

KANSAS CORPORATION COMMISSION

# 2011 Kansas Generation Planning Survey



## Section 1: System Peak Capacity Planning

All major utilities<sup>1</sup> in Kansas are members of the Southwest Power Pool (SPP), which operates as the Regional Transmission Organization (RTO) throughout the State, as well as in the states of Nebraska, Oklahoma, and parts of Missouri, Texas, Arkansas, Louisiana, and New Mexico. SPP additionally serves as the Regional Entity of the North American Electric Reliability Corporation (NERC), and is mandated by the Federal Energy Regulatory Commission (FERC) to ensure reliable operation of the electric grid within the region, including ensuring adequate power supplies and reserves are maintained by its members.

In furtherance of this mandate, SPP publishes a series of regulations—called the SPP Criteria—governing the system operations of its members. SPP additionally requires its members to annually submit 10 year capacity and load projections to show how the utility will meet its ongoing system obligations, including the 12% reserve margin requirement outlined in the Criteria.<sup>2</sup> System obligations may be satisfied by capacity from owned generation units, capacity purchased through long term wholesale power contracts (often called Power Purchase Agreements (PPAs)), full or partial requirements contracts, and short-term capacity contracts.<sup>3</sup>

The table presented below shows the current and 20 year forecasted capacity and system peak responsibility (system peak load plus SPP's 12% required reserve margin) for utilities operating in Kansas.<sup>4</sup> This includes smaller municipal and cooperatives utilities that purchase electricity wholesale from larger state utilities through full requirements contracts, wherein these municipal and cooperative utilities' peak loads are incorporated into the larger utility's system requirements. Finally, capacity and system peak responsibility for the State's two multi-jurisdictional investor-owned utilities—Kansas City Power & Light, and Empire District Electric Company—represent only these utility's Kansas loads, with their system capacity additionally scaled to represent capacity allocated to serving this load.

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<sup>1</sup> Specifically, all utilities listed in this report exclusive of the Kansas Power Pool are members of SPP. Kansas Power Pool, while not a member of SPP, is a registered customer of SPP.

<sup>2</sup> See SPP Criteria section 2.1.9; "Each Load Serving Member's Minimum Required Capacity Margin shall be twelve percent." Capacity margin is calculated as  $\{(1/0.88)-1\}$ \*estimated peak load}. Additionally, margin responsibility for firm power contracts (contracts which included reserve responsibility as an element) are not included in Staff's calculations.

<sup>3</sup> Note Table 1.1 and the tables listed in Appendix A are intended to represent a utility's long-term position, and thus do not include short-term capacity contracts. Short-term capacity contracts are defined as a capacity contract greater than three months but less than a year in duration.

<sup>4</sup> Peak-load data presented was provided by the individual utilities based on internal system planning forecasts, with one exception. Westar Energy provided internal load forecasts through 2020. Subsequent years' peak demands were calculated by Staff assuming a 0.84% growth rate per year. Likewise, data for the McPherson Board of Public Utilities was generated by Staff based on information provided by Westar Energy (the SPP Balancing Authority for the McPherson Board of Public Utilities system).

Table 1—Overview of Current and Projected System Capacity and Load Responsibility for Utilities Operating in Kansas.

		Investor Owned Utilities (IOUs)			Cooperatives			Municipal Utilities			
		Empire District Electric Company	Kansas City Power & Light (KCP&L)	Westar Energy	Kansas Electric Power Coop. (KEPCo)	Midwest Energy	Sunflower Electric Power Corporation	Kansas City Board of Public Utilities (KC-BPU)	Kansas Municipal Energy Agency (KMEA)	Kansas Power Pool (KPP)	McPherson Board of Public Utilities
2011 Historical	Total System Capacity (MW)	63.1	2,125.2	6,697	581.5	371.5	1,315.0	600.9	240.7	542.6	235.8
	System Planning Responsibility (MW)	61.3	1,881.6	5,666	513.8	391.6	1,227.3	570	239.0	434.1	161.4
	System Capacity Surplus (Deficit)	1.8	243.6	1,030.9	67.7	(20.1)	88.2	30.4	1.7	108.6	74.4
2016 Projected	Total System Capacity (MW)	65.2	2,159.8	6,522	597.7	401.5	1,339.6	667.0	254.5	502.8	235.8
	System Planning Responsibility (MW)	63.3	2,064.2	5,616	522.6	388.2	1,359.9	567	257.5	539.5	175.0
	System Capacity Surplus (Deficit)	1.9	95.6	869.9	75.1	13.3	(20.3)	100.0	(3.0)	(36.7)	60.8
2021 Projected	Total System Capacity (MW)	65.2	2,171.9	6,380	537.0	372	1,210.6	538.5	190.5	422.8	235.8
	System Planning Responsibility (MW)	68.0	2,185.5	5,841	522.0	413.2	1,381.8	573	277.5	594.4	189.4
	System Capacity Surplus (Deficit)	(2.8)	(13.6)	539.0	15.0	(41.2)	(171.2)	(34.2)	(87.0)	(171.7)	46.4
2026 Projected	Total System Capacity (MW)	64.8	2,181.1	6,380	552.4	372	1,205.4	545.1	142.5	403.3	235.8
	System Planning Responsibility (MW)	73.2	2,330.7	6,096	549.6	442.8	1,442.1	580	299.0	656.3	205.5
	System Capacity Surplus (Deficit)	(8.3)	(149.6)	284	2.8	(70.8)	(236.7)	(34.4)	(156.5)	(253.0)	30.3
2031 Projected	Total System Capacity (MW)	64.5	2,191.3	6,380	568.5	372	1,205.4	434.3	142.5	403.3	235.8
	System Planning Responsibility (MW)	78.8	2,498.7	6,362	577.7	479.2	1,505.0	585	322.0	724.6	222.9
	System Capacity Surplus (Deficit)	(14.3)	(307.4)	(12)	(9.1)	(107.2)	(299.6)	(150.9)	(179.6)	(321.3)	12.9

## Section 2: Renewable Energy Planning

In May 2009, the Kansas Legislature passed Senate Substitute bill for H. 2369, in part creating the Renewable Energy Standard Act (RES) which requires all non-municipal utilities in Kansas to satisfy a portion of the utility's generation needs through renewable generation sources. In particular, the RES—incorporated into statute as K.S.A. 66-1256 through 66-1262—requires all utilities subject to its requirements to own or purchase renewable generation such that the nameplate capacity<sup>1</sup> of these generators is equal to 10% of the utility's average prior three-year annual peak retail sales for the years 2011 through 2015, 15% for the years 2016 through 2019, and 20% for all years after 2020.

