



# Electricity Regulation

in 28 jurisdictions worldwide

# 2012

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<b>Australia</b> Catherine Dermody, Catherine Earles and Morelle Bull <i>Gilbert + Tobin</i>	<b>3</b>
<b>Austria</b> Christian Schmelz and Bernd Rajal <i>Schönherr Rechtsanwälte GmbH</i>	<b>11</b>
<b>Brazil</b> Maria Aparecida Seabra Fagundes, Rafaella Ferraz and Bernardo de Medeiros <i>Araújo e PolICASTRO Advogados</i>	<b>19</b>
<b>Canada</b> Paul Harricks and Neeta Sahadev <i>Gowling Lafleur Henderson LLP</i>	<b>26</b>
<b>Chile</b> José Manuel Larraín <i>Larraín Rencoret Lackington &amp; Urzúa Abogados</i>	<b>33</b>
<b>Croatia</b> Mirosljub Maćešić, Ivana Manovelo and Miran Maćešić <i>Maćešić &amp; Partners</i>	<b>40</b>
<b>Czech Republic</b> Václav Rovenský and Ján Béréš <i>Kocián Šolc Balaščík</i>	<b>46</b>
<b>France</b> Florence Ninane, Alexandre Ancel, Liliana Eskenazi and Charlotte Beauchataud <i>Allen &amp; Overy LLP</i>	<b>55</b>
<b>Germany</b> Thomas Funke <i>Osborne Clarke</i>	<b>61</b>
<b>Greece</b> Basil C Scouteris <i>Andreas Lionis &amp; Associates</i>	<b>67</b>
<b>Hungary</b> Eszter Zádori and Dániel Arányi <i>Siegler Law Office / Weil, Gotshal &amp; Manges LLP</i>	<b>74</b>
<b>India</b> Amitabh Sharma, Mukund Puranik and Rahul Arora <i>Khaitan &amp; Co</i>	<b>81</b>
<b>Ireland</b> Alex McLean, Patrick McGovern and Jennifer Burke <i>Arthur Cox</i>	<b>92</b>
<b>Israel</b> Uri Noy and Yehudit Libin <i>Erdinast, Ben Nathan &amp; Co Advocates</i>	<b>100</b>
<b>Mexico</b> Rogelio López-Velarde and Amanda Valdez <i>López Velarde, Heftye y Soria</i>	<b>107</b>
<b>Nigeria</b> Babatunde Irukera and Ikem Isiekwena <i>SimmonsCooper Partners</i>	<b>114</b>
<b>Panama</b> Erika Villarreal and Nadia de Halman <i>Anzola Robles &amp; Associates</i>	<b>123</b>
<b>Paraguay</b> Luis A Breuer and Magali Rodríguez-Alcala <i>Berkemeyer Attorneys &amp; Counselors</i>	<b>130</b>
<b>Philippines</b> Patricia A O Bunye <i>CVCLAW Villaraza Cruz Marcelo &amp; Angangco</i>	<b>134</b>
<b>Poland</b> Jerzy Baehr and Jakub Pokrzywniak <i>Wierciński, Kwieciński, Baehr Spk</i>	<b>140</b>
<b>Romania</b> Gabriela Cacerea and Bianca Pop <i>Nestor Nestor Diculescu Kingston Petersen</i>	<b>146</b>
<b>Slovakia</b> Roman Prekop, Monika Šimorová and Peter Ikrényi <i>Barger Prekop sro</i>	<b>156</b>
<b>Spain</b> Luis Castro Prieto, Aldara Martín Seara and Silvia San Felipe Menéndez <i>Lener</i>	<b>164</b>
<b>Switzerland</b> Marc Bernheim and Gaudenz Geiger <i>Staiger, Schwald &amp; Partner Ltd</i>	<b>170</b>
<b>Turkey</b> Değer Boden Akalın and Seda Gümüş <i>Boden Law Office</i>	<b>177</b>
<b>United Kingdom</b> Peter Willis, David McGowan and Louise Macleod <i>Dundas &amp; Wilson LLP</i>	<b>187</b>
<b>United States</b> Earle H O'Donnell and Caileen N Gamache <i>White &amp; Case LLP</i>	<b>198</b>
<b>Vietnam</b> Nguyen Van Anh and Nguyen Thanh Ha <i>Vietbid</i>	<b>209</b>

# United States

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## 1 Policy and law

What is the government policy and legislative framework for the electricity sector?

No single government body sets government policy for the electricity sector. The federal government, which regulates wholesale markets, follows a generally pro-competitive policy. The competition reforms that transformed the US electricity sector represent the latest chapter in three decades of restructuring, deregulation, and regulatory reforms that affected utility sectors of the economy historically subject to price regulation. Retail sales are regulated by the states. Several states have adopted choice programmes intended to introduce competition among retail suppliers of electricity. While some states have delayed or suspended retail choice plans amid concerns that deregulation may not benefit end-use consumers, retail choice is thriving in other states, such as New York and Texas.

### US Congress

The Energy Policy Act of 2005 (EPAAct 2005) represents the most significant change in US energy policy since the Federal Power Act of 1935 (FPA) and the Natural Gas Act of 1938 (NGA). EPAAct 2005 granted the Federal Energy Regulatory Commission (FERC) the authority to issue rules to:

- prevent market manipulation in wholesale power and gas markets, and in electric transmission and gas transportation services;
- assess civil penalties for violations of the FPA and other energy statutes;
- oversee mandatory reliability standards governing the nation's electricity grid; and
- approve the siting of transmission facilities, traditionally a matter of state or local jurisdiction, under certain circumstances.

### Federal administrative agencies

One of the top priorities of the US Department of Energy (DoE) is to protect national and economic security by promoting a diverse energy supply and the delivery of reliable, affordable and environmentally sound energy. FERC, an independent regulatory agency within the DoE, is the principal economic and policy regulator at the federal level for the electric power industry. FERC is charged with implementing, administering and enforcing most of the provisions of EPAAct 2005, FPA, NGA and other statutes regulating the electric utility industry.

### States

Beginning in the 1990s, a number of states undertook measures to require or encourage vertically integrated utilities to disaggregate into separate generation, transmission or distribution entities. Also, participation in independent system operators (ISOs) or regional transmission organisations (RTOs) was encouraged at the federal level and in some states. In 2010, the Energy Information Administration (EIA, part of the DoE) reported that 15 states and the District of Columbia have active retail choice programmes in the electric sector.

Seven other states that had previously adopted retail choice programmes have since suspended their respective programmes ([www.eia.doe.gov/cneaf/electricity/page/restructuring/restructure\\_elect.html](http://www.eia.doe.gov/cneaf/electricity/page/restructuring/restructure_elect.html)).

## 2 Organisation of the market

What is the organisational structure for the generation, transmission, distribution and sale of power?

According to the American Public Power Association (APPA), the US electric industry is composed of 3,269 electricity providers, including 2,008 publicly owned utilities, 877 cooperatives, 202 investor-owned utilities and nine federal utilities (*APPA 2010-11 Annual Directory & Statistical Report* ([www.publicpower.org/files/PDFs/NumberOfElectricProvidersCustomers.pdf](http://www.publicpower.org/files/PDFs/NumberOfElectricProvidersCustomers.pdf))).

The private sector includes traditional utilities that are vertically integrated, generation-owning companies and power marketers, and transmission or distribution 'wires-only' companies. These companies may be privately owned or publicly traded. The public sector includes municipally owned utilities, public power districts, state agencies, irrigation districts and other government organisations, and at the federal level, the Tennessee Valley Authority (TVA) and federal power marketing administrations. Rural electric cooperatives, formed by residents, operate in 47 states and represent about 10 per cent of sales and revenue ([www.nreca.coop/members/Co-opFacts/Pages/default.aspx](http://www.nreca.coop/members/Co-opFacts/Pages/default.aspx)).

