THE EFFECT OF PRIVATE WIRE LAWS ON DEVELOPMENT OF COMBINED HEAT AND POWER FACILITIES

Pursuant to Section 1308 of
The Energy Independence and Security Act of 2007

January 12, 2009

Section 1308 of the Energy Independence and Security Act of 2007 ("EISA 2007") directed the Secretary of Energy, in consultation with the States, to undertake a study of the laws affecting the siting of privately-owned distribution wires on or across public rights of way and to consider the impact of those laws on the development of combined heat and power ("CHP") facilities, as well as to determine whether a change in those laws would impact utility operations, costs or reliability, or impact utility customers. The study is also to consider whether changing the laws would result in duplicative facilities and, if so, whether that would be desirable. This document has been prepared to satisfy the requirements of EISA 2007 Section 1308.

For purposes of this study "private distribution wires" refers to wires that are not owned by an electric utility and that are designed to provide electric service directly from a non-utility generator to one or more end-use customers on terms negotiated between the parties without regulatory oversight or involvement. The term "utility" or "public utility" includes investor-owned utilities as well as government-owned or cooperative utilities.[1] They are all "public" in the sense that they serve the general public in a manner similar to common carriers, with published (and, in the case of investor-owned utilities, regulated) rates.

Scope of Study

Issues included in the scope of the EISA 2007 Section 1308 study are as follows:

- Survey of laws affecting the installation of electric distribution wires on public rights of way by entities other than public utilities;
- Evaluation of impact of these laws on CHP development
- Discussion of potential impact to utilities and their customers if laws change; and
- Assessment of whether private wires would result in duplicate facilities and, discussion of the consequences of duplication.

Issues that are beyond the scope of the EISA 2007 Section 1308 study include:

- Analysis of state and local laws relating to municipal powers;
- Review of municipal ordinances;
- Other factors impacting CHP development, including permitting, costs (including interconnection and standby power tariffs), and market demand;
- Quantitative and qualitative analysis of the costs vs. the benefits of eliminating restrictions on private (i.e., non-utility) distribution wires crossing public property;
- Assessment of legal issues that might arise as a result of eliminating private wires laws;
- Pole attachment issues; and
- Potential benefits of CHP.

[1] As discussed below, regulated electric utility companies are generally owned by investors, and are often referred to as "investor-owned utilities." Utility companies may also be owned by a governmental entity or agency such as a municipality or owned by the customers they serve, as is the case with a cooperative utility. Investor-owned utilities and cooperative utilities are "private" in the sense that they are not government-owned.

Background on CHP

CHP is the generation of two or more forms of energy by a single process. The most common forms of energy CHP units produce are mechanical (often instantly converted into electricity) and thermal. The process is commonly classified by the fuel type and the prime mover. The prime mover is the central piece of equipment within the CHP system and defines how the fuel is converted to energy. Prime movers include boiler/steam turbines, combined cycle units, combustion turbines, reciprocating engines, fuel cells and microturbines. Fuels also vary from system to system. While natural gas is the dominant choice of fuel, other options include biomass, coal, oil, waste and wood.[2] The thermal energy portion of the CHP system is designed based on the desired applications, and outputs can be various combinations of steam, hot water, hot air or chilled water. Mechanical energy is also sometimes used for compression and pumping applications.

CHP is further divided into "topping" and "bottoming" cycle applications. In a "topping cycle" CHP thermal energy is recovered from the electric generation process and used to serve local thermal load (e.g., heat for a building). In a "bottoming cycle" application, the unit captures some of the heat produced in an industrial process and uses that thermal energy to generate electricity.

Nature of the Laws Affecting Distribution Wires

The laws affecting the siting of electric distribution wires fall into two major categories: state laws and constitutional provisions pursuant to which states and local governments administer public rights of way and state laws relating to utilities. Neither type of law, however, is likely to refer to "privately owned distribution wires." In practice, however, the two types of law often limit the ability of an entity other than an electric utility to site distribution wires in public rights of way.