K.S.A. 66-1258 also stipulated that the KCC would establish rules and regulation governing specifics of the RES not covered within the statutes. In October 2010, the KCC finalized K.A.R. 82-16-1 through 82-16-6 establishing these rules and regulations. Of note within these administrative regulations is the KCC's decision of how the State's RES would be measured for the many electric distribution cooperative utilities operating in the State. Electric cooperative distribution utilities, while engaging in the retail sale and distribution of electricity from the transmission system to their customer's homes or businesses, do not own any generation or wholesale transmission facilities themselves. Instead these utilities either enter into wholesale purchase contracts with Investor Owned Utilities, or often a Generation and Transmission (G&T) Cooperative<sup>2</sup> formed with other electric distribution cooperative utilities for the purposes of acting as a wholesale supplier. K.A.R. 82-16-2(b) indicates that compliance with the RES may be met by the G&T Cooperative on behalf of its members, rather than each individual distribution cooperative.

The table below shows each RES affected utility's forecasted renewable capacity responsibility and nameplate renewable capacity (multiplied by a factor of 1.1 for renewable generators located within the State as defined by K.S.A. 66-1258(c)), with the exclusion of three independent distribution cooperatives who purchase power solely wholesale from Westar Energy (Nemaha-Marshall, Doniphan, and Kaw Valley electric cooperatives). The renewable energy requirements for these three entities are included within the overall annual requirements for Westar Energy.

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<sup>1</sup> K.S.A. 66-1257(c) defines 'net renewable generation capacity' as the gross generation capacity of a renewable generation resource over a four-hour period free from limitations including ambient conditions. As most renewable generation is completely driven by ambient weather conditions (i.e. if and to what degree the wind is blowing), it is hard to apply the defined statute in its strictest sense. However, the KCC through K.A.R. 82-16-1(e) has interpreted this statutory definition as implying nameplate capacity.

<sup>2</sup> G&T Cooperatives operating in Kansas are Kansas Electric Power Cooperatives (KEPCo) and Sunflower Electric Power Corporation (Sunflower), though Sunflower's co-entity Mid-Kansas Electric Corporation (MKEC) acts as a similar entity.

Table 2—Overview of Renewable Capacity and Renewable Capacity Requirements for Utilities Operating in Kansas.

		Utilities Subject to Renewable Energy Standard (RES) under K.S.A. 66-1258							Kansas City Board of Public Utilities (KC-BPU) <sup>1</sup>	Kansas Power Pool (KPP) <sup>1</sup>
		Empire District Electric Company	Kansas City Power & Light (KCP&L)	Westar Energy	Kansas Electric Power Coop. (KEPCo)	Midwest Energy	Sunflower Electric Power Corporation			
2011 Historical	System Renewable Capacity (MW)	268.5	209.7	465.2	114	53.9	143.2	73.4	40.5	
	Renewable Capacity Responsibility—10% (MW)	5.1	163.6	465.2	41.6	30.2	67.9	48.8	38.2	
	Renewable Capacity Surplus (Deficit)	263.4	46.1	0	72.4	23.7	75.3	24.6	2.3	
2016 Projected	System Renewable Capacity (MW)	219.9	240.3	737	114	53.9	257.5	82.7	40.5	
	Renewable Capacity Responsibility—15% (MW)	8.1	284.2	742.3	67.4	53.4	112.8	75.7	67.2	
	Renewable Capacity Surplus (Deficit)	211.8	(43.9)	(5.3)	46.6	(4.4)	144.7	7.1	(26.7)	
2020 Projected	System Renewable Capacity (MW)	127.8	99.8	737	114	53.9	201.4	82.7	40.5	
	Renewable Capacity Responsibility—20% (MW)	11.3	398.7	1,023.7	94.2	75.2	156.5	101.8	98.8	
	Renewable Capacity Surplus (Deficit)	116.5	(298.7)	(285.7)	19.8	(26.2)	44.9	(19.1)	(58.3)	
2025 Projected	System Renewable Capacity (MW)	26.7	(59.8)	737	114	53.9	196.2	82.7	40.5	
	Renewable Capacity Responsibility—20% (MW)	12.2	423.1	1,064.7	93.9	80.9	164.5	102.8	108.9	
	Renewable Capacity Surplus (Deficit)	14.5	(423.1)	(327.7)	20.1	(31.9)	31.8	(20.1)	(68.4)	
2030 Projected	System Renewable Capacity (MW)	(267.6)	(89.7)	737	114	53.9	196.2	82.7	40.5	
	Renewable Capacity Responsibility—20% (MW)	13.2	452.2	1,110.4	98.7	87.6	172.9	104.0	120.2	
	Renewable Capacity Surplus (Deficit)	(13.2)	(452.2)	(373.4)	15.3	(38.6)	23.4	(21.3)	(79.7)	

<sup>1</sup> KC-BPU is a municipal utility not subject to K.S.A. 66-1258. However, KC-BPU has publicly stated that it will voluntarily comply with the Renewable Energy Standard (RES) contained within the statute. Likewise, KPP (an organization of municipal utilities) requested Staff include an examination of its renewable energy for illustrative purposes.

## Appendix A: Utility System Capacities and Load Responsibilities

### Appendix A-1—Empire District Electric Company

The Empire District Electric Company (Empire) is a regulated investor-owned utility operating in the states of Kansas, Missouri, Arkansas, and Oklahoma. Only a very small portion of Empire’s overall service territory falls within Kansas, consisting of approximately 10,102 retail customers in Cherokee county (located in the extreme southeastern corner of the state).

		System Peak			System Capacity <sup>1</sup>			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	52.4	7.2	59.9	56.1	7.2	63.3	3.4
	2008	51.5	7.1	58.9	56.1	5.3	61.4	2.5
	2009	48.5	6.6	55.1	56.1	7.6	63.7	8.6
	2010	53.5	7.3	61.2	58.4	2.5	60.1	(0.4)
	2011	53.5	7.4	61.3	62.4	0.7	63.1	1.8
Projected	2012	53.2	7.3	61.0	62.4	0.7	63.1	2.1
	2013	53.5	7.4	61.3	62.4	0.7	63.1	1.8
	2014	54.1	7.4	62.1	62.4	0.7	63.1	1.0
	2015	54.6	7.5	62.6	62.4	0.7	63.1	0.5
	2016	55.2	7.6	63.3	64.5	0.7	65.2	1.9
	2017	55.9	7.7	64.1	64.5	0.7	65.2	1.1
	2018	56.7	7.8	65.0	64.5	0.7	65.2	0.1
	2019	57.6	7.9	66.0	64.5	0.7	65.2	(0.8)
	2020	58.4	8.0	67.0	64.5	0.7	65.2	(1.8)
	2021	59.3	8.2	68.0	64.5	0.7	65.2	(2.8)
	2022	60.2	8.3	69.0	64.5	0.7	65.2	(3.8)
	2023	61.1	8.4	70.0	64.5	0.7	65.2	(4.9)
	2024	62.0	8.5	71.0	64.5	0.7	65.2	(5.9)
	2025	62.9	8.7	72.1	64.5	0.7	65.2	(6.9)
	2026	63.9	8.8	73.2	64.5	0.4	64.8	(8.3)
	2027	64.8	8.9	74.3	64.5	0.4	64.8	(9.4)
2028	65.8	9.0	75.3	64.5	0.4	64.8	(10.5)	
2029	66.8	9.2	76.5	64.5	0	64.5	(12.0)	
2030	67.8	9.3	77.6	64.5	0	64.5	(13.1)	
2031	68.8	9.5	78.8	64.5	0	64.5	(14.3)	

<sup>1</sup> Empire’s system capacity is scaled in this table to reflect the Kansas portion of Empire’s service territory; approximately 6.5% of Empire’s overall system peak.

