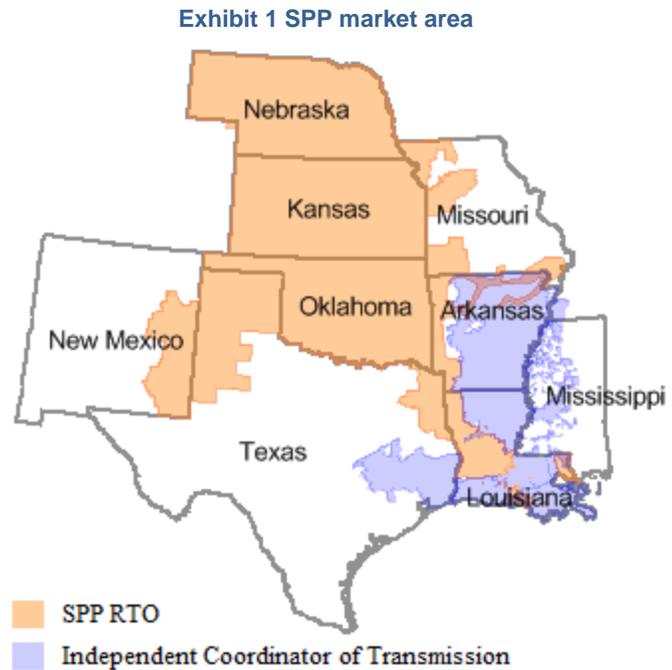




## Southwest Power Pool, Inc.

### History and Geography of the Southwest Power Pool

The Southwest Power Pool (SPP) was designated by the Federal Energy Regulatory Commission (FERC) as a Regional Transmission Operator (RTO)<sup>1</sup> in 2004, and as a Regional Entity (RE) in 2007.<sup>2</sup> SPP is responsible for ensuring reliability and establishing and overseeing competitive wholesale electricity markets for all or parts of nine states in the U.S.: Arkansas, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, and Texas. As an RE, SPP is responsible for enforcing compliance and overseeing development of the federal and regional reliability standards. In addition, SPP serves as an Independent Coordinator of Transmission (ICT) for Entergy Services<sup>3</sup> (blue areas in Exhibit 1<sup>4</sup>). As an ICT, SPP administers Entergy's open access, conducts long-term transmission planning, serves as reliability coordinator, and oversees Entergy's operation. In 2011, SPP dispatched approximately 72,700 MW of generating capacity and 1,500 MW of demand resources over 49,000 miles of transmission lines, providing electric service to 15.5 million people.<sup>5</sup> An all-time peak demand of 54,949 MW was set on August 2, 2011.



Map developed by NETL. Source: ABB Velocity Suite<sup>4</sup>

Similar to other RTOs, a primary function of SPP is to facilitate the energy markets in its service area, maintain minute-to-minute reliable electricity service in a cost-effective manner, manage wholesale markets, and manage the bulk power system planning processes. SPP operates the energy imbalance service and transmission service markets to serve load with the lowest-cost resources possible. It has designed a locational market structure to ensure that transmission capability is used efficiently and that electricity prices reflect the marginal cost of providing the service at each location. The electricity price in

<sup>1</sup> Many of the technical terms used in this primer are defined in a companion *Glossary for Power Market Primers*.

<sup>2</sup> ISO/RTO Council. (2011). *About Southwest Power Pool*. Retrieved on December 30, 2011, from <http://www.isorto.org/site/apps/nlnet/content2.aspx?c=jhKQIZPBIImE&b=2613997&ct=8961273&notoc=1>

<sup>3</sup> "Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity. Entergy delivers electricity to 2.7 million utility customers in Arkansas, Louisiana, Mississippi and Texas." Retrieved on January 9, 2011, from [http://www.entergy.com/about\\_entergy/](http://www.entergy.com/about_entergy/).

<sup>4</sup> ABB Velocity Suite. (2012). *Intelligent Map – SPP Regions and Entergy Service Area*. Retrieved on November 29, 2012, from <https://velocitysuite.globalenergy.com/Citrix/MetaFrame/auth/login.aspx>

<sup>5</sup> ISO/RTO Council. (2012). *Fast Facts: Handout with basic SPP facts*. Retrieved on November 30, 2012, from <http://www.spp.org/section.asp?pageID=28>

SPP (Exhibit 2) is determined by energy cost (i.e., the cost of generating power, which includes fuel costs, operation and maintenance for generators, and reimbursement for the capital cost of generators).

