



Generator Interconnections

Oregon – Small to Large Scale Wind Developments
Fall 2008

Types of Customer Owned Generation

Type	Applies to	Regulation
Net Metering	Customer does not want to sell power, only wants generation to offset their electric use. Less than 25 kW if residential or 2000 kW if commercial.	Oregon Public Utility Commission
Distribution Interconnection	Generators that want to connect to a distribution facility and wants to sell their power to PacifiCorp or others. Typically 1 to 10 MW.	Oregon Public Utility Commission
Transmission Small Generator Interconnection	Generators \leq 20 MW that want to connect to a transmission facility and wants to sell their power to PacifiCorp or others.	FERC Order 2006
Transmission Large Generator Interconnection	Generators $>$ 20 MW that want to connect to a transmission facility and wants to sell their power to PacifiCorp or others.	FERC Order 2003

Distribution and Transmission Generator Interconnections

- Not net metering - customer is selling power to PacifiCorp or other entity
- Managed by PacifiCorp Transmission Services
 - Laura Raypush for distribution level
 - Raul Huitron for transmission level

Generator Interconnection Jurisdiction

- Distribution – state jurisdictional – Oregon is developing regulations
- Transmission - FERC jurisdictional unless a qualified facility (QF)
- Either transmission or distribution may be qualified facilities if they meet certain federal criteria (PURPA) and sell to commercial and trading

Qualified Facility (QF)

A cogeneration facility or small power production facility (<80 MW) that qualifies under PURPA, sells electricity to the host utility, and is not owned by an entity primarily engaged in generation.

Generator Interconnection Policy

- All generator interconnection requests are managed through the interconnection queue
 - Generator interconnections (transmission - large and small) - MUST be processed according to the OATT – FERC jurisdictional
 - Generator interconnections (qualified facilities and distribution) - Absent a state standard, will be processed according to the OATT study procedure for consistency and efficiency

Purpose of Interconnection Queues

- Treat all customers equally
 - Requests managed in the order received
 - Common interconnection requirements
- Maintain safety of the system
- Maintain reliability of the system
- Ensure that cost causers pay
- Comply with regulations!

Process

1. Application/validation
2. Scoping meeting
3. Feasibility study (optional)
4. System impact study
5. Facility study
6. Interconnection agreement
7. Engineering, procurement and construction

Timing – Steps 1-6 require up to one year or more
Step 7 requires 6 to 18 months

Small Generator Study

- FERC Order 2006 applies to generators of less than 20 MW:
 - ≤ 10 kW inverter process
 - ≤ 2 MW fast track process - customer's facility meets codes, standards and certification requirements of attachments 3 and 4 to Order 2006
 - Study process - all others

Cost Recovery

- Customer pay actual study costs
- Distribution interconnections pay all costs of modifications required for interconnection and delivery
- Transmission interconnections pay all costs of modifications (monthly invoices during construction) but receive transmission credits for network upgrades
- QFs pay all costs of modifications required for interconnection and delivery

Setting Expectations

- Interconnection studies require up to a year
- Construction begins after interconnection agreements are signed and can require over a year to complete
- Interconnection customers should contact transmission services for interconnection timelines prior to committing to power purchase agreement delivery dates

Customer Options to Shorten Timelines

- Skip feasibility study
- Execute engineering and procurement agreements
- Allow customer to build company owned facilities (to our standards with our approved contractors) – customer assumes schedule risk
- Allow customer to procure long lead materials such as breakers and metering CTs and PTs
- Return agreements and data promptly

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Questions?