## Appendix A-2—Kansas City Power & Light Company

The Kansas City Power and Light Company (KCP&L), a wholly owned subsidiary of Great Plains Energy Inc., is a regulated investor-owned utility that operates in northeast Kansas and western Missouri. System-wide KCP&L is responsible for serving approximately 518,196 retail customers, approximately 242,441 of which are located in Kansas.

		System Peak			System Capacity <sup>1</sup>			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	1,685.9	227.5	1,895.5	1,829.6	79.5	1,909.1	13.5
	2008	1,645.8	218.8	1,823.3	1,744.4	50.0	1,794.4	(28.9)
	2009	1,632.0	214.0	1,783.4	1,781.1	51.0	1,832.1	48.7
	2010	1,686.0	221.7	1,847.4	1,945.7	-2.4	1,943.3	95.9
	2011	1,754.0	225.8	1,881.6	2,132.4	-7.1	2,125.2	243.6
Projected	2012	1,864.5	240.5	2,003.8	2,140.4	-3.5	2,136.9	133.1
	2013	1,889.4	242.7	2,022.5	2,148.7	21.9	2,170.6	148.2
	2014	1,915.2	244.7	2,039.5	2,151.6	21.9	2,173.6	134.1
	2015	1,940.0	246.1	2,050.6	2,152.1	22.0	2,174.1	123.5
	2016	1,964.4	247.7	2,064.2	2,154.6	5.1	2,159.8	95.6
	2017	1,988.7	250.5	2,087.3	2,157.0	5.2	2,162.2	74.9
	2018	2,013.1	253.3	2,111.2	2,160.0	5.2	2,165.2	54.0
	2019	2,038.2	256.4	2,136.3	2,162.7	5.2	2,167.9	31.6
	2020	2,060.4	259.1	2,159.3	2,164.4	5.2	2,169.6	10.3
	2021	2,084.9	262.3	2,185.5	2,166.7	5.2	2,171.9	(13.6)
	2022	2,108.7	265.3	2,211.1	2,168.7	5.2	2,173.9	(37.3)
	2023	2,135.3	268.8	2,239.8	2,171.4	5.2	2,176.6	(63.1)
	2024	2,162.0	272.2	2,268.6	2,173.2	5.2	2,178.4	(90.2)
	2025	2,189.9	275.9	2,298.9	2,174.5	5.2	2,179.7	(119.2)
	2026	2,219.1	279.7	2,330.7	2,175.9	5.2	2,181.1	(149.6)
	2027	2,250.3	283.8	2,364.7	2,178.7	5.2	2,183.9	(180.7)
2028	2,281.2	287.8	2,398.4	2,180.9	5.2	2,186.1	(212.4)	
2029	2,311.3	291.8	2,431.3	2,182.6	5.2	2,187.8	(243.5)	
2030	2,340.7	295.6	2,463.3	2,184.3	5.2	2,189.6	(273.7)	
2031	2,373.0	299.8	2,498.7	2,186.0	5.2	2,191.3	(307.4)	

<sup>1</sup> KCPL's system capacity is scaled in this table to reflect the Kansas portion of KCPL's service territory; approximately 48% of KCPL's overall system peak.

### Appendix A-3—Westar Energy, Inc.

Westar Energy, Inc. (Westar) is a vertically-integrated investor-owned utility operating in south-central and northeast Kansas. In the south-central portion of the state Westar operates as Kansas Gas and Electric Company (Westar South). In the northeastern portion of the state Westar operates under its corporate name of Westar Energy (Westar North). Although technically comprised of two separate companies, Westar's entire system is dispatched as one system unit, and therefore there has been a movement to consolidate electric rates with the ultimate goal of uniform rates across the two entities. Westar is responsible for providing electric service to approximately 687,000 retail customers across both systems.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation <sup>1</sup>	Net Contracts	Total System Capacity	
Historical	2007	4,645	608	5,067	5,829	-418	5,412	344.5
	2008	4,667	633	5,272	6,297	-493	5,805	533.3
	2009	4,442	606	5,048	6,626	-504	6,122	1,074.2
	2010	4,935	651	5,427	6,608	-82	6,526	1,098.9
	2011	5,040	680	5,666	6,572	125	6,697	1,030.9
Projected	2012	4,940	653	5,444	6,602	-49	6,553	915.7
	2013	4,989	659	5,488	6,534	-84	6,450	1,066.9
	2014	5,038	664	5,534	6,534	148	6,682	864.7
	2015	5,086	669	5,579	6,376	147	6,523	777.3
	2016	5,126	674	5,616	6,376	146	6,522	869.9
	2017	5,164	679	5,659	6,380	280	6,660	818.8
	2018	5,204	684	5,704	6,380	279	6,659	767.6
	2019	5,240	689	5,745	6,380	278	6,658	776.0
	2020	5,280	695	5,791	6,380	337	6,717	776.0
	2021	5,324 <sup>2</sup>	726	5,841	6,380		6,380	539.0
	2022	5,368	732	5,891	6,380		6,380	489.0
	2023	5,412	738	5,941	6,380		6,380	439.0
	2024	5,457	744	5,992	6,380		6,380	388.0
	2025	5,502	750	6,044	6,380		6,380	336.0
	2026	5,548	757	6,096	6,380		6,380	284.0
2027	5,594	763	6,148	6,380		6,380	232.0	
2028	5,641	769	6,201	6,380		6,380	179.0	
2029	5,687	776	6,254	6,380		6,380	126.0	
2030	5,735	782	6,308	6,380		6,380	72.0	
2031	5,782	788	6,362	6,380		6,380	(12.0)	

<sup>1</sup> See Direct Testimony of Douglas R. Sterbenz, Docket 12-WSEE-141-RTS, pg. 27; Accredited Generation assumes retirement of: Abilene GT 1 in 2013, Hutchinson GT 4 in 2015, Murray Gill 1&2 in 2015, Neosho 3 in 2012, and Tecumseh GT 1&2 in 2012. Retirement of these units is still being evaluating with no final decision having yet been made.

<sup>2</sup> Total System Peak Load data for 2021 and beyond was generated by Staff from internal 10-year forecasts provided by Westar Energy assuming 0.84% growth rate per year.