### Generation

According to the EIA's most recent statistics, net generation of electric power increased by 4 per cent in 2010, to 4,120 billion kWh, as compared to 3,950 billion kWh in 2009 ([www.eia.gov/renewable/annual/preliminary/index.cfm](http://www.eia.gov/renewable/annual/preliminary/index.cfm)). The primary energy sources for generating electric power in the United States are fossil fuels such as coal and natural gas. Fossil fuels accounted for 81.3 per cent of energy consumption in the United States in 2010 ([www.eia.gov/renewable/annual/preliminary/pdf/table1.pdf](http://www.eia.gov/renewable/annual/preliminary/pdf/table1.pdf)). Renewable energy sources have increased their share of total net generation by 2 per cent from 2009 to 2010, for a total of 425 billion kWh, or 10 per cent of total US net generation ([www.eia.gov/renewable/annual/preliminary/index.cfm](http://www.eia.gov/renewable/annual/preliminary/index.cfm)). EIA has predicted that US electricity consumption will fall by 0.4 per cent in 2011 and 0.5 per cent in 2012 due to various factors including a slower pace of industrial output growth and a return to more normal temperatures in the South Atlantic region (205.254.135.24/steo/).

### Power sales

Marketers do not generate, transmit or distribute electricity, but are classified as public utilities under the FPA because they sell electricity at wholesale. In addition to the numerous privately owned power marketers, there are four federally owned power marketing administrations that market and sell the power produced at federal hydroelectric and nuclear plants. The APPA reported in its 2010–2011 Annual Directory and Statistical Report that power marketers serve

4.4 per cent of the total number of electricity customers in the US ([www.publicpower.org/files/PDFs/NumberofElectricProvidersCustomers.pdf](http://www.publicpower.org/files/PDFs/NumberofElectricProvidersCustomers.pdf)).

### Transmission

The US bulk power transmission system is composed of facilities that are privately, publicly, federally or cooperatively owned that form all or parts of three electric networks (power grids): the Eastern Interconnection that stretches from central Canada to the Atlantic coast (excluding Quebec), south to Florida and west to the Rockies (excluding much of Texas); the Western Interconnection that stretches from western Canada south to Mexico and east over the Rockies to the Great Plains; and the Electric Reliability Council of Texas (ERCOT) that serves a large portion of Texas.

Historically, transmission lines owned by private-sector companies were part of a vertically integrated utility. In 1996, FERC issued Order No. 888, requiring each public utility subject to FERC's jurisdiction to:

- file an open-access transmission tariff (OATT) declaring the terms and conditions for using its transmission system; and
- functionally unbundle its services.

FERC has encouraged the development of ISOs and RTOs as independent transmission providers within a region. These entities are formed by utilities that transfer operational control – but not ownership – of their transmission assets to the ISO or RTO, which is then responsible for operating the regional transmission grid and administering wholesale markets. Today, two-thirds of electricity consumers in the US are served within markets administered by seven ISOs or RTOs: the PJM Interconnection (including such states as Pennsylvania, New Jersey, Maryland, Delaware, Virginia and West Virginia), the Midwest ISO, the Southwest Power Pool, the New York ISO, ISO New England, the California ISO, and ERCOT.

One of the responsibilities of ISOs and RTOs, as well as other transmission providers, is to maintain the operation of the grid. Pursuant to EAct 2005, FERC certified the North American Electric Reliability Corporation (NERC) as the nation's Electric Reliability Organisation (ERO) to develop and enforce mandatory reliability requirements to address medium and long term reliability concerns, subject to FERC oversight and enforcement. Today, enforcement of electric reliability standards, including the protection of critical energy infrastructure, is a major focus of the ERO and of FERC, which may impose penalties of up to US\$1 million a day on transmission or generation owners and operators for violation of mandatory reliability standards.

## Regulation of electricity utilities – power generation

### 3 Authorisation to construct and operate generation facilities

What authorisations are required to construct and operate generation facilities?

The siting and construction of electric generation, transmission and distribution facilities has historically been a state and local process, although EAct 2005 altered this historic arrangement by vesting ultimate transmission siting authority with FERC in certain cases. In making siting decisions, state public utility commissions (PUCs) consider environmental, public health and economic factors. The PUCs exercise their authority in conjunction with state environmental agencies or local zoning boards. A few states have a siting board or commission that provides a single forum where an electric utility or independent developer can obtain all necessary authorisations to construct electric facilities. Other states have not consolidated the siting process, and electric utilities or independent developers in those states are required to obtain the necessary permits separately from each of the relevant state and local agencies. State and local permits required for the construction of electric generation facilities include

air permits and water use or discharge permits from the state environmental commission, and zoning and building permits from local commissions.

Regulated utilities are required to obtain a certificate of public convenience and necessity from the relevant PUC for the construction of generation, transmission and distribution facilities that will be subject to cost-base rate regulation. No federal certificate of public convenience or necessity is required from FERC for the siting and construction of electric generation, transmission or distribution facilities under part II of the FPA.

A FERC licence must be obtained under part I of the FPA for the construction of hydroelectric facilities on navigable waters. Construction affecting federal lands may also require authorisation from agencies such as the Bureau of Land Management, the US Forest Service or the National Park Service. The US Army Corps of Engineers reviews projects affecting wetlands or navigable waters. Nuclear facilities must be licensed by the US Nuclear Regulatory Commission (NRC).

### 4 Interconnection policies

What are the policies with respect to interconnection of generation to the transmission grid?

FERC jurisdictional transmission providers are required to provide interconnection service under the terms of an open access transmission tariff (OATT). Generators have the right to request interconnection services separately from transmission services.

In response to complaints by generators that interconnection procedures were being used by some transmission providers in a discriminatory manner, FERC implemented rules to standardise agreements and procedures for generators and required FERC jurisdictional transmission providers to interconnect generators to the grid in a non-discriminatory manner. Under the standard interconnection procedures, generators are required to pay the full cost of any interconnection facilities up front (from the generator to the point of interconnection) and network transmission facilities (beyond the point of interconnection) necessary to connect the generator with the transmission grid. The generator is reimbursed for the cost of any network transmission facilities through credits for future transmission service on the grid. ISOs and RTOs have the flexibility to propose changes to the standard interconnection agreement and procedures as well as to the procedures for recovering interconnection costs. For example, ISOs and RTOs may seek authorisation to allocate the costs of network upgrades to the generator requesting the upgrades (in exchange for granting capacity rights on the transmission system). FERC does not regulate local distribution facilities, but has authority to regulate the rates, terms and conditions of any wholesale sales transaction using such a facility.

### 5 Alternative energy sources

Does government policy or legislation encourage power generation based on alternative energy sources such as renewable energies or combined heat and power?

Yes. Legislation passed and signed into law by the president in early 2009, the American Recovery and Reinvestment Act of 2009 (Recovery Act), contains provisions for direct spending, tax credits and loan guarantee programmes designed to promote development of renewable energy projects. The legislation extended the production tax credit (PTC) on renewable energy systems by three years, while offering expansions on and alternatives for PTCs ([www.ucsusa.org/clean\\_energy/solutions/big\\_picture\\_solutions/production-tax-credit-for.html](http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/production-tax-credit-for.html)). The wind energy PTC is in effect until 2012, while PTCs for municipal solid waste, qualified hydropower, biomass and geothermal energy projects extend until 2013. Solar facilities are eligible for a 30 per cent investment tax credit, which applies until 2016. As an alternative to the PTC, a project developer may elect a grant equal

to 30 per cent of the facility's tax basis, so long as the facility is depreciable and amortisable. The DoE is administering a loan guarantee programme for renewable energy projects that began construction by 30 September 2011 ([http://lpo.energy.gov/?page\\_id=45](http://lpo.energy.gov/?page_id=45)). The DoE Office of Energy Efficiency and Renewable Energy is the focal point for several additional alternative energy programmes, including the biomass programme, the geothermal technologies programme, the solar energies technologies programme, the hydrogen, fuel cells and infrastructure technologies programme, and the wind and hydro-power technologies programme ([www.eere.energy.gov](http://www.eere.energy.gov)). As of September 2011, 29 states plus the District of Columbia have adopted renewable portfolio standards (RPS) that require electricity providers to obtain a minimum percentage of their power from renewable energy resources by a certain date and eight others have set voluntary goals for adopting renewable energy resources ([www.dsireusa.org/rpsdata/index.cfm](http://www.dsireusa.org/rpsdata/index.cfm)). Thirteen of these states include combined heat and power (CHP) or waste heat recovery as an eligible resource.

