

GENERATION INTERCONNECTION

A SIMPLIFIED REVISION

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FEDERAL JURISDICTION

- Generation interconnection federally controlled
 - Transmission lines are arteries of interstate commerce
 - State regulates sub-transmission and distribution elements of the system
- Interconnection governed by FERC Open Access Transmission Tariff (OATT); Orders 888, 889, and 890
 - Rules are detailed
 - Failure to comply subjects violator to hefty fines

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INTERCONNECTION BASICS

- Interconnection is non-discriminatory
 - All types of generation treated the same
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- Two queues and two evaluations
 - Facilities and improvements to interconnect
 - Transmission service to move power on the system, available transmission capacity (ATC)
- Queue position determines priority and drives cost of interconnecting generation

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GENERATION INTERCONNECTION QUEUE

- Specify type of generation, point of interconnection, project size, on-line date
- Studies examine physical impacts to the system
 - Reliability standards
 - Physical limitations of equipment
- Studies determine how interconnection is designed and what system improvements must be constructed
 - Generator responsible to pay for all equipment and upgrades
 - Costs recovered through credits after generation goes on-line

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INTERCONNECTION STUDIES

- Consider steady-state power flows, post-transient power flows, transient stability, fault duty (short circuiting), and reactive margin
- Stand alone and co-existing assessments
 - Co-existing includes all senior queued projects and mitigations
 - Appropriate future time chosen
- Generator assumed to produce at capacity
- Most constraining conditions used, e.g., light autumn or heavy summer adjusted to future time
- **NO GUARANTEE OF TRANSMISSION SERVICE**

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TRANSMISSION SERVICE QUEUE

- Specify transmission service request, e.g., point-to-point, network
- Studies determine "available transmission capacity" (ATC)
 - Implications to system reliability
 - Existing contractual/ownership commitments
- Queue position determines priority
- Network customers can designate network resources for network transmission service
 - Network customers able to use umbrella network transmission service agreement to move power
 - Network resource required to meet higher interconnection standards, i.e., withstand N-1 conditions

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WE HAVE TO LIVE WITH IT

- No opportunity for legislative change
- Important set of regulations to understand and monitor
 - Influences what is economically feasible
 - May limit scope and impact of state policies
- Major cost factor for any new proposed generation; position in the queue will influence what can be built
- More information available at
 - <http://www.oatias.com/NWMT/index.html>
 - <http://www.ferc.gov/industries/electric/indus-act/oatt-reform.asp>

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