

UWIG Technical Workshop

Wind Integration: Focus on the Northwest

Update IEEE 1547 and FERC's
Interconnection Rules

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IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems 2003 -- IEEE 1547

◆ Standard Now Final

- Available for a fee: <http://shop.ieee.org/store>

◆ Standard Covers:

- “minimum” technical specifications for, and testing of, the interconnection
- requirements relevant to the performance, operation, testing, safety considerations, and maintenance of the interconnection
- Applicable to all DR technologies, with aggregate capacity of 10 MVA or less at the point of common coupling, interconnected to electric power systems at typical primary and/or secondary distribution voltages

IEEE 1547

- ◆ Will be looked to by State and Federal Regulators

- ◆ Limits of the Standard
 - Not really intended for network systems
 - Does not address system impacts
 - Necessary for all interconnections, not sufficient for some

IEEE 1547 – Next Steps

- ◆ 1547.1 – Standard for Conformance Tests Procedures
- ◆ 1547.2 – Application Guide for IEEE 1547
 - Based on NRECA Application Guide:
<http://www.nreca.org/nreca/Policy/Regulatory/DGToolkit/DGApplicationGuide-Final.pdf>
- ◆ 1547.3 – Guide for Monitoring, Information Exchange, and Control
- ◆ Future Projects:
 - Islanding, System Impacts, Networks

FERC Interconnection

Divided between:

- ◆ Final Rule on Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 104 FERC 61,103 (July 24, 2003)
- ◆ Notice of Proposed Rulemaking on Standardization of **Small** Generator Interconnection Agreements and Procedures, 104 FERC 61,104 (July 24, 2003)

Large Generator Interconnection Rule

◆ Status

- Final Rule becomes effective January 20, 2004.
- Commission promises to address pending Requests for Rehearing prior to effective date

Large Generator Interconnection Rule

◆ Application:

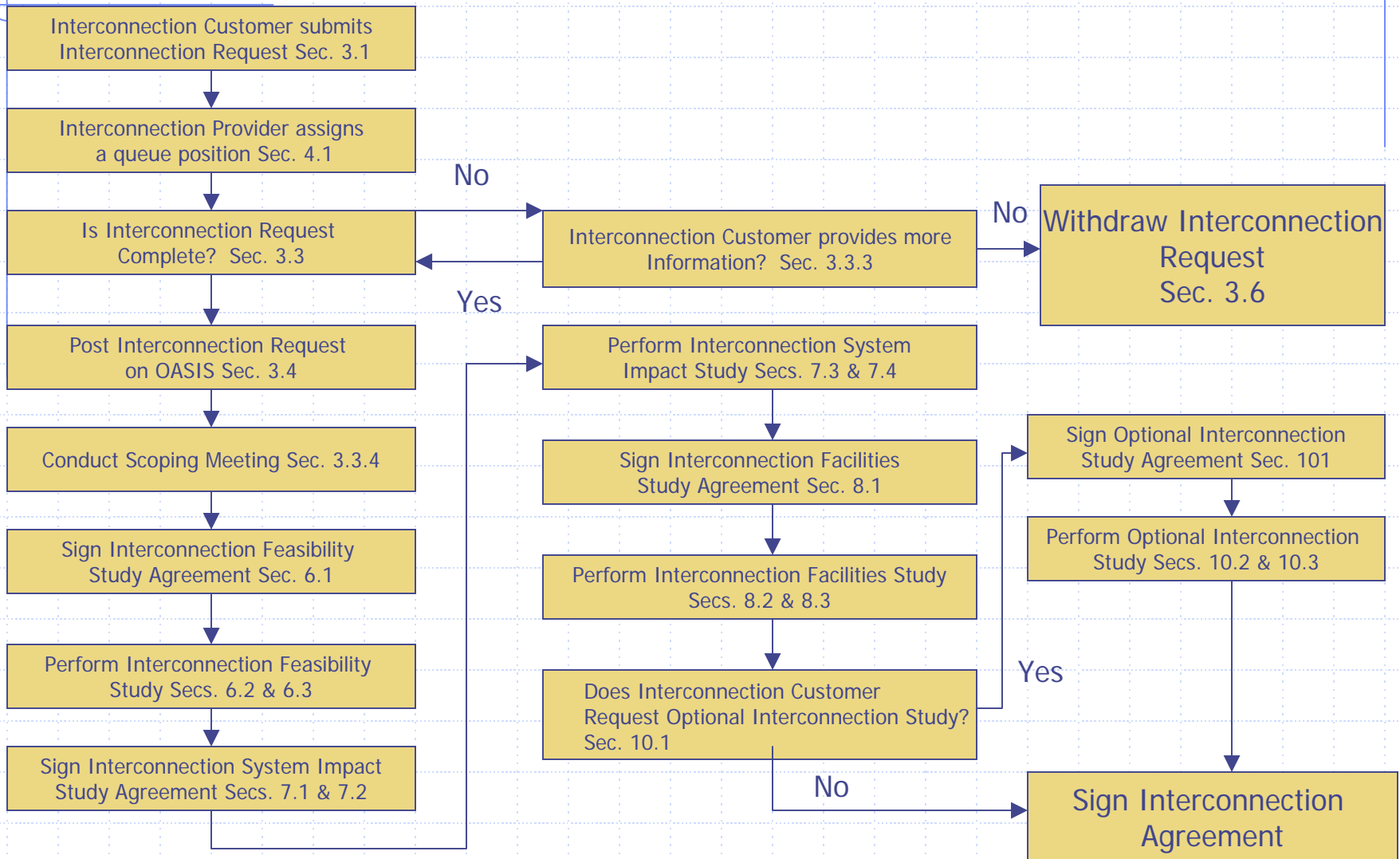
- Interconnection of generators larger than 20 MW in size to transmission or distribution facilities subject to an OATT
- Not clear whether it applies to a wind farm that exceeds 20 MW if each generator or all generation behind an individual meter does not.