#### **Cogeneration and small power production purchase and sale requirements**

EPAct 2005 amended the mandatory purchase and sale requirements of PURPA. Historically, electric utilities were obligated to purchase or sell electric energy from or to a facility that is an existing qualifying cogeneration or small power production facility (QF). However, if the QF is selling in a market that meets certain criteria established by FERC, that purchase obligation may be terminated. In 2006 FERC issued Order No. 688, which permits the termination of the requirement that an electric utility enter into new contracts to sell energy to or purchase energy from a QF after the electric utility files for such relief from FERC, and FERC makes appropriate findings. Several utilities have successfully pursued relief under Order No. 688. These changes do not affect existing or pending contracts or obligations.

#### **6 Climate change**

What impact will government policy on climate change have on the types of resources that are used to meet electricity demand and on the cost and amount of power that is consumed?

Federal and state climate change policies promoting carbon-free energy sources are more likely to have an impact on the types of resource used to meet US electricity demand in the medium- or long-term time frame than in the short term. The US electric industry's reliance on fossil fuels (particularly coal) to meet rising energy demands is driven primarily by cost considerations: coal is a cheap and plentiful domestic fuel source, and coal-fired power plants are a relatively quickly built and inexpensive means by which utilities can meet the electricity demands of their customers. However, the influx of low variable cost renewable projects and the growth of shale gas have reduced some of the energy cost advantages of coal generation with the most significant impact on older, less efficient coal units. Although recent federal and state legislative initiatives have provided downpayments toward the creation of cost-competitive renewable energy technologies, the large-scale deployment of these technologies is still hampered by variability of resources such as wind, the need for additional backbone transmission capacity between regions, and the lack of storage capacity. Other proposed state and federal legislation (for example, cap-and-trade schemes) and foreign policy initiatives could impose additional costs on electricity generators using carbon-rich fossil fuels. New and existing coal-fired plants may be incentivised or required to have carbon capture and sequestration (CCS) capabilities. Federal and state initiatives to encourage carbon-free energy resources could incentivise other alternatives to coal. Coal and other fossil fuels are nonetheless likely to represent the major share of resources for electric energy in the US for the next few decades.

These legislative proposals are, however, likely to impose greater costs on the energy that is consumed. State or federal governments could subsidise renewable energy and carbon mitigation initiatives

by surcharges on electricity generation or consumption. Compliance costs incurred by utilities arising from state or international cap-and-trade legislation, EPA regulation of greenhouse gases as airborne pollutants under the Clean Air Act, or state regulation of vehicular carbon emissions would be passed on through every transaction involving electricity. Moreover, a recent FERC rule which requires ISOs and RTOs to pay entities that reduce demand under certain circumstances the marginal costs of energy may over time substantially reduce consumption particularly in peak periods. This may lower payments to coal and other forms of generation.

#### **7 Government policy**

Does government policy encourage or discourage development of new nuclear power plants? How?

Government policy has generally encouraged the development of new nuclear power plants. The US DoE Loan Guarantee Program has promoted development of the nuclear power industry through total available loan guarantees of US\$18.5 billion for the construction of new nuclear power plants in the US. These loan guarantees help developers of new nuclear plants in the US to obtain favourable financing terms, which is of critical importance when constructing plants with a projected price tag in the range of US\$7 to US\$10 billion per unit. Indeed, many companies that are considering building new plants have publicly stated that, absent a federal loan guarantee, they will not be able to finance and build their proposed projects. Seventeen companies building 21 nuclear units have applied for the guarantees. To date, a conditional loan guarantee of US\$8.33 billion has been granted to the developers of two nuclear units in Georgia, and DoE has targeted two additional projects (in Maryland and Texas) for loan guarantees covering the remaining US\$10.17 billion. However, in the wake of the Fukushima nuclear reactor crisis in March 2011 the Maryland project has been cancelled and a principal sponsor of the Texas project announced that it will stop supporting the project financially, effectively halting construction even if the project obtains federal licences ([www.dallasnews.com/business/energy/20110419-nrg-ends-project-to-build-new-nuclear-reactors.ece](http://www.dallasnews.com/business/energy/20110419-nrg-ends-project-to-build-new-nuclear-reactors.ece)).

DoE's Loan Guarantee Program also has earmarked an additional US\$4 billion for the construction of new uranium enrichment facilities in the US. Access to additional supplies of enriched uranium fuel will be critical to support the development of new nuclear plants in the US. In May 2010, the DoE announced that it would grant a conditional loan guarantee of US\$2 billion for the construction of a uranium enrichment plant in Idaho.

In addition, DoE's Nuclear Power 2010 programme has attempted to jump-start the proposed construction of new nuclear plants, by co-funding with the nuclear industry efforts to evaluate and bring new technologies to market. This includes utilising the new licensing process established by the Nuclear Regulatory Commission (NRC) that is intended to streamline NRC approval of such projects. DoE also has put in place a Generation IV Nuclear Energy Systems initiative, which aims to develop new plant designs that minimise waste and are safer and more proliferation-resistant than today's nuclear plant designs ([nuclear.energy.gov/genIV/neGenIV1.html](http://nuclear.energy.gov/genIV/neGenIV1.html)).

EPAct 2005 further encouraged the construction of new nuclear plants by establishing a production tax credit. Under that plan, operators of the first 6,000MW of capacity from new nuclear power plants that are placed in service before 2021 will receive a production tax credit of 1.8 cents per kWh during the first eight years of the plant's operation.

Note that following the Fukushima disaster, several US policy makers called for a re-evaluation and/or temporary suspension of nuclear development and regulation in the United States. The ultimate US policy response to that incident has not yet been determined.

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**Regulation of electricity utilities – transmission**


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**8 Authorisations to construct and operate transmission networks**

What authorisations are required to construct and operate transmission networks?

**Construction**

Construction of transmission facilities is primarily a state-regulated function, but federal authorities have jurisdiction over siting on federal lands and multi-state projects may require the authorisation of several states. Historically, this fragmented system for siting new power lines, in addition to other factors such as regulatory uncertainty on the state and federal levels associated with transmission cost recovery, has been a significant barrier to the development of new transmission in the US. EPCRA 2005 provides tools to facilitate new construction and improvements to the existing transmission infrastructure.

EPCRA 2005 directed the DoE to conduct a nationwide study of electric transmission congestion and identify areas in which transmission capacity constraints or congestion adversely affects consumers and designate such areas as national interest electric transmission corridors (NIETCs). EPCRA 2005 gave FERC supplemental permitting authority to ensure timely construction of transmission facilities to remedy transmission congestion in those corridors. The DoE initially designated two such corridors in 2007, but the US Court of Appeals for the 9th Circuit vacated and remanded the designations to the DoE for further proceedings in February 2011 ([www.ca9.uscourts.gov/datastore/opinions/2011/02/01/08-71074.pdf](http://www.ca9.uscourts.gov/datastore/opinions/2011/02/01/08-71074.pdf)). DoE has recently announced that it will collaborate with FERC to prepare drafts of transmission congestion studies and environmental analyses for proposed NIETCs in the future ([energy.gov/articles/doe-and-ferc-joint-public-statement-back-stop-siting](http://energy.gov/articles/doe-and-ferc-joint-public-statement-back-stop-siting)).

EPCRA 2005 also provides a mechanism for the private use of the eminent domain power of the US government, where necessary, to obtain property for transmission infrastructure projects. In addition, EPCRA 2005 requires that the federal government identify rights of way across federal lands that can be made available for siting electric transmission.

On 21 July 2011, FERC issued Order No. 1000, a final rule on Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities ([www.ferc.gov/whats-new/commmeet/2011/072111/E-6.pdf](http://www.ferc.gov/whats-new/commmeet/2011/072111/E-6.pdf)). The goal of Order No. 1000 is to ensure more reliable transmission service at just and reasonable rates. Order No. 1000 lays out certain requirements for coordinating transmission planning and allocating transmission costs so that transmission planners seek the most efficient and cost effective way to meet needs in their respective regions and between regions. The implementation of Order No. 1000 is left largely to public utility transmission planners; therefore, the impact of the order is currently unknown.

