SMART GRID FUNDAMENTALS

28th to 29th Mar 2011, Singapore, Amara Hotel

Expert Course Faculty Leader
John Chowdury

ORGANISED By
powerEDGE
Course Overview
The Smart Grid course provides a comprehensive understanding of the emerging Smart Grid technologies and implementation examples from around the world. The course will review all aspects of the Smart Grid including its definition, major components, important features and practical examples of this new technology.

Course Objective
Learn about the new intelligent energy grid that supports the green energy initiatives of the 21st century. Study real-world value propositions, business perspectives, and solution scenarios from business economics and technical practicalities points of view. Discover the evolution of today's power distribution grid and the potential benefits from dynamically applying intelligence for improved efficiencies. This course lays a solid technical foundation for business professionals and a contemporary overview for technical staff and is ideal for proposal staff, product developers, system managers, and urban planners.

Key subjects covered include:
• Electric grid operation and evolution to the Smart Grid, including electric system design and operation, technical and tariff changes ahead, and integration between utilities and transmission organizations.
• Smart Grid components, including metering, demand response, virtual power plants, dynamic pricing, grid enhancement funding, demand analysis, promotion of “green” resources, governmental regulation, network standards, network integration and how all parties benefit the grid operation in supply reliability and economy.
• Smart Grid technology development examples with an implementation road-map of key factors to consider.

Who Should Attend
This Introduction to Smart Grid training course will provide attendees with a comprehensive understanding and knowledge base about the Smart Grid and how it is likely to evolve and be protected. This unique program delves into the details of the development of the Smart Grid and operation, with useful examples of best implementation practices.

This course if specifically designed for people working in:
• Electric Utility Distribution and Transmission Design
• Electric Utility Operations
• Electric Utility Tariff Development
• State Regulators of Electric Utilities and Transmission Grids
• Demand Response
• Smart Grid Infrastructure Development (communications, metering, and planning)
• Strategic Planning and Project Engineers
• Risk Management
• Energy Procurement and Contracts

Unique Features with powerEDGE Training
• Pre-Course Questionnaire to help us focus on your learning objectives
• Detailed Course & Reference Manual for Continuous Learning and Sharing
• Practical Exercises & Case Examples to better understand the principles
• Limited class size to ensure One-to-One Interactivity
• Assessment at the end of the course to help you develop a Personal Action Plan

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Course Outline

DAY 1

Smart Grid Overview
- Utility Industry’s Current Business Concerns
- Key Characteristics: Rationale, Benefits, Technologies
- Smart Grid Benefits and Cost Elements – from Around the World
- Barriers to Smart Grid Acceptance
- Smart Grid Projects around the World
- Approach to Developing Smart Grid Strategy and Vision

Advanced Metering Infrastructure (AMI)
- AMI Spans Premise Devices to Meter Data Management
- Automatic Meter Capabilities
- Home Area Networking (HAN)
- Network Infrastructure for AMI
- Core functions of a Meter Data Management (MDM) System

Automation Technologies
- Distribution Automation
- Substation Automation
- Customer Facing Functions
- Control Center Systems – SCADA / EMS / DMS
- Outage Management Systems - OMS
- Asset Management and Condition Monitoring
- System Components for Smart Grid Operation
- Enterprise Level Information Integration

DAY 2

Distributed Resources
- Distributed Generation (Solar, Wind, Bio-mass)
- Energy Storage (PHEV)

Customer Interactions
- Advanced Customer Service Interactions
- New Pricing and Product Introductions
- Demand Response

Smart Grid Projects & Systems Deployment Roadmap
- Technology Development: Examples
- Implementation & Technology Roadmap
- Implementation Consideration
- General Implementation Approach

Question & Answers
John Chowdury

With over 22 years of utility industry experience, John Chowdhury has dedicated his career to finding ways to improve the electric energy enterprise from source fuel to consumer services by leveraging new technologies and ideas. He is currently focused on bringing innovation and energy together by providing support to utility companies, policy makers, financiers, and technology companies to better understand the complex smart energy space and create sound business models for successful incorporation of technology.

Prior to his current role, John served as the Director of Smart Grid at KEMA where he was instrumental in developing Smart Grid solutions for utilities in the USA, Latin America, Brazil, Australia and India. Prior to KEMA, John served as Principal and Head of Utility consulting practice at IBM, where he led the development of first Intelligent Grid solution at CenterPoint Energy in Houston, today’s foundation for IBM’s Smart Grid solution. Prior to joining IBM, John was President and CEO of NetKnowledge Technologies, first web enabled customer care and billing solution for the utility industry.

He developed extensive experience in utility system improvement, engineering, federal and state policy development, infrastructure planning and budgeting, environmental management systems for coal & natural gas generation plants and T&D assets, and was responsible for the communications architecture, fiber, telecommunications and SCADA deployment. He is a frequent speaker to regulatory organizations such as the Federal Energy Regulatory Commission (FERC), Congress and also at a variety of industry leadership conferences.

John has served on the boards of the IEEE BPL Standards Committee, WiMax, the GridWise Alliance and several non-profit organizations. He served in the Illinois Governors Broadband Council and served as the President of AABEA Engineers Association.

John received a BS degree from Tulsa University, in Tulsa, Oklahoma, an MBA degree in the Marketing Management Program at University Texas at Dallas.

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