

Frequently Asked Energy Questions*

***These questions were generated from the Legislative Energy Basics program in March of 2005. The answers are by the instructors from that class and are intended to be position neutral. If you have any further questions after reading this document, please feel free to contact the Institute Director at (608) 441-7328.**

Transmission Line Siting

Q. Why does northern Wisconsin need more transmission lines, given that the demand for electricity is elsewhere?

A. Transmission upgrades are being made over most of the State (see <http://tinyurl.com/4vdk7>). The demand for electricity is growing throughout Wisconsin. The transmission systems, in the central and northern portion of the State, have the weakest links to other areas and are being upgraded, such as by adding new lines. New transmission facilities in the north will improve our ability to keep Wisconsin's system reliable even if unexpected outages of generation and transmission lines occur. Some of these improvements will also increase Wisconsin's access to generation resources to the west.

Q. Why can't new transmission lines be sited in existing public corridors (highways, etc.)?

A. Some transmission can be placed on the edge of highway corridors. Typically the lines cannot be placed in the highway's Rights of Way to maintain a clear zone from vehicles hitting the poles. Conducting maintenance from the road would cause traffic congestion and possibly wrecks. Also the maintenance of bridge and other road infrastructures can be problematic under high voltage lines. Increasing the capacity of existing lines is equivalent to using existing Right of Way.

Q. Which factors determine where a new high voltage transmission line should be sited?

A. There are many factors that will determine where a transmission line will be sited. Some but not all include: (1) Location of electrical problems; (2) The physical characteristics of the line to be built – height, width, voltage, etc.; (3) Present and future generation locations; (4) Present and future transmission lines; (5) Environmental considerations in the area – wetlands, rivers, forests, habitat, housing, roads, airports, etc.; (6) Other area transmission system's electrical characteristics

Transmission Line Approval

Q. What approvals are necessary for major new lines, like Arrowhead-Weston or the proposed lines in Dane County?

A. The major approval is from the Public Service Commission for a Certificate of Public Convenience and Necessity (CPCN). The DNR will issue permits as needed for construction and operation. The transmission may need some local permits depending on specific locations of the facilities.

Transmission Interfaces and Congestion: Implications

Q. What are the implications of congestion for pricing of electricity?

A. Congestion increases costs and can adversely affect the ability of the system to respond to unexpected generation or transmission outages. See the "National Transmission Grid Study" at <http://www.eh.doe.gov/ntgs/reports.html#reports> for more details. Congested facilities are also referred to as "bottlenecks." Generally speaking, congestion will raise costs and the price of a system's energy. In a system with nodal prices (or local marginal prices), the higher prices will be in the congested part of the system, although the effect of the higher prices may be mitigated by existing contracts or by Financial Transmission Rights.

Not all congestion should be eliminated with new transmission system reinforcements. If congestion only lasts a few hours in the year, it may be cheaper to re-dispatch the generation around the problem or use demand-side resource options (such as direct load control, pricing incentives, etc.) than to build new transmission facilities.

Q. What are transmission "interfaces" and "congestion?"

A. An "interface" can be any electrical connection from one set of transmission lines and generators to another set of lines and generators. Often interfaces are thought of geographically: one service territory to another; one state to another; one Regional Transmission Organization to another; etc. "Congestion" in a transmission system occurs when one or more transmission facilities is operating at (or above) a limit. As a result, the least cost generation cannot be dispatched in a completely unconstrained manner to serve load. Alternatively, "Transmission Line Relief" may be ordered by a regional reliability coordinator to require transmission users to reduce otherwise economical electricity transactions.

Separation of Generation from Transmission

Q. Which Wisconsin statute or code sets rules on separating the energy generator from the transmission company?

A. s. 196.485, relates to transmission system requirements. s. 196.485 (3m) relates to the "transmission company," now known as the American Transmission Company. s. 196.485 (3m) (5), specifies the conditions for public utility affiliates (public utilities within a public utility holding company) to contribute and transfer the operational control of their transmission facilities to the transmission company and sets forth the exception to the public utility holding company asset cap for holding companies whose public utility affiliates comply with these conditions. s. 196.485 (3m) (6) specifies the conditions for other public utilities and electric coops to transfer their transmission facilities to the transmission company. s. 196.795 (6m) contains the "asset cap" in the public utility holding company law (s. 196.795). s. 196.795 (6m) (e) specifies how the asset cap is relaxed for qualifying public utility holding companies are computed.