Administration of Public Rights of Way

Administration of public right of way is a fundamental role of state and local governments. Accordingly, many state laws and ordinances affect the siting of any infrastructure – including distribution wires – in public rights of way. There is no general right to use the public right of way for private purposes. Similarly, however, there does not appear to be any general prohibition against private entities contracting with local governments to cross rights of way with a private (i.e., for non-public use) line for sewer, gas, electric, or other "utility" purpose.[3] This gives local governments an enormous amount of latitude to determine what uses will be permitted.

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[2] Data collected from EEA CHP Database, *available at* http://www.eea-inc.com/chpdata/ (last visited November 4, 2008).

[3] Indeed, it is quite common. See, e.g. Program Guide, Utility Relocation and Accommodation on Federal-Aid Highway Projects, Sixth Edition, January 2003, Prepared By: Office of Program Administration Federal Highway Administration; See also utility accommodation policies referenced in *Survey of State Utility Accommodation Manual provisions*, American Association of State Highway and Transportation Officials (AASHTO), *available at* http://cms.transportation.org/sites/rightofway/docs/OR_UtilitiesAccommodationManual.doc (last visited September 15, 2008). In the context of these manuals and policies, the term "utilities" refers to the facilities – e.g., sewer lines, electric wires, telecommunications infrastructure – not the entity installing or owning them.

Utility owned wires and facilities are commonly sited in public rights of way. The "accommodation" of infrastructure for electric, sewer, water, telecommunications, etc., is an important aspect of managing public roads and highways. It requires the public owner to ensure peaceful coexistence of varying types of facilities in limited space, often while maintaining the safety and integrity of a road and minimizing public inconvenience.

Regulation of Electric Utilities

The provision of electricity in the United States is governed by state and federal law. Federal law, in general, focuses on high-voltage interstate transmission and on the wholesale markets for electric generation. Most other issues surrounding electric service, including distribution of electricity at the local level, are governed by state law. Every state regulates electric utilities providing service within its boundaries under the banner of a state public utility law.[4] In addition, some municipalities directly own and operate the electric utilities serving their residents. These utilities, while usually exempted from state regulation, are established by local ordinance. Similarly, cooperatively owned utilities, while generally self-regulated for rate purposes, are often regulated under state law with respect to safety or service quality. These and certain other types of "public power" utilities are established pursuant to state law or local ordinance. Federally chartered utilities, while exempt from state rate regulation, may, like cooperatives, be subject to regulation as to safety or service levels.

As recently as 20 years ago, most electric service in the United States was provided by vertically integrated electric utilities owning generating, transmission, and distribution facilities and operating as regulated or public-power monopolies in designated service territories. Electric service was long considered to be a "natural monopoly," where the economies of scale were such that costs would be expected to be less than could be obtained in a competitive model.

In the mid-1990's, several states began to question the natural monopoly model with respect to generation and adopted restructuring laws that allowed customers to buy power from alternate suppliers. At one point, nearly half the states had adopted or were actively considering some form of restructuring law. However, many of these states have since repealed or suspended these laws. There are currently 15 states, [5] plus the District of Columbia, with restructuring laws in place that permit retail customers to choose their supplier [6] Two additional states that suspended their restructuring programs have some degree of retail choice. None of these restructuring efforts (including those in the states that returned to traditional utility regulation) disturbed the utilities' monopolies with respect to electric distribution. Instead, the utilities in these states were required to deliver the power, in exchange for tariffed delivery rates. Among other things, this avoided the need for retail energy suppliers to construct multiple distribution networks to reach end-use customers[7] as well as avoiding concerns about potential

[4] Nebraska is arguably the one exception to this rule: it does not "regulate" public utilities because it does not permit them. All electric service in Nebraska is provided by public power entities, which are regulated by local government officials.

