



Grid Modernization (Smart Power Grid) Technologies – Report Outline

1. Grid Modernization Concept
 - a. Background
 - b. Current U.S. Initiatives
 - c. SmartGrid Characteristics
2. Grid Modernization Benefits
 - a. Service Reliability
 - b. Outage Recovery
 - c. Power Quality
 - d. Grid Efficiency
3. Grid Modernization Technologies (see Technologies Matrix)
 - a. Architecture & Communication Standards
 - b. Monitoring & Load Management
 - c. Advanced Grid Operations
 - d. Modeling & Simulation
4. Michigan Modernization Projects
 - a. DTE Modernization Activities (DG, AMR, etc.)
 - b. Consumers Energy Modernization Activities (EMS/SCADA, BPL, etc.)
 - c. Great Lakes Energy Cooperative AMR (TWACS)
 - d. Cloverland Cooperative AMR
 - e. Midwest Cooperative AMR
 - f. Cherryland Cooperative AMR (implementation in progress)
 - g. Indiana Michigan Power AMR
 - h. WE Energy AMR
5. MPSC Modernization Projects
 - a. Distributed Generation Interconnection Standards
 - b. Net Metering Program (5-year)
6. Grid Modernization Challenges
 - a. Stakeholder Involvement
 - b. Regulatory Interface (federal and state standards)
 - c. Human Resources & Training
 - d. Siting For Grid Expansion
 - e. Financing For Modernization Projects
7. Grid Modernization Recommendations
 - a. Michigan Collaborative
 - b. Utility Pilot Project