**Operation**

FERC issued a series of orders beginning with Order No. 890, which were intended to eliminate the broad discretion that transmission providers had in calculating available transfer capacity (ATC), increasing non-discriminatory access to the grid and ensuring that customers are treated fairly in seeking alternative power supplies. Since Order No. 890-A, transmission providers have implemented new service options for long-term firm point-to-point customers and adopted modifications to other services. Instead of denying a long-term request for point-to-point service because as little as one hour of service is unavailable in the course of a year, transmission providers are now required to consider their ability to offer a modified form of planning redispatch or a new conditional firm option to accommodate the request. This increases opportunities to utilise transmission efficiently by eliminating artificial barriers to use of the grid. This standardisation reduces the potential for undue discrimination, increases transparency, and reduces confusion in the industry that resulted from the prior lack of consistency.

Also, FERC regulations require the posting of ATC values associ-

ated with a particular path, not available flowgate capacity values associated with a flowgate. With respect to energy and generation imbalance charges, a transmission provider must post the availability of generator imbalance service and seek imbalance service from other sources in a manner that is reasonable in light of the transmission provider's operations and the needs of its imbalance customers. FERC also limited rollover rights to contracts with a minimum term of five years. In Order No. 890-B, FERC reiterated that a power purchase agreement must meet all of the requirements for designation as a network resource in order to be designated by the network customer or transmission provider's merchant functions.

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**9 Eligibility to obtain transmission services**


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Who is eligible to obtain transmission services and what requirements must be met to obtain access?

See question 4.

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**10 Government incentives**


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Are there any government incentives to encourage expansion of the transmission grid?

Pursuant to EPCRA 2005, FERC has established incentive-based rate treatments to encourage investment in and expansion of the US' aging transmission infrastructure. FERC Order No. 679, issued in 2007, includes a number of key provisions to promote transmission investment, including:

- incentive rates of return on equity for new investment by public utilities (both traditional utilities and stand-alone transmission companies);
- a higher rate of return on equity for utilities that join or continue to be members of transmission organisations (for example, RTOs and ISOs); and
- various advantageous accounting methods, including:
  - full recovery of prudently incurred construction work in progress, pre-operation costs and costs of abandoned facilities;
  - use of hypothetical capital structures for ratemaking purposes;
  - accumulated deferred income taxes for stand-alone transmission companies;
  - adjustments to book value for stand-alone transmission company sales or purchases;
  - accelerated depreciation; and
  - deferred cost recovery for utilities with retail rate freezes.

In Order No. 679 and Order No. 679-A, FERC extended incentive rate treatments to all utilities joining ISOs or RTOs, irrespective of the date they join. However, this incentive does not apply to existing transmission rate base that has already been built, as its purpose is to attract new investment in transmission.

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**11 Rates and terms for transmission services**


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Who determines the rates and terms for the provision of transmission services and what legal standard does that entity apply?

FERC has jurisdiction over unbundled transmission services (including transmission services provided over low-voltage facilities) provided by public utilities to wholesale customers or to retail customers with direct access. The states have jurisdiction over bundled retail service (namely, a combined generation and delivery product sold to retail customers) where direct access is not available. Court decisions and the interconnectivity of the transmission grid in the continental US have led to an expansive view of what constitutes transmission service in interstate commerce in all areas of the US except Alaska, Hawaii and ERCOT. The FPA, however, reserves to the states jurisdiction over the local distribution of electricity.

FERC jurisdictional utilities offering transmission services must do so under FERC-approved tariffs. Order No. 888 required jurisdictional electric utilities to submit pro forma OATTs that functionally unbundled transmission operations and services, and set forth rates for transmission and ancillary services. In 2007, FERC issued Order No. 890, which modified the pro forma OATT to better remedy undue discrimination by, among other things, providing greater transparency and consistency in the calculation of available transmission capacity, and requiring coordinated open transmission planning between regions.

Transmission providers are also required to maintain an open-access, same-time information system (OASIS) to publish information with respect to its transmission system, including services, rates, and available transmission capacity as well as business rules, practices, and standards that relate to transmission services provided under the pro forma OATT.

Finally, the FPA empowers FERC to review rates and terms of transmission services to ensure that they are just and reasonable and not unduly discriminatory or preferential. Generally, tariffs and contracts for transmission services must be filed with FERC before service commences to allow an opportunity for Commission review, as well as public notice and comment. Because transmission services are a natural monopoly, Order No. 888 envisions that FERC will determine whether a particular tariff is just and reasonable via a traditional cost-of-service ratemaking inquiry that balances ratepayer and the utilities' financial interests to realise a rate within the zone of reasonableness. Tariffs can be challenged for being unjust, unreasonable, unlawful, or discriminatory.

EPA 2005 authorises FERC to require transmission providers not subject to its jurisdiction to provide open access to their transmission system at terms and conditions comparable to those the unregulated entity provides to itself. An unregulated entity may be exempt from this requirement if it sells less than 4 million MWh of electricity annually or if it does not own or operate the transmission facilities needed to operate an interconnected system. However, many of these regulated entities already provide open access based on reciprocity agreements with transmission providers.

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## 12 Entities responsible for assuring reliability

Which entities are responsible for assuring reliability of the transmission grid and what are their powers and responsibilities?

Since 1968, NERC has operated as the primary entity responsible for assuring the reliability of the grid. NERC was founded by the electric utility industry to develop and promote rules and protocols to enhance the reliability of the bulk power electric system in North America through a voluntary, self-regulatory process. EPA 2005 added section 215 to the FPA, which provides for the creation of an ERO to be the organisation responsible for establishing and enforcing reliability standards for the bulk power system in North America. In 2006, FERC certified NERC as the ERO. The ERO oversees an enforcement programme that includes compliance audit monitoring and reliability readiness review programmes.

In 2007, FERC strengthened the reliability regime by approving 83 mandatory reliability standards for the bulk power system proposed by the ERO, approving delegation agreements between the ERO and eight regional entities and creating a new internal Office of Electric Reliability. The mandatory reliability standards apply to users, owners, and operators of the bulk power system designated by NERC. Both monetary and non-monetary penalties may be imposed for violations of these standards.

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## Regulation of electricity utilities – distribution

### 13 Authorisation to construct and operate distribution networks

What authorisations are required to construct and operate distribution networks?

Similar to generation siting, distribution is regulated primarily at the state level.

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### 14 Access to the distribution grid

Who is eligible to obtain access to the distribution grid and what requirements must be met to obtain access?

Specific procedures for connection to the distribution grid vary from state to state. However, state laws generally provide that distributors cannot deny service that is in the public interest.

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### 15 Rates and terms for distribution services

Who determines the rates or terms for the provision of distribution services and what legal standard does that entity apply?

FERC has jurisdiction over transmission of electric energy in interstate commerce by public utilities, regardless of the voltage level of the delivery facilities. Section 201 of the FPA reserves regulatory authority over all facilities used in the local distribution of electricity to the state utility commissions, however. FERC in Order No. 888 promulgated a seven-factor functional test for the case-by-case determination of the jurisdictional separation between FERC-jurisdictional interstate transmission service (including service over low-voltage distribution lines) and state-jurisdictional local distribution service, and FERC generally defers to the states' application of this test.

The functional test looks at: the proximity of the facilities to retail customers; whether the facilities are radial in character; whether power flows into or out of the facilities; whether power entering the facilities is transported to another market; whether power is consumed in a defined area; whether the facilities include meters to measure power flow into the facilities; and the voltage of the power flowing through the facilities.

FERC determines the rates, terms and conditions of transmission service in interstate commerce (including service over low-voltage facilities) under the FPA's just and reasonable standard based on cost-of-service - principles. Where retail customers buy electricity from a wholesale provider, and the electricity is then delivered over distribution facilities by the load serving entity, the state determines the rates, terms and conditions of such distribution service. Because distribution services are considered to be a natural monopoly, state public utility commissions generally review tariffs for distribution services proposed by the utilities via a traditional cost-of-service ratemaking inquiry. State utility commissions generally approve the tariffs submitted by utilities if they are just and reasonable. The tariffs offered by various utilities will typically vary, even within a state.