[5] Oregon only permits retail choice for non-residential customers. See discussion in Section 5.1.5.

[6] http://www.eia.doe.gov/cneaf/electricity/page/restructuring/restructure_elect.html (last visited November 4, 2008).

[7] Proponents of competition and restructuring viewed "retail wheeling," as essential, since it would be impracticable and cost-prohibitive for the non-utility power sellers to build power lines to serve customers.

stranded costs relating to the wires side of the utility business.[8] It also allowed these states to continue to hold the local regulated utility accountable for universal service, public safety, and reliability. Additionally, in some states, it provided a mechanism for collection of certain non-bypassable charges (such as taxes) that had previously been assessed against the utility.

Electric distribution continues to be a monopoly service provided by utilities within designated service territories, even where states have allowed customers to choose their electric suppliers. The service territory monopoly, however, comes with a price. In exchange for monopoly rights to serve all customers within an area, electric utilities are subject to extensive regulation reaching all aspects of their operations, including not only prices (i.e., rates), but also their service levels, reliability, and safety. Regulation also encompasses siting of facilities and may include construction practices, land use issues, and mitigation of environmental impacts. Distribution utilities are also required to serve all customers in their territories, regardless of the cost of building the infrastructure to do so and regardless of the customers' ability to pay.[9] Nonetheless, some state laws recognize limited exceptions to the franchised utility's exclusive rights to provide electric distribution. In some cases states, such as California and New Jersey, permit private wires under specific circumstances.

Regardless of whether states have restructured their utility laws, they generally permit customers to generate electricity on site for their own consumption. However, the right of a generation owning customer to serve other sites or to sell "excess" electricity directly to another customer is limited. The seller may be deemed to be a "public utility" under state law. In addition, the transaction may violate the exclusive right of the franchised utility to provide the service under local or state laws.

States define "public utility" broadly. Regulation is the quid pro quo for the monopoly franchise granted to utilities within their service territories to provide electric distribution services (and, in many states, all services relating to electricity, including supplying generation). The designated utility has the exclusive right, but also the obligation to serve all customers within the service territory. A utility's service territory rights may be expressly exclusive, or the exclusivity may be implied. In either case, the result is that any entity attempting to provide distribution service within a utility's service territory may not only be considered to be a public utility – and therefore subject to the full range of regulation that would entail – but may also be violating the incumbent utility's exclusive right to provide distribution services.

In most states, cities and municipalities enter into franchise agreements granting the local utility rights to use streets and rights of way. These agreements are usually long-term, and vary from state to state, and often from town to town. These franchise agreements may or may not state that they are exclusive, and they often entail the provision of services (such as street lighting) as part of the consideration. Some states clearly recognize the possibility that a private party might locate a distribution line in a public

[8] "Stranded costs" refer to those utility investments that would not be recovered in the normal course after restructuring.

[9] Utility bad debt costs around $1 billion annually. American utilities, through their ratepayers, paid an average of $3 per customer to collect bad debt, and in some cases, the cost was as high as $10. See *Utility Collections Best Practice: Theory Into Practice*, Peace Software White Paper (May 2005), *available at* http://www.peace.com/industry-watch/whitepapers/Peace-Collections-Best-Practice.pdf (last visited September 16, 2008).

right of way. In addition, private wires are often only allowed to *cross* rights of way, as compared to being allowed to make extensive longitudinal use of the right of way.[10]

Impact of Utility Laws on On-Site Generation and Private Wires

States have taken different approaches in their treatment of on-site generation. Florida, for example, has strictly limited self-generation to a single premise where the generator and the property are owned by the same party[11]. At the extreme, it is not clear whether a third-party could lawfully own and operate the generator and provide the output to the property owner.[12] Other states, such as California and New Jersey, have taken a more liberal approach, permitting generation – sometimes limited to certain favored technologies such as CHP or renewable resources – on one property to be provided to "adjacent" properties under limited circumstances.