Large Generator Interconnection Rule

◆ Key Procedural Issues Points:

- Does not require retroactive changes to existing interconnection agreements
- Public utilities must file modified OATTs prior to effective date.
- Not clear whether reciprocity tariffs need to be updated immediately
- Modified OATT must include:
 - ◆ Standard Large Generator (LG) Interconnection Application
 - ◆ Standard LG Interconnection Procedures
 - ◆ Standard LG Interconnection Agreement
 - ◆ New Interconnection Services

LG Interconnection Process



Large Generator Interconnection Rule

◆ Key Substantive Issues

- New Transmission Service: NRIS
- Cost Allocation for New Transmission Upgrades
- Queue
- Time Limits and Liquidated Damages
- Jurisdiction

Small Generator Interconnection NOPR

◆ Status

- Outgrowth from broader interconnection rulemaking
- ANOPR issued 8/26/02
- Extensive stakeholder negotiations doomed by unbalanced negotiating positions
- NOPR issued 7/24/03
- Comments Filed 10/3/03

Small Generator Interconnection NOPR

◆ Application:

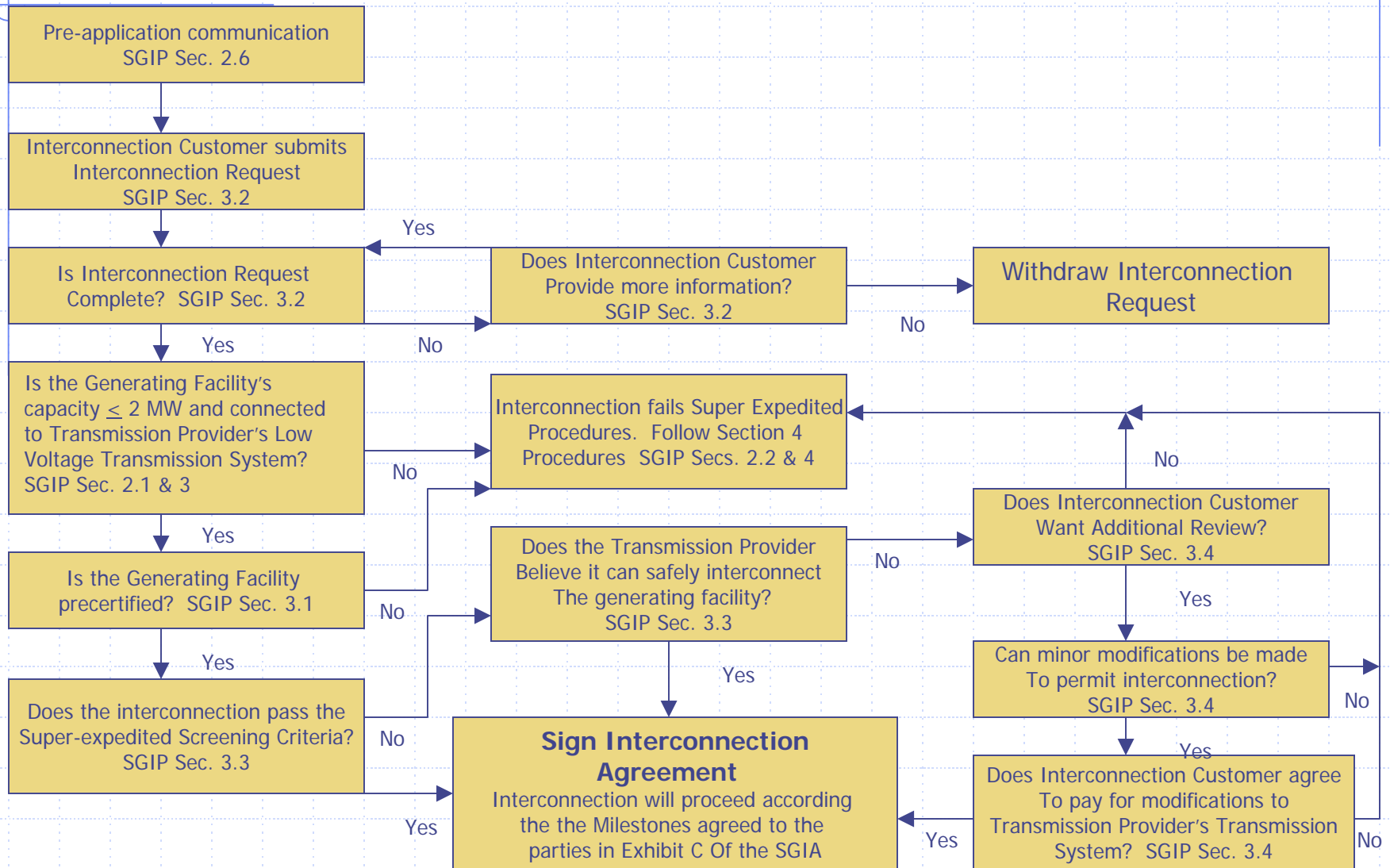
- Interconnection of generators of 20 MW and smaller to transmission or distribution facilities subject to an OATT
- Covers all small wind
- May cover all wind if threshold based on individual generators or individual points of interconnection