**Appendix A-4—Kansas Electric Power Cooperative, Inc. (KEPCo)**

The Kansas Electric Power Cooperatives, Inc. (KEPCo) is a deregulated Generation and Transmission Cooperative whose membership is composed of 19 rural distribution cooperatives located throughout central and eastern Kansas.<sup>1</sup> KEPCo’s 19 member cooperatives collectively serve approximately 110,000 customers—as indicated by number of meters.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	405.3	55.3	460.6	90	391.3	481.3	20.7
	2008	407.6	55.6	463.2	90	403.8	493.8	30.6
	2009	401.0	54.7	455.7	90	410.6	500.6	44.9
	2010	439.7	60.0	499.7	90	451.5	541.5	41.8
	2011	452.1	61.7	513.8	122	459.5	581.5	67.7
Projected	2012	437.9	59.7	497.6	122	461.6	583.6	85.9
	2013	443.6	60.5	504.1	122	465.0	587.0	82.9
	2014	448.8	61.2	510.0	122	468.5	590.5	80.5
	2015	454.7	62.0	516.7	122	472.1	594.1	77.4
	2016	459.9	62.7	522.6	122	475.7	597.7 <sup>2</sup>	75.1
	2017	465.7	63.5	529.2	122	479.3	601.3	72.1
	2018	471.0	64.2	535.2	122	482.9	604.9	69.7
	2019	476.7	65.0	541.7	122	409.1	531.1	(10.6)
	2020	482.5	65.8	548.3	122	412.1	534.1	(14.2)
	2021	459.4	62.6	522.0	122	415.0	537.0	15.0
	2022	464.8	63.4	528.2	122	418.0	540.0	11.9
	2023	469.4	64.0	533.5	122	421.1	543.1	9.6
	2024	474.1	64.7	538.8	122	424.2	546.2 <sup>3</sup>	7.4
	2025	478.9	65.3	544.2	122	427.3	549.3	5.1
	2026	483.7	66.0	549.6	122	430.4	552.4	2.8
	2027	488.5	66.6	555.1	122	433.6	555.6	0.4
2028	493.4	67.3	560.7	122	436.8	558.8	(1.9)	
2029	498.3	68.0	566.3	122	440.0	562.0	(4.3)	
2030	503.3	68.6	571.9	122	443.2	565.2	(6.7)	
2031	508.3	69.3	577.7	122	446.5	568.5	(9.1)	

<sup>1</sup> Member cooperatives of KEPCo are: Prairie Land, Rolling Hills, Bluestem, Brown-Atchison, Leavenworth-Jefferson, DS&O Electric, Flint Hills, Lyon-Coffey, Victory, Ninnescah, Ark Valley, Sedgwick County, Butler, Heartland, Radiant, CMS Electric, Sumner County, Caney Valley, and Twin Valley

<sup>2</sup> System Capacity for 2016 and beyond assumes an extension of KEPCo’s power purchase agreement with the Southwestern Power Administration in 2016.

<sup>3</sup> System Capacity for 2024 and beyond assumes an extension of KEPCo’s power purchase agreement with the Western Area Power Administration in 2024.

**Appendix A-5—Midwest Energy, Inc.**

Midwest Energy Inc. (Midwest) is a regulated electric and natural gas distribution cooperative operating in central and western Kansas. Unique in Kansas among the State’s cooperatives, the electric utility is vertically-integrated, possessing generation and transmission assets and providing retail service. Headquartered in Hays, Midwest provides electric service to approximately 48,353 retail customers.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	298.6	40.7	339.3	26	334.5	360.5	21.2
	2008	308.7	42.1	350.8	76	288	364	13.2
	2009	308.6	42.1	350.7	102	263.8	365.8	15.1
	2010	323.5	43.8	365.3	99	263.8	362.8	(2.5)
	2011	356.6	47.0	391.6	97	274.5	371.5	(20.1)
Projected	2012	343.6	44.1	367.7	97	299.5	396.5	28.8
	2013	358.6	45.5	379.1	97	299.5	396.5	17.4
	2014	363.6	45.5	379.1	97	299.5	396.5	17.4
	2015	368.6	46.0	383.6	97	299.5	396.5	12.9
	2016	373.6	46.6	388.2	122 <sup>1</sup>	279.5	401.5	13.3
	2017	378.6	47.1	392.7	122	254.5	376.5	(16.2)
	2018	383.6	47.7	397.3	122	254.5	376.5	(20.8)
	2019	388.6	48.2	401.8	122	254.5	376.5	(25.3)
	2020	394.6	48.9	407.5	122	250	372	(35.5)
	2021	400.6	49.6	413.2	122	250	372	(41.2)
	2022	405.6	50.1	417.8	122	250	372	(45.8)
	2023	411.7	50.8	423.5	122	250	372	(51.5)
	2024	418.7	51.6	430.3	122	250	372	(58.3)
	2025	424.7	52.3	436.0	122	250	372	(64.0)
	2026	431.7	53.1	442.8	122	250	372	(70.8)
	2027	438.7	54.0	449.6	122	250	372	(77.6)
2028	445.7	54.8	456.5	122	250	372	(84.5)	
2029	452.7	55.6	463.3	122	250	372	(91.3)	
2030	460.7	56.5	471.2	122	250	372	(99.2)	
2031	468.7	57.5	479.2	122	250	372	(107.2)	

<sup>1</sup> Accredited Generation for 2016 and beyond includes the addition of a proposed expansion to the Company’s Goodman Energy Center plant.

## Appendix A-7—Sunflower Electric Power Company

Sunflower Electric Power Company (Sunflower) is a recently deregulated generation and transmission cooperative owned by six member rural distribution cooperatives in Western Kansas (Lane-Scott, Prairie Land, Southern Pioneer, Victory, Western, and Wheatland). In 2007, the six member distribution cooperatives comprising Sunflower formed the Mid-Kansas Electric Company (MKEC) with the purpose of acquiring the assets of Aquila Energy's defunct Kansas Electric Network. Although MKEC has distinct assets and distinct customers from Sunflower, the two companies employ the same individuals; and therefore, for the purposes of this report these two entities are combined as a single system.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	--		--	--	--	--	--
	2008	1,031.0	140.6	1,171.6	1,049.0	125.2	1,174.2	2.6
	2009	1,011.0	137.9	1,148.9	1,049.0	125.2	1,174.2	23.3
	2010	1,089.0	148.5	1,237.5	1,049.0	123.2	1,172.2	77.5
	2011	1,080.0	147.3	1,227.3	1,196.0	119.0	1,315.0	88.2
Projected	2012	1,096.6	149.5	1,246.1	1,176.5	139.0	1,315.5	77.8
	2013	1,146.3	156.3	1,302.6	1,185.0 <sup>1</sup>	139.0	1,324.0	37.1
	2014	1,166.1	159.0	1,325.1	1,142.7	139.0	1,339.7	14.6
	2015	1,184.2	161.5	1,345.7	1,142.7	139.0	1,339.7	(6.1)
	2016	1,196.8	163.2	1,359.9	1,142.6	139.0	1,339.6	(20.3)
	2017	1,207.7	164.7	1,372.4	1,142.6	139.0	1,339.6	(33.8)
	2018	1,219.0	166.2	1,385.2	1,141.6	139.0	1,338.6	(46.6)
	2019	1,194.4	162.9	1,357.3	1,141.6	-	1,338.6	(146.7)
	2020	1,205.4	164.4	1,369.7	1,152.6	-	1,210.6	(159.1)
	2021	1,216.0	165.8	1,381.8	1,152.6	-	1,210.6	(171.2)
	2022	1,226.3	167.2	1,393.5	1,152.6	-	1,210.6	(182.9)
	2023	1,236.8	168.7	1,405.5	1,152.6	-	1,210.6	(194.9)
	2024	1,247.7	170.1	1,417.9	1,152.6	-	1,210.6	(212.5)
	2025	1,258.4	171.6	1,430.0	1,147.4	-	1,205.4	(224.6)
	2026	1,269.1	173.1	1,442.1	1,147.4	-	1,205.4	(236.7)
	2027	1,279.3	174.5	1,453.8	1,147.4	-	1,205.4	(248.4)
2028	1,290.2	175.9	1,466.1	1,147.4	-	1,205.4	(260.7)	
2029	1,299.5	177.2	1,476.7	1,147.4	-	1,205.4	(271.3)	
2030	1,311.3	178.8	1,490.1	1,147.4	-	1,205.4	(284.7)	
2031	1,324.4	180.6	1,505.0	1,147.4	-	1,205.4	(299.6)	