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## Regulation of electricity utilities – sales of power

### 16 Approval to sell power

What authorisations are required for the sale of power to customers and which authorities grant such approvals?

FERC has jurisdiction over sales of power at wholesale in interstate commerce other than sales by federal or state governmental bodies and rural cooperatives that are indebted to the Rural Utilities Service (RUS) or cooperatives that sell less than 4 million MWh of electricity per year. Retail sales of electricity are regulated at the state level, with variation from state to state.

**17 Power sales tariffs**

Is there any tariff or other regulation regarding power sales?

Tariffs and contracts pursuant to which public utilities sell power generally must be filed with FERC (wholesale sales) or the applicable state PUC (retail sales) before service commences to allow the applicable regulatory entity an opportunity for review, as well as for public notice and comment. Under the FPA, FERC has jurisdiction over wholesale rate-making and is charged with assuring the rates, terms and conditions pursuant to which public utilities offer wholesale power sales are 'just and reasonable'.

FERC permits wholesale sales of power at market-based rates if the seller demonstrates a lack of market power by passing a series of horizontal and vertical market screens. FERC has commenced investigations to determine whether utilities should retain their authority to sell power at market-based rates after finding that certain utilities did not pass at least one of the screening tests. In response, several utilities voluntarily agreed to implement cost-based rate caps in the areas where FERC found a presumption of market power and revoked the market-based rate authority of a utility.

Sellers of wholesale power that have applied for and received FERC approval to sell power pursuant to a market-based rate tariff can thereafter enter into new power sales contracts and transactions without filing the contracts prior to commencing service. Instead, such sellers file quarterly reports of their power sales contracts and transactions under their market-based rate tariff. In the absence of a showing of a lack of market power, FERC regulates the rates for wholesale sales under cost-of-service rate-making principles, and each new contract must be filed with FERC before the commencement of service.

Unlike the situation with respect to transmission tariffs, FERC does not generally dictate specific non-price terms and conditions in wholesale power sales contracts but does dictate specific non-price terms and conditions in the market-based rate tariff. The regulatory structure allows complaints to be filed challenging contracts or reported power sales transactions as being unjust, unreasonable, unlawful or discriminatory.

Retail sales are regulated at state level, with significant variation from state to state. In the absence of a competitive retail market, retail rates are typically established based on cost of service.

**18 Rates for wholesale of power**

Who determines the rates for sales of wholesale power and what standard does that entity apply?

Section 201 of the FPA grants FERC exclusive regulatory authority over the wholesale sale of electricity in interstate commerce by jurisdictional entities. The state utility commissions retain regulatory authority over wholesale sales of electricity by purely intrastate wholesale sales (in practice this class is limited to wholesale sales in Alaska, Hawaii and ERCOT), as well as wholesale sales by non-jurisdictional entities such as rural electric cooperatives, municipal utilities, and state- or federally created utilities.

The FPA grants FERC authority over all jurisdictional wholesale sales of electricity to ensure that wholesale rates are just, reasonable and not unduly discriminatory or preferential. Although traditionally FERC had employed a cost-of-service ratemaking inquiry when reviewing wholesale rates to realise this statutory mandate, FERC has also allowed the market to determine wholesale power rates where it has found that the seller and its affiliates lack or have mitigated vertical or horizontal market power, and have adequately restricted affiliate transactions with captive customers. Once FERC approves a jurisdictional entity's generic market tariff, the jurisdictional entity is free to negotiate with other parties in the marketplace over the specific rate charged for the wholesale sale without having to seek FERC approval of the agreement prior to commencing service.

**19 Public service obligations**

To what extent are electricity utilities that sell power subject to public service obligations?

At retail level, electric utilities have traditionally operated under an obligation to serve. In exchange for what is generally an exclusive service territory and an opportunity to recover prudently incurred expenses through cost-based rates, utilities are obliged to provide service to all customers in that service territory, as well as to plan adequately for the future needs of customers. In states that adopt retail competition, certain electric utilities may still retain an obligation to provide service to customers who do not select a competitive supplier.

FERC has recognised that wholesale electricity sales are generally governed by private contract, rather than by regulatory order or an express obligation to serve.

**Regulatory authorities****20 Policy setting**

Which authorities determine regulatory policy with respect to the electricity sector?

A number of governmental agencies are involved in different aspects of the regulatory policies governing electricity. At the federal level, Congress ultimately determines the direction of national energy policy through legislation, but it delegates broad authority to implement legislative mandates to FERC and other administrative agencies. At the state level, electric utilities are regulated by PUCs.

**21 Scope of authority**

What is the scope of each regulator's authority?

FERC has authority to regulate sales of wholesale power and transmission in interstate commerce and to grant and administer licences for hydroelectric plants on navigable waters. Under the Public Utility Holding Company Act of 2005 (PUHCA 2005), FERC also has authority to grant exempt wholesale generator (EWG) status and foreign utility company (FUCO) status. FERC exercises authority under PURPA with respect to qualifying small power production facilities and cogeneration facilities (QFs).

FERC has jurisdiction over the disposition of assets subject to its jurisdiction, including through mergers, asset divestitures, corporate reorganisations and other transactions in which there is a change in the control of jurisdictional assets. FERC also has oversight authority with respect to the issuance of securities (except if regulated by a state) and interlocks among the officers and directors of public utilities and financial institutions, or the utility's suppliers of electrical equipment. Public utilities under FERC's jurisdiction are subject to various requirements with respect to accounting and record retention and are required to satisfy various reporting requirements.

Under PUHCA 2005, FERC has increased oversight over, and access to, the books and records of public utility holding companies and their subsidiaries and affiliates to the extent that such books and records pertain to FERC jurisdictional rates or charges. Any service company in a holding company system providing non-power goods and services to an affiliated FERC jurisdictional public utility or natural gas company must file annual reports disclosing detailed information about their businesses. Public utility holding companies may seek exemptions and waivers from these regulatory requirements. However, an automatic exemption from all of the requirements is available to companies that are holding companies solely with respect to ownership of EWGs, QFs or FUCOs. In addition, single-state holding companies are entitled to a waiver from some, but not all, of the requirements but must seek the waiver from FERC.



The NRC licenses the construction and operation of nuclear power plants and other nuclear facilities to ensure the protection of public health and safety. The Atomic Energy Act (AEA) governs the use of nuclear materials by both military and civilian entities, requires that all nuclear facilities be licensed, and establishes compensation for, and limits damages arising from, nuclear accidents. The NRC has developed detailed regulations and guidelines concerning all aspects of the operations of a nuclear power plant.

State PUCs regulate terms and rates for retail sales and delivery of electricity. PUCs are charged with ensuring that the public has access to safe, reliable utility service at reasonable rates and, thus, also have authority over at least some aspects of the organisation and finances of public utilities. Many PUCs also have authority to make siting decisions for transmission lines and generation facilities. However, in other states, siting decisions are delegated to other agencies.

Many local governments operate municipal utilities to provide electric service to their local communities. While the majority of municipal utilities serve smaller communities, several large cities, for example, Los Angeles, San Antonio, Seattle, and Orlando, operate publicly owned electric utilities. City councils and boards of elected or appointed officials generally govern municipal utilities.

The RUS promotes electrification of rural America by providing financing to local cooperatives. Electric cooperatives are governed by their member customers through an elected board of directors. Cooperative boards set rates as well as determining the types of services available and other policies. PUCs regulate some aspects of cooperatives' activities in approximately 20 of the 47 states in which cooperatives operate. Rural cooperatives with loans outstanding from the RUS are also obliged to comply with various loan covenants and regulations that affect their operations. The TVA, formed in 1933 as a wholly owned corporation of the US government, generates and transmits power in seven southeastern states. Under the Consolidated Appropriations Act of 2005, TVA is governed by a nine-member, part-time board, appointed by the president and confirmed by the Senate to serve staggered five-year terms ([www.tva.gov/finance/governance/qa.htm](http://www.tva.gov/finance/governance/qa.htm)).