The EISA 2007 Section 1308 study reviewed the utility laws of 10 states to determine whether the owner of a CHP unit at one site could legally serve other customers through privately-owned distribution wires – i.e., without using the incumbent utility's distribution wires. These states represent a range of utility regulatory models and include a number of states where large numbers of CHP units or a large amount of CHP capacity has been installed, or where there is a large technical potential for CHP.

Some of the states examined would not permit any entity other than a utility to serve end-use (or retail) customers under any circumstances, effectively precluding the siting of non-utility distribution wires in public rights of way. Several of the states examined, however, have adopted some type of provision that would allow limited "direct" service via non-utility distribution wire from a generator to one or more customers without subjecting the generator owner to regulation as a utility. These exceptions are generally narrowly drawn. For example, California and New Jersey have statutes that expressly permit CHP owners to serve properties separated by a public right of way – but only if the properties are under common ownership or meet other specific conditions. New York and Michigan also permit CHP units to serve a small number of nearby customers through private wires.

Whether other states have or would adopt similar provisions that would allow greater siting of non-utility wires in or across public rights of way is unknown. Private wires would represent an exception to the monopoly granted to the utility to provide distribution service. Competition, in this instance, increases the costs to other customers. In addition, private wires involve many of the same issues that states wrestled with in deciding whether – and how – to restructure their utility laws to permit customers to choose alternate electric suppliers. Private wires also raise concerns as to the potential proliferation of wires. Just as states took different approaches to restructuring, states might take different approaches to private wires.

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[10] See, e.g., Minnesota Department of Transportation Utility Accommodation Policy, amended November 2005, *available at* http://www.dot.state.mn.us/utility/files/pdf/appendix-b.pdf (last visited September 16, 2008) and others cited in response to Survey cited in footnote 2 above.

[11] *PW Ventures, Inc. v. Nichols*, 533 So.2d 281, 283 (Fla.1988)

[12] This appears to be the case in Florida as well as Texas, though Texas permits a generator owner to serve tenants and employees as well. Illinois, on the other hand, specifically recognizes that a third party may operate or even own the facility. See discussion in Section 5.2 of the EISA Section 1308 study.

In those states that have restructured their utility regulation to permit retail choice (and provide for competitive generation), there may be concern that allowing private wires would upset the balance struck between the interests of the various stakeholders after what may have been lengthy and contentious proceedings. In those states that have not introduced retail choice, the reluctance to permit an unregulated entity to provide direct retail service may be greater. In those states, only the incumbent, state-recognized utility can provide electric service to a customer located in the utility's service territory, absent other provisions in the law. As a result, while a CHP owner could generate electricity for its own use, it could not sell excess power to another end user, through private wires or otherwise, in most cases.[13]

Finally, even in those states where the utility law would permit a self-generator to serve another customer via a private distribution line, the siting of that line is subject to local conditions and ordinances. Local authorities control siting and have the obligation to administer the right of way in the public's interest.

Impacts on CHP

Despite restrictions on siting private distribution wires, CHP projects have been and are being developed, although the pace of development has slowed since 2003. As of October 2007, approximately 85 GW of CHP generating capacity is installed in the United States, representing nearly 8% of the total installed capacity in the country.[14] CHP has been installed in every state, plus the District of Columbia.

Numerous factors impact the economics of installing CHP, including fuel prices, thermal requirements, electric load, owner's cost of capital, payback time, power reliability and security needs, and regulatory issues. In addition, site constraints, construction and installation costs, interconnection terms or absence of standards, the cost of back-up or standby service, and other items can also impact the financial viability of the project. In addition, as with any major project, delays along the way can also add to costs. The elimination of private wires restrictions would enable CHP developers to sell excess power at retail pricing without becoming regulated as public utilities, which could potentially impact the economics of a CHP installation. However, it is not clear how large the impact would be and whether it would be sufficient to overcome other concerns.