<sup>1</sup> Accredited Generation for 2013 and beyond includes capacity from the completion of a proposed new peaking unit.

**Appendix A-8—Kansas City Board of Public Utilities (KC-BPU)**

The Kansas City Board of Public Utilities (KC-BPU) is a non-KCC jurisdictional municipal utility serving water customers in the Kansas City, Kansas Metropolitan areas of Wyandotte and Johnson Counties, and electric customers in the whole of Wyandotte County. In all, KC-BPU provides electric service to approximately 65,000 customers.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	512	70	582	613.4	-53	560.4	(21.4)
	2008	492	67	559	613.4	-53	560.4	1.3
	2009	471	64	535	613.4	-53	560.4	25.2
	2010	501	68	569	613.4	-12.5	600.9	31.6
	2011	502	68	570	613.4	-12.5	600.9	30.4
Projected	2012	502	68	566	613.4	-12.5	600.9	35.0
	2013	503	68	563	613.4	-5.5	607.9	45.4
	2014	504	68	564	613.4	-5.5	607.9	44.3
	2015	506	68	566	671.0 <sup>1</sup>	-4	667.0	101.1
	2016	507	68	567	671.0	-4	667.0	100.0
	2017	508	68	568	671.0	-4	667.0	98.8
	2018	509	68	569	671.0	-4	667.0	97.7
	2019	510	68	570	671.0	-4	667.0	96.5
	2020	511	69	572	615.0	-4	611.0	39.4
	2021	512	69	573	542.5	-4	538.5	(34.2)
	2022	513	69	574	542.5	34	576.5	2.6
	2023	514	69	575	491.1	54	545.1	(29.9)
	2024	515	69	576	491.1	54	545.1	(31.0)
	2025	516	69	577	491.1	54	545.1	(32.2)
	2026	518	70	580	491.1	54	545.1	(34.4)
	2027	519	70	581	380.3	54	434.3	(146.4)
2028	520	70	582	380.3	54	434.3	(147.5)	
2029	521	70	583	380.3	54	434.3	(148.7)	
2030	522	70	584	380.3	54	434.3	(149.8)	
2031	523	70	585	380.3	54	434.3	(150.9)	

<sup>1</sup> Accredited Generation for 2015 and beyond includes capacity provided by the inclusion of a 7<sup>th</sup> EA natural gas combustion turbine at the Company's Nearman Creek Facility.

## Appendix A-9—Kansas Municipal Energy Agency (KMEA)

The Kansas Municipal Energy Agency (KMEA) is an organization that finances projects for the purchase, sale, generation, and transmission of electricity on behalf of its 70 member municipal electric utilities. In addition to these functions, KMEA also manages the Mutual Aid Program where municipalities assist one another in the event of emergencies that affect the electric system, conducts power supply and transmission feasibility studies, and advocates members' positions before industry bodies, regulatory agencies and legislative bodies.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	187.8	25.6	213.4	199.5	54.4	253.9	40.4
	2008	192.9	26.3	219.2	199.5	58.4	257.9	38.7
	2009	199.9	27.3	227.2	199.5	89.4	288.9	61.7
	2010	211.1	28.8	239.9	199.5	13.5	213.0	(26.9)
	2011	210.3	28.7	239.0	199.5	41.3	240.7	1.7
Projected	2012	213.5	29.1	242.6	199.5	44.0	243.5	0.9
	2013	216.7	29.6	246.3	199.5	55.0	254.5	8.2
	2014	220.0	30.0	250.0	199.5	55.0	254.5	4.5
	2015	223.3	30.5	253.8	199.5	55.0	254.5	0.7
	2016	226.6	30.9	257.5	199.5	55.0	254.5	(3.0)
	2017	230.0	31.4	261.4	199.5	55.0	254.5	(6.9)
	2018	233.5	31.8	265.3	199.5	55.0	254.5	(10.9)
	2019	237.0	32.3	269.3	199.5	6.0	205.5	(63.8)
	2020	240.6	32.8	273.4	199.5	6.0	205.5	(67.9)
	2021	244.2	33.3	277.5	199.5	-9.0	190.5	(87.0)
	2022	247.9	33.8	281.7	199.5	-9.0	190.5	(91.2)
	2023	251.6	34.3	285.9	199.5	-9.0	190.5	(95.4)
	2024	255.4	34.8	290.2	199.5	-9.0	190.5	(99.7)
	2025	259.2	35.3	294.5	199.5	-9.0	190.5	(104.1)
	2026	263.1	35.9	299.0	199.5	-57.0	142.5	(156.5)
	2027	267.0	36.4	303.4	199.5	-57.0	142.5	(160.9)
2028	271.0	37.0	308.0	199.5	-57.0	142.5	(165.5)	
2029	275.1	37.5	312.6	199.5	-57.0	142.5	(170.1)	
2030	279.2	38.1	317.3	199.5	-57.0	142.5	(174.8)	
2031	283.4	38.6	322.0	199.5	-57.0	142.5	(179.6)	