The four federal power marketing administrations (PMAs) (the Bonneville, Southeastern, Southwestern and Western Area Power Administrations – the Alaska Power Administration was privatised in 1998) operate as agencies of the DoE. The PMAs do not own or operate generating facilities but market the power produced by federally owned hydro facilities. Administrators of the PMAs have authority to set rates and must certify that rates are 'consistent with applicable law' and 'the lowest possible rate to customers consistent with sound business principles'.

## 22 Establishment of regulators

How is each regulator established and to what extent is it considered to be independent of the regulated business and of governmental officials?

FERC and NRC are each authorised to have five commissioners. The president nominates, and Congress confirms, commissioners for FERC and the NRC for staggered five-year terms. The president also appoints one commissioner to serve as chair of each commission. No more than three commissioners may belong to a single political party. Furthermore, FERC and NRC decisions are not subject to review by the president, congress, the DoE or other agencies.

State PUCs vary in size, but generally have between three and seven commissioners. It is common to limit the number of commissioners who may be from a single political party. In most states, the governor appoints commissioners, with approval by the upper house of the state legislature, for staggered five or six-year terms. In some states, commissioners are elected. The governor typically designates one commissioner to serve as chair of the commission, although in some states the commissioners select the chair. State commissioners are generally subject to restrictions similar to those of their federal counterparts with respect to employment, investments and ex parte communications.

## 23 Challenge and appeal of decisions

To what extent can decisions of the regulator be challenged or appealed, and to whom? What are the grounds and procedures for appeal?

Decisions by FERC can be challenged on both substantive and procedural grounds. Within 30 days of a final decision or order by FERC, a party to the proceeding (either the applicant or an intervenor) may file a request for rehearing with FERC. Within 60 days of issuance of the decision on rehearing, an aggrieved party may request a review of the FERC decisions by a US Court of Appeals. The Court of Appeals generally will not consider any objections not raised in the request for rehearing to FERC. US Supreme Court review is possible upon a showing of compelling cause (for example, a conflict between decisions of two or more circuits of the US Court of Appeals). PUC decisions can also be challenged through judicial appeals in state courts, or if the decision violates federal law, a cause of action could be brought in federal court (subject to various limitations).

## Acquisition and merger control – competition

### 24 Responsible bodies

Which bodies have the authority to approve or block mergers or other changes in control over businesses in the sector or acquisition of utility assets?

FERC approval is required prior to the disposition of any facilities subject to its jurisdiction under the FPA of a value in excess of US\$10 million, as well as direct or indirect mergers or consolidations of public utility facilities with those of any other person regardless of the value of the facilities. Facilities under FERC's jurisdiction under section 203 of the FPA include facilities used for transmission or sale of electric power in interstate commerce (including 'paper facilities' such as contracts for wholesale power sales) as well as generation assets used for wholesale sales. FERC review is required if there is a change in 'control' of jurisdictional facilities. In general, FERC will presume that a transfer of less than 10 per cent of a public utility's holdings is not a transfer of control.

Any holding company that owns an entity selling power at wholesale or transmitting electric energy must obtain FERC authorisation to acquire securities valued in excess of US\$10 million in any entity that sells at wholesale or transmits electric energy or to otherwise merge with any such entity with a value in excess of US\$10 million. In addition, the transfer of specific assets or licences may necessitate additional reviews. For example, the transfer of a nuclear generating facility requires NRC approval.

FERC has established blanket authorisations for a variety of transactions. For example, transactions in which a holding company that includes a transmitting utility or an electric utility seeks to acquire or take any security of a transmitting utility or company that owns, operates or controls only facilities used solely for transmission in intrastate commerce or sales of electric energy in intrastate commerce, or facilities used solely for local distribution or sales of electricity at retail, are automatically authorised. Transactions involving internal corporate reorganisations that do not present cross-subsidisation issues or involve a traditional public utility with captive customers or that owns transmission assets are also automatically authorised. Acquisitions by holding companies of non-voting securities do not require prior FERC authorisation. Acquisitions by holding companies of voting securities do not require prior FERC authorisation if, after the acquisition, the acquiring holding company will directly or indirectly own less than 10 per cent of the outstanding voting securities. Moreover, acquisitions by holding companies of foreign utility companies do not require FERC authorisation except where the holding company or its affiliates has captive customers in the US, in which case the holding company must make certain representations that the transaction will not adversely affect such captive customers.

The Federal Trade Commission (FTC) and the Antitrust Division of the Department of Justice (DoJ) (collectively, the antitrust agencies) are the primary agencies with authority to enforce US antitrust and fair trade practice laws. The antitrust agencies can review the antitrust implications of proposed mergers and certain acquisitions of assets or securities in the electricity sector under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (HSR Act). Their authority is not specific to any one industry, but they, in addition to FERC and the states, may challenge in court anti-competitive practices in the electricity sector. The antitrust agencies' authority comes from laws including the HSR Act, the Federal Trade Commission Act (FTCA), the Clayton Act and the Sherman Act.

Finally, individual state regulatory bodies often must approve an acquisition or divestiture of utility companies or assets in that state, pursuant to state law. The procedures and standards for that review vary from one state to another.

## 25 Review of transfers of control

What criteria and procedures apply with respect to the review of mergers, acquisitions and other transfers of control? How long does it typically take to obtain a decision approving or blocking the transaction?

In considering an application to merge, acquire or transfer control of assets under section 203 of the FPA, FERC must determine whether the proposed transaction is in the public interest. As provided in FERC's merger policy statement in Order No. 592, such determination requires an evaluation of the proposal's effect on competition, rates and regulation. FERC must also consider whether proposed acquisitions will result in cross-subsidisation of any non-utility company in the same holding company system or in any pledge of utility assets for the benefit of any company in the same holding company system. FERC may approve an acquisition resulting in such cross-subsidisation or pledge of utility assets only if FERC determines that such cross-subsidisation or pledge will be consistent with the public interest.

With respect to assessing a proposed transaction's impact on competition under section 203 of the FPA, FERC's merger policy statement generally requires that applicants provide it with a competitive screen analysis (horizontal or vertical, as appropriate) showing the effect of the proposed disposition on relevant products in relevant geographical markets. The competitive screen analysis must:

- identify the relevant products (such as economic capacity and available economic capacity) and the geographical markets in which the competitive effects of the acquisition can be analysed;
- determine the market shares of all participating firms and the degree of concentration in the market, both before and after the proposed acquisition; and
- identify the market characteristics that will influence the ability of the combining entities to adversely affect competition, such as barriers to entry into the relevant market by other firms.

Market power is measured in part using the Herfindahl-Hirschman Index (HHI) measure of market concentration. However, note that the new Horizontal Merger Guidelines released on 19 August 2010 by the DoJ and FTC reflect the measure's declining role in merger analysis. The revised guidelines raise the HHI thresholds for determining market concentration, making it less likely for a particular market to be deemed 'moderately concentrated' or 'highly concentrated' based on HHI alone. Since FERC's appendix A horizontal electric utility merger analysis closely tracks the previous DoJ/FTC guidelines, some anticipate that FERC's merger analysis will be similarly revised. On 17 March 2011, FERC issued a Notice of Inquiry seeking comments as to whether it should revise its merger guidelines, but it has not taken any further action as of 1 October 2011.

FERC currently evaluates both the magnitude of increases in market power and overall post-transaction concentrations of market power to identify those transactions that are likely to have an adverse impact on competition. Applicants, however, are allowed to identify in their analysis other factors that may help to negate the presumption, such as benefits that the proposed acquisition will bring.

FERC will provide expedited consideration of completed applications for approval of transactions that are not contested, do not involve mergers and are consistent with FERC precedent, as well as uncontested transactions involving a disposition of only transmission facilities under the functional control of a FERC-approved RTO or ISO; transactions that do not require a competitive screen analysis; and internal corporate reorganisations that do not present cross-subsidisation issues. For transactions that do not qualify for such expedited action, FERC is required to act within 180 days after the filing of an application, unless FERC determines there is good cause for requiring additional time, in which case the time for action may be extended up to 180 days. For example, FERC might extend the time frame for action if it finds that an evidentiary hearing is needed to determine whether the transaction is in the public interest.