CHP generators, like other generators, have alternatives to dispose of excess power, including wholesale transactions and, in some states, net metering or net billing. Net metering provides a credit against the customer's bill at the price that the customer pays for both the energy and delivery charge. In some instances, the credit may be carried over for future bills. Net metering credit reflects the retail rate and is generally only available for very small installations, and often only available for renewable resources.

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[13] Even these states might permit private wires in limited circumstances, however. Iowa, for example, permits a customer-generator to serve up to 5 additional facilities by "secondary line." See discussion in Section 5.2 of the EISA Section 1308 study.

[14] CHP data as of October 18, 2007, *available at* http://www.eea-inc.com/chpdata/ (last visited November 4, 2008); total generation data as of December 31, 2006, *available at* http://www.eia.doe.gov/cneaf/electricity/epa/epat2p2.html (last visited November 4, 2008). The actual value is 7.924%.

Net billing similarly provides a credit for power exported to the grid, but at the wholesale price for power.[15]

Some CHP proponents have argued that CHP cannot profitably chase "spark spreads" in the wholesale market. This is the spread between the cost of the gas (or other fuels) needed to produce electricity and the price that can be obtained for the electricity. Because natural gas continues to be the dominant fuel for CHP, the assertion is that at off-peak generation times, CHP – and other gas-fired non-CHP generating units – may not be competitive with coal, nuclear, or hydro generation. If this is true, in order to avoid competing with low cost, off-peak power, CHP generators generally would prefer to sell directly to end-use customers under long-term agreements. This option would be facilitated by direct distribution links between two or more sites.

It is unclear whether elimination of all restrictions on the ability to site privately owned distribution wires to serve multiple sites from a single CHP facility would have a significant impact on CHP development. Private wires issues only apply to CHP installations that have the potential to produce excess electricity on a regular basis. Smaller CHP units at commercial facilities (less than 500 kW) tend to be sized to serve the thermal load and, due to the relatively low thermal requirements, usually provide less than the full electricity requirements of a site, leaving the grid (or the local utility) to provide the remainder. While these sites may have excess power to sell from time to time, they would be unlikely to have enough extra power on a regular basis to serve another customer by private wire. Facilities of this size currently represent approximately 40% of the total CHP sites. For CHP sites that are greater than 500 kW, the costs associated with permitting, installing, and maintaining private distribution would offset at least a portion of the anticipated revenues from bypassing utility service.

In addition, because CHP is necessarily sited near the thermal load, the ability to serve multiple sites will depend on having suitable energy customers near the thermal load. Most of the installed CHP capacity is located at industrial sites. These sites may or may not have close neighbors that would be able to use excess energy. Some CHP providers have suggested that urban locations would provide an opportunity for further CHP expansion if the CHP unit could directly serve additional customers via private distribution wires.

Impacts on Utilities and their Customers

Enabling CHP developers – and other generators – to "bypass" utility distribution systems by constructing private distribution wires linking multiple sites or customers has the potential to impact utilities and their customers. Utility rates – whether bundled full-service retail rates or unbundled delivery service rates – reflect the average cost to serve various classes of customers. The average cost may be higher or lower than the marginal cost to serve a specific customer. However, because the utility has a duty to serve all customers and to build the infrastructure to do so, the excess costs of serving some

[15] Even where the credit represents the wholesale value, the generation owner receives the added benefit of having a ready buyer for small volumes of energy.

customers are socialized. This is a fundamental principle of rate design that ensures that all customers will have access to electric service at a fair price.[16]

Some CHP developers have suggested that they can make CHP more competitive overall by constructing private wires at a cost lower than the utility's delivery charges, in effect offsetting the excess generation costs at times. Alternately, they argue that they could achieve the same result if the utility were to purchase excess power from the CHP at the utility's full retail rate. In either case, this could result in a cost shifting from the CHP customers to the utility's customers, since the utility's rates reflect average costs to serve customers, as compared to the marginal cost in a specific instance. Where a customer bypasses the utility's charges, the utility may avoid incurring its marginal costs. However, any excess over marginal cost that would have been collected from that customer must now be borne by the utility and its other customers. [17]

