

## Generator Interconnection Issues

### White Paper Outline

1. Technical Issues
  - a. Utility Distribution System Operation
    - i. Planning
    - ii. Relaying & Fusing
    - iii. Real Time Operations
  - b. Interconnection Study
    - i. Major Component Design Requirements
      - (a) Data Requirements
      - (b) Isolating Transformer(s), Isolating Device, Interconnection Lines, Termination Structure
    - ii. Relaying Design Requirements
      - (a) General Considerations
        - (i) Synchronous Projects
        - (ii) Induction Projects
        - (iii) Inverter Type Projects
      - (b) Instrument Transformer Requirements
      - (c) Islanding and Direct Transfer Trip
      - (d) Reverse Power Relaying
      - (e) Automatic Reclosing
      - (f) Single-phase Sectionalizing

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- iii. Telemetry and Disturbance Monitoring Requirements
  - iv. Miscellaneous Operational Requirements
    - (a) Operating in Parallel
    - (b) Reactive Power Control
    - (c) Standby Power
    - (d) System Stability and Site Limitations
  - v. Revenue Metering Requirements
  - vi. Communication Circuits
2. Regulatory Issues
- a. Serving Retail Electric Loads
    - i. Public Act 141
      - (a) Is the entity operating the microgrid distribution system a public utility? If so, what regulations apply?
    - ii. Obligation to Serve
      - (a) Does the utility have an obligation to provide backup generation and delivery service when operating as an electrical island?
    - iii. Liability
      - (a) Does the utility tariff rules still apply when operating as an electrical island?
  - b. Selling Power Back To The Grid
    - i. Who regulates this?
    - ii. What approvals from whom are required (MPSC, FERC, other)?

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- c. Net Metering Issues
- d. Stranded Utility System Costs
  - i. Generation
  - ii. Delivery System