The antitrust agencies may review the antitrust implications of mergers and certain acquisitions of assets or securities before those transactions are consummated under the HSR Act. The FTC promulgated a set of detailed rules which govern the pre-merger notification that must be filed in connection with such a transaction. A transaction subject to the HSR Act may not close prior to the expiry of the applicable waiting period, which is initially 30 days. If the antitrust agency decides to open a second-phase investigation, the waiting period will be extended until the 30th day following substantial compliance with a second request. If the reviewing antitrust agency determines that the transaction may harm competition in a relevant market, it may seek a preliminary injunction in a federal court which would bar the consummation of the merger until the court (in a DoJ action) or the FTC (in an FTC action) has an opportunity to decide whether to seek a permanent injunction following a full trial. Such a preliminary injunction does not issue automatically; in deciding whether to preliminarily enjoin a merger, the courts give heavy consideration to whether the antitrust agency will eventually be able to prove its case at trial.

If the reviewing antitrust agency determines that the transaction may harm competition in a relevant market, such issues must be resolved before the transaction can proceed. In the electric sector, FERC (not the antitrust agencies) generally takes the lead in addressing any anti-competitive issues presented by a proposed transaction. Under the HSR Act, however, merging entities in such a situation often enter into a consent order with an antitrust agency under which the acquiring company agrees to divest a portion of its existing assets or of the assets it will be acquiring.

Finally, individual state regulatory bodies often must approve an acquisition or divestiture of utility companies or assets in that state, pursuant to state law. The procedures and standards for that review vary from one state to another.

## 26 Prevention and prosecution of anti-competitive practices

Which authorities have the power to prevent or prosecute anti-competitive or manipulative practices in the electricity sector?

The federal agencies that are primarily concerned with anti-competitive practices in the wholesale electricity sector are FTC, DoJ, FERC and the Commodity Futures Trading Commission (CFTC). State utility commissions and attorneys general generally, but not exclusively, focus on such practices in the retail electric sector.

## 27 Determination of anti-competitive conduct

What substantive standards are applied to determine whether conduct is anti-competitive or manipulative?

FERC enforces compliance with tariffs or contracts in an effort to assure service is 'non-discriminatory' and charges are 'just and reasonable'. EPAct 2005 amended the FPA to prohibit buyers or sellers of interstate wholesale electric energy or transmission services from knowingly providing a federal agency with false information or from using any manipulative or deceptive device or contrivance in violation of FERC regulations. Further, a seller of electric products and services applying for market-based rate authority must show it does not possess unmitigated market power in the affected markets.

The Commodity Futures Trading Commission (CFTC) has authority to ensure futures and options markets operate fairly and orderly under the Commodity Exchange Act. This authority overlaps FERC's authority to the extent conduct involves trading and hedging activities of electricity and similar commodities. On July 21, 2010, President Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act, which directs an overhaul of the US financial regulatory system and confers additional authority to the CFTC. The CFTC is in the process of developing regulations pursuant to the Dodd-Frank Act, which will ultimately determine the regulatory impact of the Act.

The FTC has concurrent authority, pursuant to the FTCA, to enjoin 'unfair methods of competition.' The FTC's authority extends to acquisitions that tend to substantially lessen competition, as well as to price discrimination and other anti-competitive actions. The FTC also has authority to directly protect consumers from any 'unfair or deceptive' practice, defined as an act 'that causes or is likely to cause substantial injury to consumers that is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers and to competition'.

The FTC and the DoJ have concurrent power to prosecute violations of the other federal antitrust statutes. States and private parties may also bring actions under federal and state antitrust laws.

Section 1 of the Sherman Act prohibits 'agreements, conspiracies or trusts in restraint of trade'. Under the Sherman Act, some agreements (such as agreements of horizontal price-fixing or territorial division) are determined to be per se illegal because the conduct of the agreement is overwhelmingly considered to be harmful. Other agreements that might be harmful but not necessarily are analysed under the rule of reason, requiring the plaintiff to prove that the agreement caused economic harm. Section 2 of the Sherman Act prohibits monopolies, specifically targeting anti-competitive conduct that creates or maintains market domination. The Clayton Act bars certain types of price discrimination and tying arrangements when they lessen competition.

## 28 Preclusion and remedy of anti-competitive practices

What authority does the regulator (or regulators) have to preclude or remedy anti-competitive or manipulative practices?

If a proposed tariff or contract is found by FERC to be unjust and unreasonable, FERC will order mitigating revisions. FERC may require the sellers to refund the difference between the rates collected and the rates FERC determines are just and reasonable, beginning with the date the investigation was initiated. In order for a seller to be eligible to sell wholesale at market-based rates (instead of at cost-based rates), it must demonstrate to FERC that it and its affiliates lack (or have mitigated) market power. FERC can refuse to grant market-based rate (MBR) authority to an applicant that fails to show it does not possess market power. At any point, FERC has the authority to revoke market-based rate authority upon a determination that the seller possesses market power. In addition, FERC maintains the ability to revoke prior grants of MBR authority if the company's behaviour involves fraud, deception or misrepresentation.

Once initially granted MBR authority, sellers are required to take additional measures in order to maintain the market-based rate authority. For example, sellers who control more than 500 MW of generation in any region of the country must file updates every three years in order to demonstrate its continued lack of market power. Also, such an electrical provider must notify FERC within 30 days of any significant change that might affect its qualification for market-based rates. Further, FERC has enacted market behaviour rules in order to govern sellers' conduct in the wholesale market. These rules address unit operations, communications, price reporting and record retention.

On an ongoing basis, FERC has authority under section 206 of the FPA to regulate markets and protect them against anticompetitive activity. Section 206 grants FERC authority to initiate an investigation, upon its own motion or third-party complaint, regarding whether any rate charged by a utility for any transmission or sale is 'unjust, unreasonable, unduly discriminatory or preferential'.

EPAct 2005 amended the FPA to allow for increases in the maximum penalty amounts for violations of the FPA. FERC is now able to assess civil penalties and fines of up to US\$1 million or imprisonment for not more than five years, or both, for wilful and knowing violations, through acts or omissions, of any section of the FPA. Also, EPAct 2005 provides for civil penalties of up to US\$1 million per violation per day to be assessed after notice and the opportunity for a public hearing. While FERC has used its penalty authority sparingly in the past, there are indications that, pursuant to its expanded authority, FERC will act more forcefully to demonstrate its authority with more enforcement actions. In 2010, FERC assessed civil penalties in the amount of US\$6.4 million for violations of the FPA and ordered disgorgement of unjust profits in the amount of US\$2.8 million.

The FTCA authorises the FTC to issue 'cease and desist' orders requiring electric utilities to refrain from prohibited unfair trade practices and may assess civil penalties for violations, up to US\$11,000 per violation per day. Violations of sections 1 and 2 of the Sherman Act may result in fines up to US\$100 million for corporations, or by imprisonment of up to 10 years, or both. In addition, under the antitrust acts, private parties are able to bring enforcement actions to address unfair trade practices in the electric sector, including tying arrangements, price squeezes and denial of access to essential facilities.

## International

### 29 Acquisitions by foreign companies

Are there any special requirements or limitations on acquisitions of interests in the electricity sector by foreign companies?

Several current or former US utilities are or have been owned by foreign parties including National Grid USA (owned by UK's National Grid), New York State Electricity and Gas (owned by the Spanish utility, Iberdrola), and LG&E (owned by Germany's E.ON but sold to a US company in September, 2010). However, new investors should be mindful of current US regulatory and political attitudes toward foreign investment in the energy sector.

The Exon-Florio amendment to the Defence Production Act authorises the president of the US to block a transaction if foreign persons gaining control of a US business that threatened national security. The Foreign Investment and National Security Act of 2007 (FINSIA) confirms the broad range of energy and infrastructure transactions that may be covered, and intensifies the screening for certain transactions.

Exon-Florio is administered by the Committee on Foreign Investment in the US (CFIUS), an inter-agency committee chaired by the secretary of the Treasury and including the attorney general and secretaries of homeland security, commerce, defence, state and energy. CFIUS is responsible for reviewing proposed foreign investment transactions and making recommendations to the president.

