



Regional Transmission Organization Fundamentals: Background, Purpose, Future

***April 20-22, 2020
DRAFT AGENDA***

The Pyle Center, UW Madison, 702 Langdon St., Madison WI

1.7 CEUs

This course is designed to provide a comprehensive overview of regional transmission organizations in North America. Attendees will develop a solid understanding of how and why RTOs were created, what their many functions are today, how transmission planning is conducted, how resource adequacy is managed, how the system maintains operational reliability, and how financial markets operate. The course will end with a discussion of current issues facing RTOs today and tomorrow.

Included in the registration fee: printed and electronic materials, lunches, breaks, reception.

CEU certificates will be emailed to you upon completion of the course.

Monday, April 20, 2020

RTO Background, Overview, and Transmission Planning

Time	Session Title
8:30 – 8:45	Registration check-in
8:45 – 9:00	Welcome Introductions
9:00 – 10:30	Basics <ul style="list-style-type: none"> • History – How and why were RTOs/Independent System Operators created? <ul style="list-style-type: none"> ➤ Congressional Action ➤ Federal Energy Regulatory Commission Action (FERC) ➤ Different RTOs and Their Similarities/Differences ➤ Requirements for Participating in an RTO ➤ Benefits and Drawbacks of Participating in an RTO • RTO Functions and Coordination Among RTOs
10:30 – 10:45	Break
10:45 – 12:15	Basics <ul style="list-style-type: none"> • Stakeholders – Who are the players? What are their perspectives/interests/politics? <ul style="list-style-type: none"> ➤ Role of Stakeholder Governance ➤ Influence of Stakeholders • Regulatory Oversight – FERC, North American Electric Reliability Corporation (NERC), States, Independent Market Monitor (IMM), Courts • Jurisdictional Overlap
12:15 – 1:15	Lunch
1:15 – 2:45	Transmission Planning <ul style="list-style-type: none"> • Foundational Orders – FERC Order 1000, etc. • RTOs and Functional Control of Transmission System • Federal Regulation of Transmission System Rates • Regional Transmission Planning Processes <ul style="list-style-type: none"> ➤ Load Forecasting and Future Resource Assumptions ➤ Top-down Vs. Bottom-up ➤ Role of Local Transmission Owners ➤ Role of Competition • Interregional Transmission Planning
2:45 – 3:00	Break
3:00 – 4:30	Transmission Planning <ul style="list-style-type: none"> • Integration of Renewables and Generator Interconnection Process – How has the process changed over time, and how does it accommodate the spike in the number of generators in the queue?
4:30 – 5:30	Welcome Reception

Tuesday, April 21, 2020

Markets, Resource Adequacy

Time	Session Title
8:30 – 10:00	Markets <ul style="list-style-type: none"> • Overview of Electric Markets <ul style="list-style-type: none"> ➢ Capacity ➢ Day Ahead ➢ Forward ➢ Bilateral ➢ Ancillary Services ➢ Vertically Integrated/Competitive Market
10:00 – 10:15	Break
10:15 – 11:45	Markets <ul style="list-style-type: none"> • Locational Marginal Prices (LMPs) <ul style="list-style-type: none"> ➢ Energy Price, Congestion Cost, and Losses ➢ Day Ahead and Real Time LMPs • Federal Transmission Rights (FTRs) and Auction Revenue Rights (ARRs) /Hedging • Congestion Management • Market Participants
11:45 – 12:45	Lunch
12:45 – 2:15	Markets <ul style="list-style-type: none"> • Market Settlements • Market to Market
2:15 – 2:30	Break
2:30 – 3:15	Role of the Market Monitor
3:15 – 3:20	Stretch Break
3:20 – 4:45	Resource Adequacy <ul style="list-style-type: none"> • Demand Forecasting – Load characteristics; Who supplies load forecast? • Planning Resource Auction • Seasonal Impacts • Planned Outages • State vs. Federal Policy

Wednesday, April 22, 2020

Current Issues, Looking Forward

Time	Session Title
8:30 – 10:00	Current Issues <ul style="list-style-type: none"> • Cost Allocation • Seams • Return on Equity – How to incentivize transmission without overpaying • New/Emerging Technologies and Clean Energy Goals • Western Regionalization – Energy Imbalance Market, governance issues
10:00 – 10:30	Break
10:30 – 12:00	Looking Forward <ul style="list-style-type: none"> • Future of RTOs – Is the current stakeholder process working? • Anticipated Market Changes • Disruptors
12:00 – 12:30	Wrap-up and Boxed Lunches
12:30	Adjourn