## Appendix A-10—Kansas Power Pool (KPP)

The Kansas Power Pool (KPP), created in May of 2005, is an organization that provides wholesale electric power, reserve sharing, collective resource planning and acquisition, network transmission service, and cost sharing of operations to its member municipal utilities. The KPP has continuously added new municipal electric utilities since its founding, with the most recent member being added in late 2010. Because of this, historical comparisons to previous years are inherently misleading and have been omitted from this report. As of the end 2011, the KPP is comprised of 42 municipal electric utilities and is responsible for a total system capacity of approximately 542 MWs.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	--		--	--		--	--
	2008	--		--	--		--	--
	2009	--		--	--		--	--
	2010	--		--	--		--	--
	2011	<b>382.0</b>	52.1	<b>434.1</b>	360.5	182.2	<b>542.6</b>	<b>108.6</b>
Projected	2012	<b>410.8</b>	56.0	<b>466.9</b>	400.5 <sup>1</sup>	182.2	<b>582.6</b>	<b>115.8</b>
	2013	<b>434.8</b>	59.3	<b>494.1</b>	400.5	203.2	<b>603.6</b>	<b>109.6</b>
	2014	<b>445.3</b>	60.7	<b>506.1</b>	344.6	203.2	<b>547.8</b>	<b>41.7</b>
	2015	<b>464.6</b>	63.4	<b>527.9</b>	344.6	158.2	<b>502.8</b>	<b>(25.1)</b>
	2016	<b>474.7</b>	64.7	<b>539.5</b>	344.6	158.2	<b>502.8</b>	<b>(36.7)</b>
	2017	<b>484.4</b>	66.1	<b>550.4</b>	344.6	158.2	<b>502.8</b>	<b>(47.7)</b>
	2018	<b>493.9</b>	67.4	<b>561.3</b>	344.6	128.2	<b>472.8</b>	<b>(88.5)</b>
	2019	<b>503.9</b>	68.7	<b>572.6</b>	344.6	128.2	<b>472.8</b>	<b>(99.8)</b>
	2020	<b>512.8</b>	69.9	<b>582.8</b>	344.6	78.2	<b>422.8</b>	<b>(160.0)</b>
	2021	<b>523.1</b>	71.3	<b>594.4</b>	344.6	78.2	<b>422.8</b>	<b>(171.7)</b>
	2022	<b>533.6</b>	72.8	<b>606.3</b>	344.6	58.7	<b>403.3</b>	<b>(203.0)</b>
	2023	<b>544.2</b>	74.2	<b>618.4</b>	344.6	58.7	<b>403.3</b>	<b>(215.2)</b>
	2024	<b>555.1</b>	75.7	<b>630.8</b>	344.6	58.7	<b>403.3</b>	<b>(227.5)</b>
	2025	<b>566.2</b>	77.2	<b>643.4</b>	344.6	58.7	<b>403.3</b>	<b>(240.2)</b>
	2026	<b>577.5</b>	78.8	<b>656.3</b>	344.6	58.7	<b>403.3</b>	<b>(253.0)</b>
	2027	<b>589.1</b>	80.3	<b>669.4</b>	344.6	58.7	<b>403.3</b>	<b>(266.2)</b>
	2028	<b>600.9</b>	81.9	<b>682.8</b>	344.6	58.7	<b>403.3</b>	<b>(279.5)</b>
2029	<b>612.9</b>	83.6	<b>696.5</b>	344.6	58.7	<b>403.3</b>	<b>(293.2)</b>	
2030	<b>625.1</b>	85.2	<b>710.4</b>	344.6	58.7	<b>403.3</b>	<b>(307.1)</b>	
2031	<b>637.7</b>	87.0	<b>724.6</b>	344.6	58.7	<b>403.3</b>	<b>(321.3)</b>	

<sup>1</sup> Accredited Generation for 2012 includes capacity provided by the Company's recently purchased stake in the Dogwood combine-cycle facility.

## Appendix A-11—McPherson Board of Public Utilities

McPherson Board of Public Utilities is a non-KCC jurisdictional municipal utility serving water and electric needs for all homes and businesses located within the city limits of McPherson, Kansas, and approximately 1,200 rural customers located in the surrounding area of McPherson County. All together, McPherson Board of Public Utilities serves approximately 8,000 customers, and is responsible for the operations of 235.8 MW of generation capacity.

		System Peak			System Capacity			System Capacity Surplus (Deficit)
		Total System Peak Load	12% Reserve Margin	System Planning Responsibility	Accredited Generation	Net Contracts	Total System Capacity	
Historical	2007	121	16.5	137.5	235.8	0	235.8	98.3
	2008	129	17.6	146.6	235.8	0	235.8	89.2
	2009	133	18.1	151.1	235.8	0	235.8	84.7
	2010	141	19.2	160.2	235.8	--	235.8	75.6
	2011	142	19.4	161.4	235.8	--	235.8	74.4
Projected	2012	144	19.6	163.6	235.8	--	235.8	72.2
	2013	147	20.0	167.0	235.8	--	235.8	68.8
	2014	149	20.3	169.3	235.8	--	235.8	66.5
	2015	152	20.7	172.7	235.8	--	235.8	63.1
	2016	154	21.0	175.0	235.8	--	235.8	60.8
	2017	157	21.4	178.4	235.8	--	235.8	57.4
	2018	159	21.7	180.7	235.8	--	235.8	55.1
	2019	161	22.0	183.0	235.8	--	235.8	52.8
	2020	164	22.4	186.4	235.8	--	235.8	49.4
	2021	167 <sup>1</sup>	22.7	189.4	235.8	--	235.8	46.4
	2022	169	23.1	192.5	235.8	--	235.8	43.3
	2023	172	23.5	195.7	235.8	--	235.8	40.1
	2024	175	23.9	198.9	235.8	--	235.8	36.9
	2025	178	24.3	202.2	235.8	--	235.8	33.6
	2026	181	24.7	205.5	235.8	--	235.8	30.3
	2027	184	25.1	208.8	235.8	--	235.8	27.0
2028	187	25.5	212.3	235.8	--	235.8	23.5	
2029	190	25.9	215.7	235.8	--	235.8	20.1	
2030	193	26.3	219.3	235.8	--	235.8	16.5	
2031	196	26.7	222.9	235.8	--	235.8	12.9	

<sup>1</sup> Total System Peak Load data for 2021 and beyond was generated by Staff based on forecasts provided by Westar Energy (the SPP Balancing Authority for McPherson Board of Public Utilities service territory) and assuming an annual growth rate of 1.64%.

## Appendix B—Renewable Capacity Requirements

### Appendix B-1—Empire District Electric Company

Empire District Electric Company (Empire) currently has two long-term power purchase agreements with two wind farms operating in Kansas, Meridian Way in Cloud County and Elk River in Barber County. Empire also operates a small hydro-electric dam in Missouri called Ozark Beach.