Transmission Ownership and Control

Q. Who owns and who controls the transmission system in Wisconsin?

A. There are three companies that own and operate the electric transmission system in Wisconsin. American Transmission Companies has the eastern 2/3 of the State (see http://www.atcllc.com/about_servicearea.shtml). Dairyland Power Cooperative has the southwestern edge of the State. Xcel has transmission in the west and northwest portion of the State

Blackout of 2003

Q. What lessons are there from recent blackouts for Wisconsin's transmission system?

A. Wisconsin's transmission system responded appropriately during the recent Northeast Blackout. We all have learned that it is important for all interconnected systems to follow the reliability standards that the National Electric Reliability Council has been publishing. The Public Service Commission (PSC) issued its final report on the East Coast Blackout in June 2004. <http://psc.wi.gov/electric/newsinfo/lakeErieRpt.htm> The PSC report echoed the conclusion of federal and North American Electric Reliability Council reports on the East Coast Blackout by recommending that clear and understandable utility reliability standards should be mandatory.

ATC (American Transmission Company)

Q. Who regulates the American Transmission Company?

A. The Federal Energy Regulatory Commission for rates and tariffs. The Public Service Commission of Wisconsin for siting.

Q. Why was the American Transmission Company formed?

A. Wisconsin Act 9 was enacted by the legislature in 1999 to promote non-discriminatory access to transmission facilities within the State of Wisconsin. Utilities with service areas in the State of Wisconsin were encouraged to transfer ownership and operation of certain transmission assets to an independent transmission company (i.e., ATC) in exchange for equity interests in the new company. ATC is an independent transmission operator within the new Regional Transmission Organization structure (as provided by the Midwest Independent Transmission Operator or MISO) to provide for improved use of the power system in a reliable manner. It also helps provide equal access to new power for many of the transmission dependent utilities, and coordinates planning, construction and operation of new transmission facilities. Finally, ATC's formation facilitated compliance with FERC orders 888 and 2000 that required non-discriminatory access to transmission services and encouraged formation of organizations that facilitated the efficient provision of transmission services on a regional basis.

Hydroelectric

Q. How did the FERC get control over hydroelectric facilities in the state?

A. The federal government became involved in the regulation of hydroelectric power to maximize the use of rivers, a national resource and to assist in the production of additional power that was required for WWI. Hydroelectric power regulation was the first work undertaken by the Federal Power Commission, the Commission's predecessor, after Congress passed the Federal Water Power Act of 1920.

Subsequent statutes under which the Commission regulates non-federal hydroelectric power projects that affect navigable waters, occupy U.S. lands, use water or water power at a government dam, or affect the interests of interstate commerce include the FPA (Federal Power Act), the PURPA (Public Utility Regulatory Policies Act), the Electric Consumers Protection Act of 1986, and the EPA (Energy Policy Act of 1992).

Prior to 1920, hydropower developers needed a special act of Congress to build and operate a project on navigable streams of Federal lands. In 1920, in response to increased demand for electricity during World War I, Congress enacted the Federal Water Power Act which established the Federal Power Commission. The FPC was composed of the Secretaries of War, Department of Agriculture, and the Department of the Interior and was responsible for licensing non-Federal hydropower projects that affected navigable waters, occupied Federal lands, used water or water power at a government dam, or affected the interests of interstate commerce. The Act also required the FPC to license only those projects that in its judgment were "...best adapted to a comprehensive plan for improving or developing a waterway or waterways.... ." In addition, the FWPA included provisions for protecting the public's interest in the use of a national resource (i.e., rivers). In 1930, the FPC was reorganized into an independent Commission composed of five members appointed by the President with the advice and consent of the Senate.

The Federal Water Power Act provides for federal regulation and development of water power and resources, authorizing the Federal Energy Regulatory Commission (FERC) to issue licenses for hydroelectric project works, including dams, reservoirs and other works to develop and improve navigation and to develop and use power. The Act also authorizes FERC to regulate the transmission and sale of electric energy in interstate commerce.