Whether a state has restructured its utility laws to permit retail customers to choose their energy suppliers will also factor into the impacts on the utility, and other customers. Where a state has not restructured its utility regulation, the question of the utility's potential stranded costs associated with customers leaving the utility's service will likely arise. In the absence of a mechanism to recover these amounts, utilities may assert a "taking" of their property and a breach of the so-called regulatory bargain.

Other Issues; Duplicate Facilities

In addition to rate concerns, there are public safety, maintenance, cost, and aesthetic issues. These concerns become more significant the greater the amount of public access to the wires in question. While placing wires underground may address the public access and aesthetic issues, underground installations are far more expensive than above-ground installations.[18] Underground wires, while generally more reliable, are more difficult and expensive to maintain and repair. From a purely logistical point of view, in many urban areas, the space available for utility facilities is limited. Adding

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[16] Charles F. Phillips, Jr., *The Regulation of Public Utilities - Chapter 2: The Economic Concepts of Regulation,* Public Utilities Reports, Inc. (1993). See also, Steven Braithwait, Dan Hansen, & Michael O'Sheasy, *Retail Electricity Pricing and Rate Design in Evolving Markets*, Edison Electric Institute (July 2007), *available at* http://www.eei.org/industry_issues/electricity_policy/state_and_local_policies/rising_electricity_costs/Retail_Electricity_Pricing.pdf (last visited September 15, 2008).

[17] *See,* Richard A. Posner, *Natural Monopoly and its Regulation* - 30th Anniversary Edition Cato Institute, Washington, DC , 1999, Pg.1-2; Charles F. Phillips, Jr. , *The Regulation of Public Utilities*, Public Utilities Reports, Inc., Arlington, VA, 1993, Chapter 2. With respect to purchasing power at a retail rate, as noted above, some in the utility community argue that this compensates the CHP provider for delivery services it is not performing.

[18] This is well-known throughout the utility industry. The additional cost may range from 4 to 10 times the price of above-ground installation. While the reliability of underground installations is greater, maintenance and repair is more difficult and, hence, more expensive when needed. A study performed for the Long Island Power Authority in 2005 determined that while the frequency of outages declined with underground wires, restoration times were significantly longer. In addition, the study noted that underground wires have proved to have shorter useful lives than overhead facilities and are more susceptible to corrosion, as well as risks from flooding, tree roots, rodents and dig-ins. The study is *available at* http://www.lipower.org/pdfs/company/papers/underground_030805.pdf (last visited November 4, 2008). Similar studies have been conducted by the Edison Electric Institute and are available on its website.
See, e.g., http://www.eei.org/industry_issues/energy_infrastructure/distribution/UndergroundReport.pdf (last visited November 4, 2008).

additional duct packages would be a challenge, and cities may be reluctant to cede limited space for private purposes.

The public safety issues associated with electric distribution wires are far more significant than those related to, for example, telecommunications wires. While telecommunications wires are not dangerous, improper handling of electrical wires can result in severe injury, loss of life, and property damage. Like a utility's wires, private wires can either be suspended in air or buried underground. Where wires are above ground, the downed wires can create obvious hazards. Multiple wires owned by different parties present additional risks. When weather or a traffic accident causes a live power line to contact the ground, a car or other property, emergency responders need to have the line de-energized. With multiple wires and multiple owners, it may not be clear who can do this. Similarly, when linemen are restoring the system after a major disruption, they need accurate information about which wires are or are not energized. Again, multiple wires and owners may make this more difficult.