Empire is a multi-jurisdictional utility operating in the state of Missouri, Kansas, Arkansas, and Oklahoma. In addition to Kansas' RES, the utility must additionally concurrently satisfy a separate RES in place in Missouri. Empire has enough renewable generation to satisfy both states requirements through 2026 when the utility's current long-term power purchase agreement to Elk River Wind Facility expires. Assuming both this and the utility's other long-term power purchase agreement to the Meridian Way Wind Farm are renewed upon expiration, Empire possess sufficient renewable generation till approximately 2030.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity			Renewable Capacity Required for Other Jurisdictions	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Cloud County (Meridian Way) Wind Farm	Elk River Wind Facility	Ozark Beach			
2011	10%	5.1	105	150	16	27.7	268.5	263.4
2012		5.2	105	150	16	28.2	268.3	263.1
2013		5.3	105	150	16	28.8	267.7	262.4
2014		5.3	105	150	16	73.4	223.1	217.8
2015		5.4	105	150	16	75.0	221.5	216.1
2016	15%	8.1	105	150	16	76.6	219.9	211.8
2017		8.2	105	150	16	78.4	218.1	209.9
2018		8.3	105	150	16	160.5	136.0	127.7
2019		8.4	105	150	16	164.5	132.0	123.6
2020	20%	11.3	105	150	16	168.7	127.8	116.5
2021		11.5	105	150	16	259.3	37.2	25.7
2022		11.7	105	150	16	261.9	34.6	22.9
2023		11.9	105	150	16	264.5	32.0	20.1
2024		12.0	105	150	16	267.2	29.3	17.3
2025		12.2	105	150	16	269.8	26.7	14.5
2026		12.4	105	--	16	272.5	(141.0)	(12.4)
2027		12.6	105	--	16	275.3	(143.8)	(12.6)
2028		12.8	105	--	16	278.0	(146.5)	(12.8)
2029		13.0	--	--	16	280.8	(264.8)	(13.0)
2030	13.2	--	--	16	283.6	(267.6)	(13.2)	



## Appendix B-2—Kansas City Power & Light (KCP&L)

KCP&L has owned and operated the 100.5MW Spearville Wind Farm in Ford County since August 2006 (in December 2010 KCP&L completed a 48MW expansion to this facility to bring the current capacity of the facility to 148.5MW). Additionally, the utility has recently announced it had reached an agreement with Competitive Power Venture's Renewable Energy Division (CPV Renewable Energy) to purchase a total of 131.1MW of capacity from the second phase of that company's proposed Cimarron Energy Project in Gray County. CPV Renewable Energy has subsequently sold its rights to construct and operate the second phase of the project to Duke Energy Generation Services.

In addition to Kansas' RES, the utility must concurrently satisfy a separate RES in place in Missouri. With the addition of phase II of the Cimarron Energy Project, KCP&L has sufficient renewable generation to satisfy both states' requirements through 2014.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity			Renewable Capacity Required for Other Jurisdictions	Renewable Energy Credits	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Spearville Wind Farm	Cimarron Energy Project (Cimarron II)	Central Nebraska Public Power				
2011	10%	163.6	148.5			48.1	94.4 <sup>1</sup>	209.7	46.2
2012		167.2	148.5	105.6		48.5	34	265.0	98.0
2013		174.8	148.5	131.1		48.9	0	258.7	83.9
2014		181.6	148.5	131.1	63	123.9	0	243.7	62.2
2015		187.0	148.5	131.1	63	125.6	0	242.0	55.1
2016	15%	284.2	148.5	131.1	63	127.3	0	240.3	(43.9)
2017		288.0	148.5	131.1	63	129.0	0	238.6	(49.3)
2018		291.7	148.5	131.1	63	261.2	0	106.4	(185.2)
2019		295.3	148.5	131.1	63	264.6	0	103.0	(192.2)
2020		398.7	148.5	131.1	63	267.7	0	99.8	(298.7)
2021	20%	403.4	148.5	131.1	63	406.4	0	(38.8)	(403.4)
2022		408.2	148.5	131.1	63	411.3	0	(43.7)	(408.2)
2023		412.9	148.5	131.1	63	416.4	0	(48.8)	(412.9)
2024		417.9	148.5	131.1	63	421.8	0	(54.2)	(417.9)
2025		423.1	148.5	131.1	63	427.3	0	(59.8)	(423.1)
2026		428.5	148.5	131.1	63	433.2	0	(65.7)	(428.5)
2027		434.1	148.5	131.1	63	439.2	0	(71.6)	(434.1)
2028		440.0	148.5	131.1	63	445.3	0	(77.8)	(440.0)
2029		446.0	148.5	131.1	63	451.2	0	(83.7)	(446.0)
2030		452.2	148.5	131.1	63	457.3	0	(89.7)	(452.2)

<sup>1</sup> RES Act compliance for 2011 was satisfied by KCP&L using 70.2MWs worth of RECs accumulated through operations of the Spearville Wind Farm prior to 2011, and 24.2MW worth of RECs purchased from the wholesale market. Likewise, KCP&L as indicated to Staff that the Company intends to purchase approximately 34MW of equivalent RECs to satisfy the company's remaining 2012 RES Act compliance.

**Appendix B-3—Westar Energy**

Westar Energy (Westar) currently owns Central Plains wind farm, and 50% of Flat Ridge wind farm in Wichita and Barber counties, respectively. Westar additionally has long-term power purchase agreements with the remainder of the Flat Ridge not own by the utility and Meridian Way in Cloud County (Meridian Way is reported on EIA form 923 as Cloud County). The utility also has acquired a long-term power purchase agreement with Waste Management to receive electricity from that company’s Rolling Meadows landfill-gas generation facility located just north of Topeka in Shawnee County. Finally, Westar last year announced the selected recipients of a 2010 request for proposals for new renewable energy generation. These two recipients, Post Rock and Ironwood—Ellsworth and Ford counties, respectively—are slated to be in service in late 2012.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity						Renewable Energy Credits	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Central Plains Wind Farm	Cloud County (Meridian Way) Wind Farm	Flat Ridge Wind Farm (Flat Ridge I)	Rolling Meadows Landfill	Post Rock Wind Farm	Ironwood Wind Power Project			
2011	10%	465.2	99	96	100	6	--	--	134.1 <sup>1</sup>	465.2	0
2012		474.7	99	96	100	6	--	--	143.6	474.7	0
2013		488.3	99	96	100	6	201	168	0	737	248.7
2014		490.1	99	96	100	6	201	168	0	737	246.9
2015		490.0	99	96	100	6	201	168	0	737	247.0
2016	15%	742.3	99	96	100	6	201	168	0	737	(5.3)
2017		749.2	99	96	100	6	201	168	0	737	(12.1)
2018		755.5	99	96	100	6	201	168	0	737	(18.4)
2019		761.4	99	96	100	6	201	168	0	737	(24.3)
2020	20%	1,023.7	99	96	100	6	201	168	0	737	(285.7)
2021		1,030.5	99	96	100	6	201	168	0	737	(293.5)
2022		1,038.5	99	96	100	6	201	168	0	737	(301.5)
2023		1,047.0	99	96	100	6	201	168	0	737	(310.0)
2024		1,055.8	99	96	100	6	201	168	0	737	(318.8)
2025		1,064.7	99	96	100	6	201	168	0	737	(327.7)
2026		1,074.7	99	96	100	6	201	168	0	737	(336.7)
2027		1,082.7	99	96	100	6	201	168	0	737	(345.7)
2028		1,091.9	99	96	100	6	201	168	0	737	(354.9)
2029		1,101.1	99	96	100	6	201	168	0	737	(364.1)
2030	1,110.4	99	96	100	6	201	168	0	737	(373.4)	

<sup>1</sup> RES Act compliance for 2011 was satisfied by Westar using Renewable Energy Credits accumulated through operations of the Company’s Wind Farms prior to 2011. Likewise, Westar has indicated to Staff that remaining RES Act compliance for 2012 will be satisfied using remaining Renewable Energy Credits from operations of the Company’s Wind Farms prior to 2011 and Renewable Energy Credits purchased on the wholesale market.