**Exhibit 2 SPP average wholesale electricity price 2009, 2010, and 2011 (\$/MWh)<sup>6</sup>**

Price	2009	2010	2011
Energy	\$ 27.49	\$ 31.33	\$ 29.28

## SPP Products and Services

SPP manages competitive markets that provide energy services and reliability services through the Energy Imbalance Service and Transmission Service markets. In 2011, the wholesale energy market aggregated billings of \$1.28 billion across SPP's 32 market participants and the transmission service aggregated billings of \$865 million.<sup>6</sup>

### Energy Imbalance Service Market

SPP's main role as an RTO is to coordinate an energy market throughout the service area, which consists of facilitating the continuous buying, selling, and delivery of wholesale electricity, providing dispatch requests to generators, and acting as a data clearinghouse. In addition to acting as a clearinghouse for bilateral power contracts, SPP manages a real-time market for power delivery that is called the Energy Imbalance Service (EIS) market. Participation in EIS is voluntary and does not include all SPP members. It includes only those members that agreed to the SPP Tariff, Market Protocols, and other governing documents. Only 10 to 20 percent of all electricity is purchased in EIS. SPP "clears the market," i.e., coordinates which generators will operate at what time and at what price to meet real-time electricity demand. The price of electricity is based on the cost of bringing the next marginal unit of electricity on line at specific locations throughout the SPP. This method of calculating electricity price is called locational imbalance price (LIP) and it is analogous to locational marginal price in other ISOs/RTOs.<sup>7</sup> SPP has used the LIP since 2007.

### Transmission Service Market

SPP establishes a transmission service market to provide use of the regional transmission grid. Transmission lines are owned by different companies, and SPP's function is to provide a single place where utilities can reserve the rights to move electricity on the transmission grid, by reserving transmission service.

### Tariff Administration

As an RTO, SPP is responsible for administering its "Open Access Transmission Tariff." This tariff is filed with FERC and outlines how SPP will determine rates for transmission service, evaluate and approve requests for transmission service, perform transmission impact studies, and coordinate use and administration with other transmission providers in the region, among other activities. With FERC's approval of the tariff, SPP is the sole decision-making authority on the provision of transmission service in accordance with the tariff. However, in a case when a dispute cannot be solved internally by a senior designated representative of the transmission provider and a senior representative of the transmission customer, the dispute may be submitted to arbitration.<sup>8</sup> The arbitrators are selected by the parties or by the

<sup>6</sup> SPP. (2012). *2011 State of the Market*. Retrieved on November 30, 2012, from <http://www.spp.org/section.asp?pageID=86>

<sup>7</sup> SPP. (2011). *Locational Imbalance Pricing*. Retrieved on January 4, 2011, from <http://www.spp.org/publications/LIP/lmp/1.html>

<sup>8</sup> SPP. (2013). *Open Access Transmission Tariff, Sixth Revised Volume No. 1*. Retrieved on January 17, 2013, from [http://www.spp.org/publications/SPP\\_Tariff.pdf](http://www.spp.org/publications/SPP_Tariff.pdf)

American Arbitration Association if the parties cannot agree on the selection. The arbitrators are subject matter experts that do not have any business or financial relationship with the parties.

## SPP Integrated Marketplace

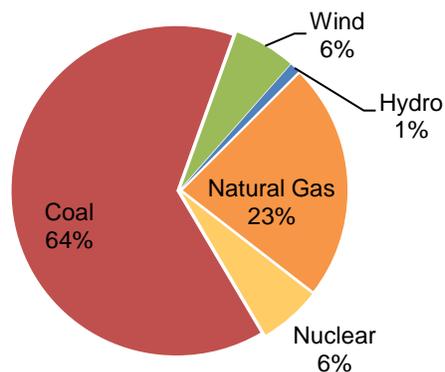
SPP electricity markets are evolving and the next generation of the market will be the integrated marketplace. It will include a day-ahead market with transmission congestion rights, reliability unit commitment, a real-time balancing market that will replace the existing EIS, and an operating reserve (supplemental, spinning, and regulation reserve) market. The integrated marketplace is expected to be launched March 1, 2014. However, participants in the market will have to be ready in May 2013.

On October 18, 2012, FERC conditionally approved SPP's proposed integrated marketplace structure.<sup>9</sup> The proposed structure will consolidate the sixteen balancing authorities in the SPP area into a single balancing authority operated by SPP. SPP still must submit additional documents that will illustrate that the new market is adequately prepared and the transmission between the existing and new market is well planned. They also have to submit additional filings to comply with FERC orders, such as demand response provision. SPP has to file an informal report fifteen months after the market startup to evaluate the effectiveness of the new market structure.

## SPP Generation Profile

While SPP does not own or directly operate power generation facilities, it is responsible for managing scheduled outages for maintenance and maintaining reliable electricity service at the lowest cost possible, as provided by the different generators on the system. Thus, to maintain reliability, SPP continually evaluates the fuel mix of generation assets in the region. As seen in Exhibit 3, the majority of the region's power comes from coal generation facilities.

Exhibit 3 SPP generation (MWh) by fuel type (data through December 2012)<sup>5</sup>



The natural gas units were marginal units<sup>10</sup> fifty-five percent of the time and the coal-fired units were marginal units forty-five percent of the time. This was a significant change from 2010 when the natural gas units were marginal units sixty-two percent of the time and the coal units were marginal units thirty-eight percent of the time.<sup>11</sup>

<sup>9</sup> SNL Financial. (2012). *FERC conditionally approves SPP's proposed new integrated marketplace – October 18, 2012*. Retrieved on November 30, 2012, from <http://www.snl.com/interactivex/article.aspx?id=16023245&KPLT=6>

<sup>10</sup> A marginal unit is a unit that sets system electricity price.

<sup>11</sup> SPP. (2011). *2010 State of the Market*. Retrieved on November 30, 2012, from <http://www.spp.org/publications/2010-State-of-the-Market-Report.pdf>