**Update and trends****Reliability**

On 18 November 2010, FERC issued Order No. 743 (as affirmed in Order No. 743-A) directing NERC to revise its definition of the 'Bulk Electric System.' NERC has jurisdiction to regulate users, owners and operators of the Bulk Electric System and FERC determined that NERC's current definition has resulted in regional inequality and 'gaps' in regulation that may compromise reliability. FERC proposed a bright-line threshold that would include within the definition of the Bulk Electric System all facilities operating at or above 100kV (except for certain radial lines). FERC gave NERC approximately one year to submit a revision to FERC for approval either adopting the proposed definition or recommending an alternative definition. NERC is currently developing a revised definition through its stakeholder process. Some industry participants are concerned that the revised definition of the Bulk Electric System will sweep in previously unregulated facilities and result in more burdensome compliance requirements.

FERC and NERC have also focused on cyber security issues pertaining to the Bulk Electric System. This has likely been induced in part by various cyber security incidents that occurred in 2011, as well as proposed cyber security legislation proffered by the White House and Congress over the past few years. Although no new cyber security legislation has been adopted, NERC and FERC have been enhancing cyber security by developing, revising, and enforcing relevant reliability standards.

**Civil penalties**

On 16 September 2010, FERC issued Modified Penalty Guidelines for enforcement cases. The guidelines are modelled on the structure

of the United States sentencing guidelines and use mathematical formulae to calculate civil penalties. The guidelines are designed to promote transparency and consistency, which FERC believes will, in turn, enhance compliance. FERC retains considerable discretion, and the actual impact on compliance and enforcement matters is still being assessed.

**Market manipulation**

The US Congress and the Obama administration have recently placed an enhanced emphasis on combating market manipulation. As a result, several agencies such as FERC and the CFTC have increased regulation of energy markets and focused on enforcement measures. See discussion on the Dodd-Frank Act in question 27.

**Demand response**

'Demand response' generally encompasses programmes or incentives that allow electricity customers to respond to price fluctuations. For example, if a customer can reduce its electricity consumption at times of peak load on the grid, then that reduction may help ease congestion. Various regions and localities have implemented a gamut of demand response programmes throughout the nation. FERC has recently taken measures to facilitate the development and use of demand response because of its potential to enhance reliability and reduce the need for construction and replacement of costly infrastructure. On 17 March 2011, FERC issued Order No. 745, which further incentivises demand response by directing all ISOs and RTOs to develop measures to compensate consumers who provide demand response for the service they are perceived as providing to the grid.

FINSA confirms that Exon-Florio applies to acquisitions of 'critical infrastructure'. This term has been defined as systems or assets so vital to the US that the incapacity or destruction of it would have a debilitating impact on national security. While the definition has been applied to ports and oil companies, it is unclear whether or to what degree electricity generating, transmission or distribution facilities would be considered critical infrastructure.

FINSA formalises many CFIUS practices, including explicitly encouraging parties to notify and engage with CFIUS regarding a transaction in order to seek CFIUS clearance. FINSA provides for a 30 to 45-day CFIUS review of covered transactions; reviews are mandatory for covered transactions involving foreign government-controlled entities.

For nuclear-generating facilities, the Atomic Energy Act (AEA) generally bars the issuance of a reactor licence to a non-US person. Situations where a foreign company would be able to hold a licence include when it owns up to 50 per cent of an entity whose officers and employees responsible for special nuclear materials are US citizens, or it owns a US subsidiary that will hold the licence, the foreign company's stock is 'largely' owned by US citizens, and the subsidiary's officers and employees responsible for special nuclear materials are US citizens.

**30 Cross-border electricity supply**

What rules apply to cross-border electricity supply, especially interconnection issues?

No electric transmission lines crossing the US international border may be constructed or operated without a presidential permit. The secretary of energy (through the DoE's Office of Electricity Delivery and Energy Reliability) will issue a permit upon determining that the project is in the public interest. The two primary criteria used to determine if a proposed project is consistent with the public interest are the impact the proposed project would have on the operating reliability of the US electric power supply, and the environmental consequences of proposed projects. The DoE must also obtain concurrence from the secretary of state and the secretary of defence before issuing a permit.

The FPA allows exports of electric energy unless the proposed export would impair the sufficiency of electric power supply within the US or would impede or tend to impede the coordinated use of the US power supply network. Based on these guidelines from the FPA, DoE (again through the Office of Electricity Delivery and Energy Reliability) grants authorisation to export electric energy if it determines that sufficient generating resources exist such that the exporter could sustain the export while still maintaining adequate generating resources to meet all firm supply obligations, and the export would not cause operating parameters on regional transmission systems to fall outside of established industry criteria. The DoE must also comply with NEPA before granting authorisation to export electric energy. No federal permit is required to import electricity into the US and no federal permit is required to sell imported electricity, if the sale at issue takes place outside of interstate commerce. Federal regulation of a sale for resale in interstate commerce of imported or domestic electricity will apply if title to the electricity changes hands at a point within the US. In this case, the seller must apply to FERC for approval of the rates, terms and conditions of the sale. There are two exceptions. First, in the event the sale for resale in interstate commerce of imported or domestic electricity is conducted by a US government-owned, US state-owned, or US municipally owned utility, or is conducted by a US Department of Agriculture Rural Utilities Service-financed rural electric cooperative, there will be no FERC regulation of the sale. Second, there will be no FERC regulation of retail sales of imported or domestic electricity. The state PUC may regulate the retail sales of electricity within its border.

**Transactions between affiliates****31 Restrictions**

What restrictions exist on transactions between electricity utilities and their affiliates?

On 16 October 2008, the Federal Energy Regulatory Commission (FERC) issued Order No. 717, which adopted significant changes to its standards of conduct governing relations between transmission providers for both electricity and natural gas and their affiliates. The rule concentrates on three principles as the way to prevent affiliate abuse. The main elements of this are the independent functioning rule, the no-conduit rule, and the transparency rule.

**Independent functioning rule**

FERC eliminated completely the concept of energy affiliates as well as the corporate separation approach to separating grid operators from marketing affiliates, two aspects of the old Order No. 2004 rules that had proven difficult to understand and enforce. Instead, the new rules are based on the employee functional approach that was first utilised in industry restructuring orders from the 1980s and 1990s. This approach focuses on an employee's actual function on the job rather than the employee's position in the organisation chart. Thus, whereas under the former rules any employee of a marketing or energy affiliate was prohibited from interacting with transmission function employees, Order No. 717 limits the category of employees who must function independently from transmission operators to those who are actively and personally engaged on a day-to-day basis in marketing functions. By narrowing the focus in this manner, the rules provided needed clarity to supervisors, managers, and executives, and allow the free flow of the type of information needed for long-term planning.

**No-conduit rule**

The no-conduit rule prohibits a transmission provider from using anyone as a conduit for the disclosure of non-public transmission function information to its marketing function employees. This rule covers both information and employees not falling within the scope of the independent functioning rule. For example, although there is no general requirement that lawyers employed by transmission providers need to function independently of the company's marketing

function employees, lawyers must nevertheless avoid serving as a conduit for passing non-public transmission information to marketing function employees.

**Transparency rule**

Order No. 717 is also designed to promote transparency through the collection, reporting, and public posting requirements of information that may alert interested persons and FERC to potential acts of undue preference.

**Reliability exception**

Reflecting the importance of reliability, the Order makes an exception to the independent functioning rule and the no-conduit rule for the exchange of information 'pertaining to compliance with reliability standards approved by the Commission' and information 'necessary to maintain or restore operation of the transmission system or generating units, or that may affect the dispatch of generating units'.

**32 Enforcement and sanctions**

Who enforces the restrictions on utilities dealing with affiliates and what are the sanctions for non-compliance?

FERC has authority to impose penalties in the amount of US\$1 million per day per violation under sections 316 and 316A of the FPA or to use its rate authority to remedy affiliate abuse (as discussed more fully in question 27). Mechanisms for enforcement and remedies for violations of states' affiliate rules vary.

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