With underground wires, a new set of safety issues arise. The precision associated with mapping and locating wires varies dramatically. Contractor dig-ins often occur, even where regulated utilities have installed wires. Increasing the number of parties who can install electric distribution wires in public rights of way would likely exacerbate this problem. In addition, there is the added concern as to whether this might open the door for installation contractors with limited experience.

Other questions arise: will the CHP owner be financially viable over the life of the distribution wires? Will the CHP owner be able to bear the costs of repair and replacement over time? These are questions that are equally applicable to utilities. However, regulated public utilities have a cost recovery mechanism (rates) that enhances the likelihood that the utility will survive and be in a position to maintain the integrity and safety of the line. This is their core business, and the regulator (and the public) will quickly intervene if safety is an issue. Many of these issues are solvable with appropriate rules and minimal regulation.

Removing restrictions on private distribution wires may result in duplicate facilities. If all restrictions were lifted, such that any party could build a distribution line (i.e., not just a CHP developer), then there is a greater potential for duplicate facilities. This can increase grid and end-user reliability, but could also pose additional concerns. Significantly, duplicate facilities present increased challenges for local planning and coordinating electric operations, increased safety and aesthetic concerns, as well as permitting complications. This is especially true for private wires, where the operation and ownership of the duplicate line is not controlled by the utility. For these and other reasons, including the significant costs associated with installation and maintenance of redundant wiring, duplicate distribution facilities have been avoided since the early days of electric service.

Even if an exception were applicable only to CHP, the utility would have to maintain distribution wires to each of the sites in order to provide back-up power in the event the CHP unit is out of service (should the facility choose to remain connected to the grid, which most do) or a facility desires to take its

principal electric service from the utility.[19] Furthermore, the cost, safety, and aesthetic issues mentioned above would still arise.

Conclusions

Whether to permit private electric distribution wires raises fundamental questions of policy under state utility laws. Each state has chosen to regulate electric utilities operating within their borders. Fifteen states have restructured their laws to permit customers to choose the supplier of their electricity. No state has chosen to permit general competition in electric distribution. Electric distribution is provided as a monopoly service in all 50 states and the District of Columbia, although some states have carved out limited exceptions. In exchange for monopoly rights, utilities undertake the obligation to serve all customers in a defined geographic territory at published rates on a non-discriminatory basis. Rates are set based on the cost to serve various customer classes, and are designed to provide the utility a return of and a return on its investment. A key element of rate design is the avoidance of cross-subsidies between different types of customers. This regulatory model, based on the existence of a "natural monopoly" has been in place for decades.

Private wires are inconsistent with this model. However, several states have nonetheless chosen to permit them under limited circumstances, including, in some states, where the wires are used to provide generation specifically from CHP units. The issues surrounding private wires are complex. There are operating, planning, and rate issues, in addition to potential concerns regarding public safety and grid safety. The customer and utility impacts of permitting private wires could be significant and could vary from utility to utility, as well as from state to state.

At the same time, it is not clear that existing restrictions on private wires per se are materially hampering the development of CHP. There are many different factors that impact the development of CHP, including the economics of particular projects, as well as the economy of a region. Not every state has the same technical potential for CHP. Other factors are cited as more significant by some developers. Nonetheless, private wires restrictions may be a factor in some cases, where they may improve the economics of the project.

Private distribution wires, if constructed, would be duplicate facilities in many respects. Customers served by the private wires would likely also be connected to the local utility's distribution system. While there are potential benefits from duplicate facilities, there are also operational and reliability challenges from the utility's perspective, since the wires would not be controlled by the utility. In addition, multiple sets of wires and other distribution facilities raise concerns as to aesthetics, public safety, and public inconvenience.

[19] If the facilities served by a CHP provider are under common ownership then, arguably, the utility would only have to have a single connection in order to provide service to the facilities. However, it seems unlikely that unrelated customers would be willing to forego a separate connection to the utility grid, either for purposes of backup power when the CHP generator was out of service or to have the option of returning to utility service should the CHP owner fail or be unable to meet service level assurances.