



## Wind Energy and Government Regulation

**Q: *What role does my county or municipal government play in the approval of wind projects?***

A: Very little, but the degree to which a city council or county commission may set and enforcement requirements for wind developers depends on your location. West Virginia, for example, has only recently experimented with limited home rule (expanded autonomy for county and city governments) in select areas, and thus local government presently has very little say in whether or where a wind facility will be constructed, at least absent the adoption of a countywide comprehensive plan and zoning by the responsible county commission. Maryland's home rule provisions, by comparison, afford greater authority to county commissions to enact ordinances restricting the height of structures, setting bonding requirements, and the like.

**Q: *What authority does my state have over industrial wind facilities?***

A: Again, depending on your location, your state public service commission or similar state agency may have some limited power afforded by statute over siting or construction. Pennsylvania's Public Utility Commission has essentially no authority over wind energy siting, while Maryland's Public Service Commission engages in a very limited review of any proposed wind project with a total generating capacity of less than 70 megawatts. As explained below, state governments have no authority to regulate the rates charged for the wholesale power sold by independent wind projects, as the scope of state rate jurisdiction is limited to retail sales, such as those reflected on your own electric bill at home.

**Q: *How does the federal government fit into the regulatory scheme?***

A: Federal authority over the electric utility industry finds its origin in the **Federal Power Act ("FPA")**, which was initially enacted in 1930 and was subsequently amended on several occasions. The FPA applies to:

- Transmission of electric energy in interstate commerce (essentially, over all lines operating at 100 kilovolts or greater)
- Sale of electric energy at wholesale in interstate commerce
- Facilities for such transmission or sales

The FPA defines "**public utility**" as any person or entity owning or operating facilities for the interstate transmission or sale at wholesale of electric energy. Given that the operation of generating units inevitably impacts the transmission network, the reach of the FPA has been extended in many respects to regulate generation. Most major players in the electricity business, including conventional electric utilities and the owners or operators of practically every utility-scale wind facility in the U.S., are subject to the

regulatory processes grounded in the FPA. Under the FPA, rates charged by public utilities must be “just and reasonable” and rates and terms of service that are “unduly discriminatory or preferential” are prohibited.

**Q: Which federal agency is involved in these regulatory processes?**

A: The **Federal Energy Regulatory Commission (“FERC”)**, an independent arm of the **U.S. Department of Energy (“DOE”)**, administers the applicable provisions of the FPA, most notably via issuance of landmark orders in response to amendments to the FPA enacted by Congress. FERC is headed by a panel of up to five commissioners appointed by the President to five-year terms.

**Q: What major changes in the law and FERC regulation have impacted how industrial wind energy projects are developed or operated?**

A: Below is a summary of major federal legislation and FERC orders over the last twenty years which concern industrial wind energy directly or indirectly.

- **Energy Policy Act of 1992**
  - Created a new category of electric power producers known as **exempt wholesale generators (“EWGs”)**, exempt in that they would not be subject to federal restrictions applicable to public utility holding companies and certain Securities and Exchange Commission oversight
  - Required electric utilities to allow other entities, such as EWGs, to have open access to their transmission systems
  - Implemented the **Production Tax Credit (“PTC”)** for wind and other renewables for an initial term of 80 months. \*\* The PTC, which is indexed to inflation, presently affords parties a tax credit in the amount of roughly 2.2 cents per kilowatt-hour of electricity generated.
  
- **FERC Order No. 888 (1996)**
  - Ordered “functional unbundling” of wholesale generation and transmission services in the interest of eliminating any advantage held by owners of transmission lines to sell the electricity produced by their affiliates involved in generation, vis-à-vis generators such as wind EWGs, which do not own or control access to transmission lines.
  
- **FERC Order No. 889 (1996)**
  - Required utilities owning transmission facilities to create or participate in an **Open Access Same-Time Information System (“OASIS”)**, a computer-based network providing parties who wish to transmit electricity over those lines (such as a wind generator) to obtain information about available transmission capacity and prices.
  - Mandated standards of conduct to separate transmission and wholesale power merchant functions of public utility companies, thereby creating a “Chinese wall” to further the ends of “functional unbundling” required by Order No. 888.

- **FERC Order No. 2000 (1999)**
  - Laid the groundwork for requiring electric utilities to submit filings regarding participation in **Regional Transmission Organizations (“RTOs”)**, “to promote efficiency in wholesale electric markets and to ensure that electricity consumers pay the lowest possible price for reliable service.”

