



International Power Business Workshop

Program Objectives

This four day energy management workshop is designed to provide international oil, gas and power professionals with an overview of the business aspects of the international power business with special emphasis on the development of combined-cycle, gas-fired power plants. The instructional format is a combination of formal lectures and team workshops sessions. IHRDC has conducted this program over 20 times for one of the world's largest integrated energy companies, with very high appraisal for its content, design delivery and participant experience.

Key Benefits

- Introduces the participant to the integrated power business.
- Provides a practical understanding of the steps required to develop a combined-cycle gas turbine power project.
- Provides an overview of the key legal, financial, and economics aspects of project development.
- Encourage participants to work together to collect and analyze data and make investment decisions.

Instructional Format

The instructional format consists of **lectures** by a respected specialist and team participation in a classic IHRDC **power "business game"**. The business game typically takes almost one half of the instruction time and has been highly rated by past participants for its effectiveness in internalizing learning and generating discussion among team participants. This combination of lectures and interactive workshop sessions, has proven to be an ideal way for participants to learn the practical needs of today's international energy markets.

Who Should Attend

This program is designed for energy leaders from broad functional responsibilities: financial, technical, operational, project development, and other professionals, who wish to expand their knowledge of planning, developing, and financing power projects. Because of the workshop format, the ideal enrollment is 25.

Program Location and Schedule

The program will begin on Monday morning at 8:00am and end on Thursday afternoon. Participants may be asked to stay later in the evening to do workshop sessions.



PROGRAM CONTENT

Introduction to the Program

Power Industry Structure, Terminology and Units; Overview of the Electric Power Industry; Including Trends in Market Liberalization and Privatization of Assets.

Introduction to Power Generation and Combined Cycle Gas Turbine Plants

Power Generation Fundamentals, Power Plant Terminology, Power Plant Thermal Efficiencies, Combined Cycle Gas Turbine Power Plants: Technology and Costs.

Overview of Other Forms of Power Generation

Coal and Oil-Fired Steam Turbines; Hydroelectric Plants; Nuclear Power Plants; Renewables.

Independent Power Project Players

Developers, Suppliers, Customers and Partners.

Power Project Investment Screening, Selection and Project Development

Project Feasibility; Project Design and Development; Project Economics; Legal and Regulatory Issues; Financing Structure; Risk Mitigation; Project Management Structure: Agreement Linkages, Project Development Phase Activities; Management of Construction and Operations; Typical Project Screening Process.

Project Financing of Power Projects

Debt and Equity Financing; Multilateral Financing; Security for the Financing; Financial Risk Management and Guarantees; The Lender's Perspective; The Financing Process and Costs; Case Study: The Structure of a Recent CCGT Project Financing.

Overview of Transmission and Distribution

Technology and Costs; 50/60 Hz; Synchronization of Plant to Grid; Instabilities; Relationship of Power Generation Costs to Price to Consumer; Economic Tradeoff: Gas-by-Pipe or Electricity-by-Wire; Distribution of Electricity.

Power Pools and Least Cost Dispatching

What is a Power Pool? Power Pool Economics and Structure; UK Power Pool; Nordic Market and Electricity Trading; What is an ISO? US Power Pools.

Financing Energy Projects

Fundamentals; Sources of Equity and Debt; Bilateral and Multilateral Financing; Investment Guarantees; Structuring the Financing.

Global Power Trends: Regional Markets

International Power Demand; Changing Structure of the Power Industry By Country; Case Examples of Key Countries in Asia, Latin America, US and UK.

Merchant Power Plants Including Fuel Supply Contracting Issues

Definition; Financial Viability; Projecting Market Demand and Supply; Merchant Plants Financing; US and the UK Merchant Plants.

Major Contracts of an Independent Power Project: Review of Provisions and Linkage

Overview of Power Project Documentation; Joint Venture Structure and Agreement; Fuel Supply and Power Sales Agreements; Project Construction and Operating Agreements; Government Guarantees of Non-Project Risks; Financing Due Diligence, Documentation and the Closing Process.

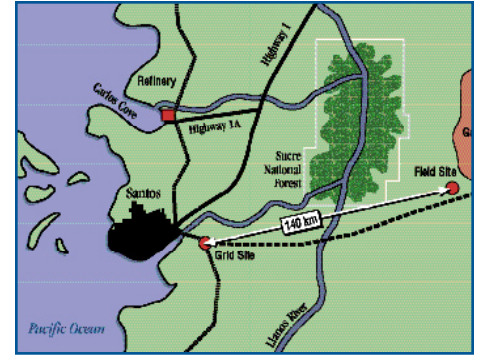


Participants engaged in analyzing development options during a workshop session.

WORKSHOP

Power Business Game

The Power Business Game consists of the simulated planning, financing, development and operation of a combined-cycle power plant in Sucre, a fictitious country in Latin America. Each team is asked to prepare a business plan for the project which will include a set of decisions with respect to construction, fuel supply and power purchase agreements, EPC and O&M contracts, and financing. Then 15 years of simulated operations occur in a “business game” environment. The financial results of each team is provided to them for their formal presentation on the last morning. The team with the “best” performance receives the workshop “prize”.



The sessions include:

- Project Description, Management & Market Analysis
- Project Economics & Proforma Analysis
- Project Schedule & Management Plan
- Identifying the Project Risks
- Reviewing the Financing Term Sheet
- Design the Project Financing
- Review the Fuel Supply & Power Sales Agreements
- Evaluation of Performance & Presentation of Results

INSTRUCTORS

Rick Squires will be the senior lecturer. Maher Habbal, an IHRDC Modeling Specialist, will be the coordinator of the workshop sessions.

Rick Squires

Rick Squires, Rick Squires an IHRDC Senior Lecturer, is the founder of PiEnergy, which provides consulting services to the energy industry. He was Non-Executive Chairman of a UK based offshore hybrid gas and wind power company (250 MW) which was recently sold to one of the major utilities in Europe. He also holds four other directorships. Rick has extensive experience in the international energy sector at the senior management level across a wide range of activities and fuels. He also acts as a senior consultant to an international executive search company, focusing on the renewable energy and new technology business sectors. For four years, until early 2003, Rick was based in Boston, USA as Senior Vice President of InterGen, an international power company with over 1000 employees and 16 GW of power plants in ten countries. Prior to joining InterGen, Rick headed the Power Business within Shell Gas and Power, London and was the leader of the team that acquired 50% of InterGen in 1997. His career in Shell spanned over 25 years and also included senior management positions in International Oil Trading, Coal Business Development and Marketing. While principally based in London, he also had assignments with Shell companies in South Africa and Japan. Before joining Shell, he worked for the South Western Electricity Board in the UK. Rick holds a First Class Honours Degree in Electrical Engineering from Lanchester University and a Masters Degree in Business Studies from Durham University, UK. He is a member of the Institute of Electrical Engineers, the Institute of Directors and also the Energy Institute.



Maher Habbal

Maher Habbal is Manager, Business Simulators Development/ Applications for IHRDC. He is responsible for developing and implementing the business simulation models used in IHRDC management programs and workshops. To date, he has built five such simulators: one for the oil industry, two for gas, and two for power. His other responsibilities include internal financial reporting, analysis and forecasting. Before joining IHRDC, Mr. Habbal worked three years with Arthur D. Little, Inc. as a Senior Financial Analyst on financial reporting and modeling. Also, as a member of the teaching staff at the Arthur D. Little School of Management Master of Science in Management Program, he taught Finance, Economics and Accounting. Mr. Habbal holds a Master of Science Degree in Management from Arthur D. Little School of Management and a B.S. in Business Economics from the Lebanese American University.

