



GAS & POWER RISK MANAGEMENT



Course Date: TBD



Course Length:

2 days

8:30 a.m. – 4:30 p.m. EST
each day (includes 60 min.
lunch break)



In-Person Onsite



Instructor/Host:

Richard Weissman
Nour Zekhmi

Questions?

For more information or to register,
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What You Will Learn

This course provides an in-depth examination of price risk mitigation tools and techniques that will help you survive and even thrive in today's volatile gas and power markets. Learn which hedging tools are best suited to various market environments. Understand the benefits and limitations of each hedge instrument and how best to apply them given your company's view of outright price risk as well as basis risk.

Let Mr. Richard Weissman, GARP ERP, a world-renowned author and specialist in risk management share techniques, analysis and insights that only his thirty plus years of trading and risk management experience can bring. You'll gain a practical understanding of outright price risk, basis risk and optionality risk as well as the pros and cons of mitigating physical price risks with each of these tools.

Topics covered include:

- Best practices for a commercial hedging entity
- How to establish a corporate risk policy
- How to design a robust risk management program
- Determining hedge objectives and strategies
- Implementation of a daily mark-to-market
- How to reduce spot market exposures and guard against price spikes
- How to hedge with futures, options, forwards and swaps
- Hedge implementation, monitoring and adjustment
- The differences and similarities of futures, options, swaps and spot markets
- Real-time hedging examples for various products in natural gas markets using futures and options
- Setting up exchange-traded futures and options on futures accounts
- How to initiate and sustain protocols required by external auditors
- Margins and futures brokers
- What is the basis between spot and futures?
- How and when to hedge the basis
- Commonly employed tools and techniques for risk managers
- Popular options spread strategies used by commercial hedgers in gas and power

Course Syllabus – Day One

Morning Session

Session 1: Overview

We'll open the course by outlining what commercial hedging is and why it is so integral to risk management solutions adapted by virtually all major participants in today's gas and power industries.

Session 2: Risk Management Issues in Natural Gas & Power

Natural Gas

- Weather: Supply, Demand & Seasonality
- Upstream: How exploration & production impacts supply
- Midstream: Pipelines & Storage
- Downstream: Trading Hubs

Power

- Weather: Supply, Demand & Seasonality
- Generation - Fuel sources: NG, Nuclear, Hydro, Coal, Wind
- Transmission
- Trading Hubs & Volatility

Session 3: Power trading simulation

In this simulation, attendees will be a merchant power plant selling megawatts into the real-time market. Emphasis is placed on how weather moves real-time power prices.

Session 4: Purchasing and consumption of gas and power products

In this session you will learn how various products are purchased at all levels. We'll examine purchasing energy on spot, wholesale and retail markets through traditional as well as non-traditional methods. We'll also explore physical market risk management tools and techniques.

Afternoon Session

Session 1: Managing price risk with options - the basics

This session explores why options are used by commercial hedgers in gas and power. Throughout the session we will dispel some of the most common myths in options trading. Despite their complexity, we'll show how easy it is to incorporate options into your risk management portfolio. This session will discuss why options are used by commercial hedgers, as well as the difference between calls and puts, the holders vs. the writers of options, and in-the-money, at-the-money, and out-of-the-money options, and basic inputs for pricing options.

Session 2: Options basics – natural gas trading simulation

Using actual past price history attendees will make options trading decisions. By the end of this simulation, you'll understand the difference between calls, puts, being a writer vs. being a holder, in-the-money, at-the-money and out-of-the-money as well as how volatility impacts trading decisions in options.

Session 3: Identifying product price and physical margin risk

This session will show attendees how to identify and quantify outright price risk as well as basis risk from the perspective of companies operating at the producer/generator, wholesaler, retailer, and end user levels of the energy infrastructure.

Session 4: Best practices for a commercial hedging operation

What are best practices for a commercial hedging operation? We'll look at basic questions like, what percentage of our physical market exposures do we want to hedge as well as duration of the hedge and the types of derivatives used to implement the hedge. These questions will be analyzed from the perspective of those pursuing active as well as passive hedge programs. This session covers corporate risk policies, procedures, board resolutions, and checks and balances.

Course Syllabus – Day Two

Morning Session

Session 1: A macro overview of hedging tools

This session will provide a big picture understanding of various tools used by energy risk managers. We will examine the pros and cons of using physical purchase/sales methods, traditional exchange-traded derivatives (like futures and options on futures) as well as more exotic derivatives like swaps.

Session 2: A detailed look at CME Group (NYMEX) & ICE futures

We'll cover how and why CME Group (NYMEX) and ICE provide a liquid, global market to trade and manage price and margin risk for gas and power. You'll understand how the exchange works, who trades, contract specifications, back office and clearing operations.

Session 3: Managing basis (correlation) risk in gas and power

This session will show how energy futures markets correlate with various spot markets. Attendees will see examples of real-world outright physical market risks and how hedging with various types of derivatives minimizes outright price risk as well as basis risk. Finally, we'll examine the two-tier hedging solution where commercial hedgers hedge outright price risk with exchange-traded futures and then hedge basis risk with locational basis swaps.

Session 4: Fundamentals of gas trading and arbitrage

- The relationship between spot and the futures markets
- Storage trades
- Commercial hedging and gas derivatives
- Locational basis swaps
- Seasonal spreads
 - Winter/Spring spreads
 - Fall/Winter spreads

Afternoon Session

Session 1: Case Study – Hedging with Natural Gas futures

Our case study compares spot Houston Ship Channel mark to market vs. Henry Hub natural gas futures for a Texas-based utility seeking to hedge Q4 2020 consumption with NYMEX futures from March-May, 2020. This session compares the economics of hedging with NYMEX vs. Houston Ship Channel spot pricing and highlights the value of augmenting this hedge with a locational basis swap.

Session 2: Developing and comparing hedging strategies

We'll examine how various market conditions (bullish, bearish, volatile and sideways) favor one derivatives strategy versus another. Our cost-benefit comparison will include: exchange-traded futures, forwards, swaps, as well as various directional options strategies.

Session 3: Execution and implementation of the hedging strategy

This session incorporates a correlation analysis as well as showing how various market environments (bullish, bearish, neutral and volatile) impact the hedger's decision regarding: percentage of commodities hedged, duration of the hedge as well as hedge instrument (type of derivatives used).

Session 4: Putting it all together

In this final session, we'll develop a rule-based active hedge strategy using various tools and techniques examined throughout the two-day course including futures, options and option spreads from the perspective of both the producer and consumer of natural gas.

MEET YOUR INSTRUCTOR

Mr. Richard Weissman is one of the world's foremost authorities and thought leaders in the fields of derivatives, risk management and technical analysis. He is the author of two books:

Mechanical Trading Systems: Pairing Trader Psychology with Technical Analysis (Wiley, 2004) and *Trade Like a Casino: Find Your Edge, Manage Risk and Win Like the House* (Wiley, 2011) which was a finalist for the 2012 Technical Analyst Book of the Year Award.

Richard has more than 30 years of experience as a derivatives trader and has provided training and consultation services to traders and risk managers at investment banks, hedge funds, energy and agricultural companies for more than 20 years. He has helped train staff from virtually every major firm that uses derivatives including Morgan Stanley, Citicorp, Exxon-Mobil, Shell, Exelon, Cargill, CFTC, EIA, Platts, Intercontinental Exchange and CME Group. He has been the featured speaker at leading industry conferences throughout the world.



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