The Department of Energy provides an additional explanation for federal regulation and ownership of hydroelectric facilities. "During the 1920s and the early years of the Depression, the public became disenchanted with privately owned power and began to support the idea of Government ownership of utilities, particularly hydroelectric power facilities. This disenchantment was chiefly the result of abuses heaped on utilities, and ultimately on their customers, by holding companies, causing the price of electricity to increase. Government-owned hydroelectric power facilities could produce power cheaply and sell it to publicly owned utilities for distribution. This concept was a controversial political issue at the time, with strong arguments on both sides. Many believed that private power did not employ fair operating practices and, therefore, Government-owned power was wholeheartedly supported. Others were opposed to the Government entering the electricity business because they believed that the Government was exploiting hydroelectric sites. Nevertheless, the Federal Government did become heavily involved through the construction and ownership of several massive hydroelectric facilities." [1]

[1] This excerpt is from the Energy Information Administration of the US Department of Energy. The link to the entire article can be found at:
http://www.eia.doe.gov/cneaf/electricity/chg_stru_update/chapter2.html

Electricity Storage

Q. Can you store electricity in times of low usage?

A. Yes, but most techniques need too much electricity themselves to make the process effective or useful. Energy storage technologies include: • Pumped hydropower • Compressed air energy storage (CAES) • Batteries • Flywheels • Superconducting magnetic energy storage (SMES) • Supercapacitors. The only major form of energy storage for the bulk power system today is pumped storage. Pumped storage takes water from a lower reservoir and pumps it into an upper reservoir during off-peak production time. The water is then released from the upper reservoir to generate electricity during peak demand hours. There is no pumped storage in Wisconsin. To see a picture of a pumped storage facility, go to <http://www.massenergy.com/Hydro.html>

Open Meeting Laws

Q. What are the pros and cons of allowing Commissioners to meet and discuss issues outside of a noticed open meeting?

A. The pros of requiring that all meetings be conducted in open meeting are so that parties and citizens understand the basis and rationale for government's decisions and that those decisions are made public. The downsides to the law as it is written is to prohibit commissioners from sharing insights and information and from discussing complicated issues except in open meetings. There are some who feel this process stifles frank and open discussion regarding very complex issues and does not facilitate good public policy making. A recent letter to Congress from FCC Chairman Michael Powell (R) and Commissioner Michael Copps (D) recommends that Congress change this requirement at the federal level. A copy of the letter which provides the rationale for that recommendation can be found at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-256655A1.pdf

Holding companies

Q. What is a holding company?

A. The technical definition is: "A company whose principal assets are the securities it owns in companies that actually provide goods or services. A holding company enables one corporation and its directors to control several companies by holding a large stake in the companies."

Holding companies

Q. Why would a utility create a holding company?

A. To provide more financial flexibility when financing things like large power plants and also to diversify into non-utility industries in the advent of retail electric competition.

Court involvement

Q. Are the courts getting more involved than they have historically?

A. The involvement of the courts is dependent on the action of the parties involved in the issues. The courts do not get involved unless a party decides to litigate and brings a case before the court. It is fairly typical for parties to challenge decisions under new laws and acts until there is a base of legal precedent interpreting the laws. Court cases are also more prevalent when the stakes are very high for one or both parties. As a result of new laws passed by the Wisconsin legislature and the view by the parties that the stakes are significant we see a significant number of court cases.

Q. Should the legislature do something about these cases?

A. The ability to challenge an agency decision in court is built into our system of justice. This provides an opportunity for parties and citizens to ensure that agencies are following the laws as established by the legislative branch. The courts have been established as one of the three separate and distinct branches of state and federal government. The other two are the legislative and executive branches. The courts are responsible for protecting the rights and liberties guaranteed by the state and federal Constitution. The courts' job is to interpret and apply the law to resolve disputes. The courts are not supposed to make the law or legislate from the bench, that role has been given to the Legislature and Congress.

If a party believes that the court has exceeded its responsibility and authority or erred in a decision the party has the ability to appeal that decision to a higher court.