamentals of power pools; rate structure, supply reliability, examples of recent and planned projects.

Gas Distribution
Overview of the gas distribution system; design and construction of distribution systems; classes of customers and load factors; competition from other fuels; character of gas supply; structure and regulation of local distribution companies (LDCs); setting customer rates; case studies.

Ammonia, Methanol, and Gas-to-Liquids Projects
Overview of the processes of converting gas to marketable products including ammonia, methanol and gas-to-liquids fuels; local and world markets for ammonia and methanol; capital, operating, and transportation costs of ammonia and methanol; market and netback prices; overall project economics; examples of new projects.

LNG Systems and Transportation
Overview of LNG projects in the gas system; LNG technology: LNG plants, liquefaction, ship design, operations, and LNG re-gasification units; LNG project feasibility: capital costs, economics, risk, financing, markets, LNG plant design; gas reserves to support a plant; contract prices; contracting; examples of recently completed and planned projects.

Industry Regulation, Deregulation, and Convergence
The nature of regulation in the energy sector; history and current state of the gas industry; deregulation process at the wholesale and retail markets; U.S., Europe, and elsewhere; effect of deregulation on the structure of the industry; convergence of gas and power.

WHO SHOULD ATTEND
This program will benefit management, administration, and specialists (technical, financial, legal, regulatory, and governmental) at all levels of gas industry experience who wish to broaden their knowledge of the business environment and “best practices” of the natural gas business, especially the commercialization of gas projects.

PROGRAM FEE
TWO DAYS: US $1,900
THREE DAYS: US $2,800
FIVE DAYS: US $4,200

FULL PROGRAM DATES: HOUSTON: NOVEMBER 4 – 8, 2019

ATLANTIC BASIN GAS BUSINESS GAME: EXPETRA

This business game is an integral part of the learning process. Participants, divided into teams, make real-life technical, financial, and market decisions that commonly confront managers in the international gas business today. Team performance is measured on a financial basis and is catalyzed by healthy competition.

The challenging Atlantic Basin game business takes place in “Expetra,” a small island country in the Caribbean, north of Trinidad. Gas and condensate are expected to be discovered in the deep offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them over a 15-year production period. Markets include LNG exports to the U.S. and Europe, LPG and ethylene plants, gas pipeline to Miami, gas distribution and storage operations in the U.S., power plants in the U.S. and Expetra, and export-focused ammonia, methanol, and gas-to-liquids plants in Expetra.

WORKSHOP SESSIONS INCLUDE:

Introduction to the exploration opportunity
Negotiation of the exploration and development agreement
Scenic exploration and mapping of scenic results
Exploration drilling and reserve estimation
Gas processing, LPG, and ethylene market decisions
Gas field pipeline decisions
Integration of load balancing and pipeline facilities
Gas-fired power plant market decisions
Acquiring a gas distribution business in the U.S.
Assessment of methanol, ammonia, and GTL markets
Export pipeline from Expetra to Miami
Assessing two LNG market opportunities
Integrated field development and market decisions
Decisions during the project lifecycle

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