Small Generator Interconnection NOPR

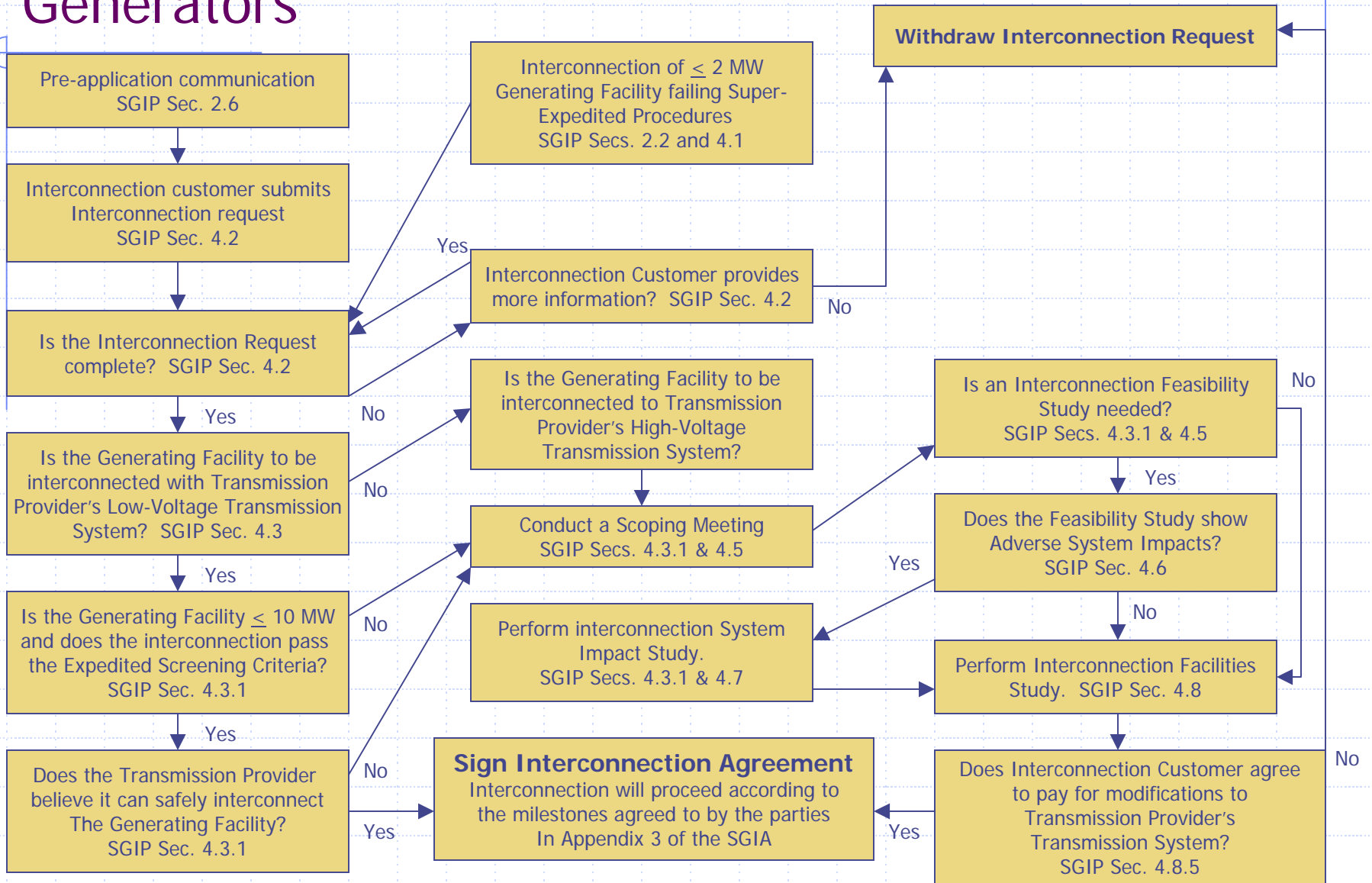
◆ Key Procedural Issues Points:

- Public utilities would need to file modified OATTs prior to effective date.
- Not clear whether reciprocity tariffs would need to be updated immediately
- Modified OATT must include:
 - ◆ New Interconnection Services
 - ◆ Small Generator (SG) interconnection agreement
 - ◆ Small Generator (SG) interconnection procedures

Super Expedited Procedures for Generators ≤ 2 MW to a Low-Voltage System



Expedited Procedures for Other Qualifying Generators



Small Generator Interconnection NOPR

◆ Key Substantive Issues

- New Transmission Services
- Cost allocation for studies and new transmission upgrades
- Queue(s?)
- Time Limits
- Dispute Resolution: process and legal burden of proof
- Jurisdiction