*\*\* See AHA’s PJM Fact Sheet for information on the RTO responsible for the grid covering the Allegheny Highlands and much of the surrounding region.*
  - Set forth minimum **characteristics** of an RTO
    - *Independence* – must be independent of market participants
    - *Scope and Regional Configuration* – sufficient to support efficient and nondiscriminatory power markets
    - *Operational Authority* – over all transmission facilities transferred to the RTO
    - *Short-term Reliability* – exclusive authority for scheduling the transmission of electricity over lines within the RTO, as well as the right to order “redispatch” of any generator within the RTO if necessary to maintain reliable operation
  - Set forth minimum **functions** of an RTO
    - *Tariff Administration and Design* – sole authority on making decisions on the provision of transmission service, including decisions relating to new interconnections (of generators, including wind facilities)
    - *Congestion Management* – ensure development and operation of price signals to manage transmission congestion (the inability of all desired wholesale transactions to take place due to the lines being heavily loaded)
    - *Parallel Path Flow* – develop procedures to address unscheduled transmission flows on adjoining transmission systems.
    - **Ancillary Services** – develop adequate arrangements for the provision of ancillary services to all transmission customers that request service over the facilities under RTO control.
    - *OASIS and Total Transmission Capability (“TTC”) / Available Transmission Capability (“ATC”)* – must maintain the OASIS information system and calculate ATC based on data developed totally or partially by the RTO (\*\* “Capacity” has since been substituted for “Capability” in these terms)
    - *Market Monitoring* – evaluate conduct of market participants and identify opportunities to correct market design flaws.
    - *Planning and Expansion* – responsible for transmission planning and expansion in its region
    - *Interregional Coordination* – to maintain a reliable bulk transmission system and competitive markets

- **FERC Order Nos. 2003 and 2006**
  - Standardization of Generator Interconnection Agreements and Procedures
  - Created **Large Generator Interconnection Procedures (“LGIP”)** and standard **Large Generator Interconnection Agreement (“LGIA”)** governing the interconnection of generators with a peak capacity of 20 megawatts or greater; SGIP and SGIA for those < 20 megawatts.
  - A generator requesting interconnection moves through a queue in which its proposed project is evaluated with a progressively greater degree of precision for its impact on the transmission grid
    - Request for Interconnection
    - Feasibility Study
    - **System Impact Study (“SIS”)**
    - Facility Study
    - **Interconnection Service Agreement (“ISA”)**
  - Wind facilities exempted from certain requirements
  
- **FERC Order No. 661 – Interconnection for Wind Energy (2005)**
  - Low-voltage ride through (“LVRT”) standard – if SIS indicates necessary, wind unit required to stay online (putting load on the grid) in the event of a sudden drop in system voltage resulting from a fault (an abnormal flow of electric current)
  - Power factor design criteria – if SIS indicates necessary, wind unit must keep voltage and current very near to “in phase” (essentially, lined up). \*\* **Power factor** is the ratio between **real power** and **apparent power**.
  - Supervisory Control and Data Acquisition (“SCADA”) – wind units must have ability to receive instructions from these automated computer systems that enable rapid communication between transmission operators and generators, as well as rapid responses by generators to such communications.
  - Due to the sprawling and variable site work in the early stages of development of a wind project, developers allowed to satisfy requirements of request for interconnection by providing a set of preliminary electric design specs depicting the wind plant as a single equivalent generator (even though wind facility is actually a string of separate generators)
  
- **Energy Policy Act of 2005**
  - Several new sections added to the FPA concerning
    - Electric reliability
    - Siting of interstate electric transmission facilities
    - Serving “native load” (the customers an electric utility is required to serve, usually via retail sales) within an interstate transmission grid
    - Market transparency and manipulation (mainly in the wake of Enron wreaking havoc in California’s electric system)
  - Extended PTC for 24 months
  - Section 215 authorizes FERC to

- Certify a national **electric reliability organization (“ERO”)**
  - Approve reliability standards proposed by the ERO
  - Certify regional reliability organizations
  - Enforce reliability standards
    - \*\* FERC designated the **North American Electric Reliability Corporation (“NERC”)** as the ERO in 2006; ReliabilityFirst Corporation was assigned responsibility as the regional reliability organization for a region covering West Virginia, Pennsylvania, and much of the surrounding highlands
- Section 216 authorizes the Secretary of Energy to designate **National Interest Electric Transmission Corridors (“NIETC”)** in areas determined to be experiencing transmission constraints
  - Allows FERC to issue one or more permits for construction or modification of transmission facilities in a NIETC if state commission “withholds approval for more than one year”
  - Successful permit applicant has power of eminent domain
  - DOE designated the Mid-Atlantic Area National Corridor (including much of West Virginia, Pennsylvania, Maryland and Northern Virginia) and the Southwest Area National Corridor, but federal court nullified those designations because DOE failed to consult with the affected states and conform to other procedural requirements.
- **FERC Order No. 1000 (2011) – Transmission Planning and Cost Allocation**
  - Each transmission provider must participate in a regional transmission planning process (as described in FERC Order No. 2000)
  - Each transmission provider must amend its access tariff to describe procedures that provide for the consideration of transmission needs driven by **public policy requirements (such as state renewable portfolio standards encouraging wind energy development)** in transmission planning processes
  - Improves coordination between neighboring transmission planning regions for new interregional transmission facilities