



Course length: 2.5 hours

Cost: \$295-\$350*

Prerequisites: None

Subscription: 2-12 months

A simple and easy-to-understand look at ISO markets and the services sold in them

For those in the electric industry who work in a region with an Independent System Operator (ISO), understanding how ISO markets operate can be critical to on-the-job success. ISO Market Basics explains in simplified terms how ISO markets work, how services (capacity, energy, operating reserves, and financial transmission rights) are bought and sold in an ISO, the role of ISOs and various market participants, and the various types of electric markets available to market participants. The course is designed for those with limited knowledge of how ISO markets function. It includes practical examples and exercises to help learners understand how markets are used in real life by various market participants. Note that two versions of this learning path are available: one that is applicable to all ISOs and another that is specific to the Midcontinent ISO (MISO).



WHO SHOULD TAKE THIS COURSE?

- Professionals in business areas such as regulation, economics, accounting, sales and marketing, public relations, and finance
- Technical employees like information technology (IT) specialists and power engineers who are new to working in a region with an ISO
- Anyone needing to learn the basics about ISO markets and the services that are traded in them

WHAT YOU WILL LEARN

- The role of ISOs and various market participants
- The various types of electric markets available to market participants
- The services that are traded in electric markets
- How the ISO markets work

COURSE AGENDA

Introduction to ISO Market Basics

- Course objectives and agenda
- What an ISO is
- Introduction to the ongoing example of a utility acquiring supply

Electricity Basics

- How electricity works
- Electric system characteristics
- The physical delivery system
- Monopoly vs. competitive markets
- Electric units
- Peak demand and monthly usage
- Power plant capacity and output

What Are Electric Markets?

- Why we need electric markets
- Who market participants are

- The distinction between wholesale and retail markets
- Why we need a system operator to facilitate wholesale markets

Who Are Market Participants?

- Types and functions of market participants
- Key participant needs
- IPPs, wholesale power marketers, utilities, retail power marketers
- How participants' assets are scheduled
- How participants' assets are operated
- The concept of long/short
- Markets facilitated by an ISO

Electric Services

- The key electric services traded in ISO markets
- Capacity
- Energy
- Operating reserves
- Financial transmission rights (FTRs)

Markets for Electric Services

- Bilateral markets
- ISO markets
- Self-provision

Capacity Markets

- What capacity is
- ISOs with capacity markets
- Determining the capacity obligation
- Capacity auctions
- How capacity is used

Energy Markets

- What energy is
- Forward energy
- Day-ahead energy
- Real-time energy
- Power plant offers
- Load bids

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- Optimized scheduling
- Locational marginal prices (LMP)
- Day-ahead prices vs. real-time prices

Operating Reserves Markets

- What operating reserves are
- The various operating reserves services (spinning, non-spinning, replacement, or supplemental)
- Determining the reserves obligation
- How load serving entities (LSEs) provide capacity
- Optimized scheduling
- Prices for operating reserves)

Financial Transmission Right Markets

- What an FTR is
- How FTRs mitigate congestion costs
- FTR auctions
- Reselling FTRs

A Day in the Life of Electrico

- A complete example of how a utility uses various electric markets
- Load forecasting
- Supply availability
- Supply scheduling
- ISO day-ahead prices
- Using bilateral markets in response to an outage
- ISO real-time prices and loads
- Final cost of supply

ISO Market Simulation

