



Interconnection: Statutes, Rules, Standards Development, Tariffs

Interconnection Workshop

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[Statutes]

- A “law” enacted by a legislative body
 - Proposed by utilities, interest groups, public, corporate entities, or others
 - Modified only by the relevant legislative entity
- Example: Title 54 – Utah Public Utilities Statutes
 - Define what a public utility is, and how the utility should be regulated
 - Interconnection Example: Utah’s Net Metering statute (54-15-103(4))
 - “An electrical corporation may require a customer to enter into an interconnection agreement before connecting the customer generation system to the electrical corporation's facilities.”
- Title 54 Website:
 - <http://le.utah.gov/~code/TITLE54/TITLE54.htm>

[Rules]

- Guidelines developed by an authorized agency to enforce and carry out legislative statutes
 - Provide more specific guidance on definitions, required steps, procedures or actions
 - Examples: Utah Administrative Code; Code of Federal Regulations
- Administration:
 - R746, Utah Administrative Code authorizes the Utah Public Service Commission (Commission) with rulemaking authority
 - The Federal Energy Regulatory Commission (FERC) has rulemaking authority to administer federal statutes through the Code of Federal Regulations
- No rules currently exist guiding electrical interconnection under Utah Administrative Code
- Website:
 - <http://www.rules.utah.gov/publicat/code/r746/r746.htm>

[Tariffs]

- Utility-administered schedules of rates, tolls, rentals, charges, classifications, and rules
- Required by relevant regulatory body
 - Modifications require notice to the Commission and the public (refer to (54-3-2; 54-3-3))
- Some relevant examples:
 - FERC Open Access Transmission Tariff (OATT)
 - Provides for open, non-discriminatory access on a utility's transmission and distribution lines
 - Qualifying Facilities (QF) Procedures (RMP Electric Service Schedule #38)
 - Applies to owners of cogeneration or small power production facilities desiring to make sales to the Company
 - QF interconnections must conform to OATT-specified guidelines
 - Net Metering Tariff – Electric Service Schedule 135
- Website for PacifiCorp Electricity Tariffs, including rules and schedules:
 - <http://www.pacificorp.com/Article/Article2599.html>

Standards

- “A universally agreed-upon set of guidelines for interoperability.” (Wikipedia)
 - Administered by an organization that develops, promulgates, interprets, revises, and maintains standards
- Examples:
 - Institute of Electrical and Electronics Engineers (IEEE)
 - Mission: To promote the process of developing and applying knowledge about electronic and information technologies

[Standards]

- How standards are developed?
 - IEEE Example
 - IEEE Standards Board – Provides oversight for the IEEE standards development process
 - Contains Six Committees:
 - New Standards
 - Standards Review
 - Procedures
 - Patent
 - Audit
 - Coordinating

Standards

- IEEE Standards Development Process:
 1. A standard is identified and proposed
 2. An IEEE-approved organization agrees to sponsor the proposal
 3. The proposal is submitted to the New Standards Committee for review
 4. If approved, the proposal is submitted to a standards development working group of individuals affected by, or interested in the proposed standard
 5. The working group formally drafts the standard under IEEE Guidelines
 6. The draft is submitted for balloting approval; IEEE Standards Department invites individuals expressing interest to vote; Successful proposals must have the approval of at least 75% of the responding voters
 7. Successful proposals are submitted to the Standards Board Review Committee for review
 8. If approved, the standard is submitted to the IEEE Standards Board for final approval

Standards

- IEEE Standard 1547: Guidelines for Interconnecting Distributed Resources With Electric Power Systems
 - (see http://grouper.ieee.org/groups/scc21/dr_shared/)
- 2005 Energy Policy Act: Interconnection services shall be offered based upon IEEE Standard 1547
 - IEEE 1547.1: Standard for Conformance Tests Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems
 - IEEE 1547.2: Draft Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems
 - IEEE 1547.3: Guide For Monitoring, Information Exchange, and Control of Distributed Resources Interconnected with Electric Power Systems
 - IEEE 1547.4: Draft Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems
 - IEEE 1547.5: Draft Technical Guidelines for Interconnection of Electric Power Sources Greater than 10 MVA to the Power Transmission Grid
 - IEEE 1547.6: Draft Recommended Practice for Interconnecting Distributed Resources with Electric Power Systems Distribution Secondary Networks

[Standards]

■ Other Electrical Standards Organizations

- NESC: National Electrical Safety Code – guidelines for protecting individuals during the installation, operation, or maintenance of electric sources
- NEC: National Electrical Code – standard for safe installation of electrical wiring and equipment
- ANSI: American National Standards Institute - oversees the creation, promulgation and use of norms and guidelines for a wide range of economic activities