### Appendix B-4—Kansas Electric Power Cooperatives (KEPCo)

KEPCo, being a federally defined rural non-profit utility, has received discounted power allocations from federally managed hydro-electric power marketers since the utility's inception. In particular, KEPCo currently has contracts to receive 100MW of capacity from the Southwestern Power Administration (SWPA) through 2016 and 14MW of capacity from the Western Area Power Administration (WAPA) through 2024. SWPA is a series of 24 U.S. Army Corps of Engineer hydro-electric dams throughout the States of Missouri, Oklahoma, Arkansas, and Texas. WAPA is likewise a series 57 hydro-electric dams operated by the Bureau of Reclamation, U.S. Army Corps of Engineers, and International Boundary and Water Commission in the states of Colorado and New Mexico. Both of KEPCo's current power purchase contracts with WAPA and SWPA are expected to be renewed, and satisfy KEPCo's member's requirement under the Renewable Energy Standard through at least 2030.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity		Renewable Capacity Required for Other Jurisdictions	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Southwestern Power Administration	Western Area Power Administration			
2011	10%	41.6	100	14	0	114	72.4
2012		43.1	100	14	0	114	70.9
2013		44.3	100	14	0	114	69.7
2014		44.5	100	14	0	114	69.5
2015		44.3	100	14	0	114	69.7
2016	15%	67.4	100	14	0	114	46.6
2017		68.2	100	14	0	114	45.8
2018		69.0	100	14	0	114	45.0
2019		69.8	100	14	0	114	44.2
2020	20%	94.2	100	14	0	114	19.8
2021		95.3	100	14	0	114	18.7
2022		94.6	100	14	0	114	19.4
2023		93.8	100	14	0	114	20.2
2024		92.9	100	14	0	114	21.1
2025		93.9	100	14	0	114	20.1
2026		94.8	100	14	0	114	19.2
2027		95.8	100	14	0	114	18.2
2028		96.7	100	14	0	114	17.3
2029		97.7	100	14	0	114	16.3
2030	98.7	100	14	0	114	15.3	

## Appendix B-5—Midwest Energy

Midwest Energy currently has long-term power purchase agreement for 49.2 MW of capacity from the 250MW Smoky Hills Wind Farm in Lincoln and Ellsworth counties—25.2MW designated from Phase 1 of the wind farm, and 24MW designated from phase 2. Capacity from Smoky Hills should satisfy Midwest Energy’s requirement under the Renewable Energy Standard through 2016, when the standard’s 15% requirement will require the utility to purchase or build an additional 10MW, approximately, of renewable capacity.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity		Renewable Capacity Required for Other Jurisdictions	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Smoky Hills Wind Farm (Phase I)	Smoky Hills Wind Farm (Phase II)			
2011	10%	30.2	25	24	0	53.9	23.7
2012		32.0	25	24	0	53.9	17.0
2013		33.4	25	24	0	53.9	15.6
2014		34.5	25	24	0	53.9	14.5
2015		34.8	25	24	0	53.9	14.2
2016	15%	53.4	25	24	0	53.9	(4.4)
2017		54.2	25	24	0	53.9	(5.2)
2018		54.9	25	24	0	53.9	(5.9)
2019		55.7	25	24	0	53.9	(6.7)
2020	20%	75.2	25	24	0	53.9	(26.2)
2021		76.3	25	24	0	53.9	(27.3)
2022		77.4	25	24	0	53.9	(28.4)
2023		78.5	25	24	0	53.9	(29.5)
2024		79.7	25	24	0	53.9	(30.7)
2025		80.9	25	24	0	53.9	(31.9)
2026		82.1	25	24	0	53.9	(33.1)
2027		83.5	25	24	0	53.9	(34.5)
2028		84.8	25	24	0	53.9	(35.8)
2029		86.2	25	24	0	53.9	(37.2)
2030		87.6	25	24	0	53.9	(38.6)

### Appendix B-7—Sunflower Electric Power Company

Sunflower Electric Power Company (Sunflower) and the Mid-Kansas Electric Company (MKEC) currently have long-term power purchase agreements with two wind farms located in Kansas, Gray County and Smoky Hills located in Lincoln and Ellsworth counties. Being federally defined non-profit rural utilities, the utilities also receive electricity from the federally managed hydro-electric power marketer Western Area Power Administration (WAPA)—WAPA being a series 57 hydro-electric dams operated by the Bureau of Reclamation, U.S. Army Corps of Engineers, and International Boundary and Water Commission in the states of Colorado and New Mexico. Lastly, MKEC recently announced a long-term agreement with Infinity Wind Power to purchase all electricity produced from that company’s proposed Shooting Star Wind Farm in Kiowa county. Shooting Star is currently schedule to begin operations in late 2012.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity				Renewable Capacity Required for Other Jurisdictions	Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Gray County Wind Farm	Smoky Hills Wind Farm (Phase I and II)	Western Area Power Administration	Shooting Star Wind Farm			
2011	10%	67.9	51	74.4	5.3	--	0	143.2	75.3
2012		70.4	51	74.4	5.3	--	0	143.2	72.9
2013		73.0	51	74.4	5.3	104	0	257.6	184.7
2014		73.7	51	74.4	5.3	104	0	257.6	183.9
2015		74.5	51	74.4	5.2	104	0	257.5	183.1
2016	15%	112.8	51	74.4	5.2	104	0	257.5	144.7
2017		113.9		74.4	5.2	104	0	201.4	87.5
2018		115.1		74.4	5.2	104	0	201.4	86.4
2019		116.2		74.4	5.2	104	0	201.4	85.2
2020	20%	156.5		74.4	5.2	104	0	201.4	44.9
2021		158.1		74.4	5.2	104	0	201.4	43.4
2022		159.6		74.4	5.2	104	0	201.4	41.8
2023		161.2		74.4	5.2	104	0	201.4	40.2
2024		162.9		74.4		104	0	196.2	33.4
2025		164.5		74.4		104	0	196.2	31.8
2026		166.1		74.4		104	0	196.2	30.1
2027		167.8		74.4		104	0	196.2	28.5
2028		169.5		74.4		104	0	196.2	26.8
2029		171.2		74.4		104	0	196.2	25.1
2030	172.9		74.4		104	0	196.2	23.4	

**Appendix B-8—Kansas City Board of Public Utilities (KC-BPU)**

KC-BPU is a municipal utility not statutorily subject to the State’s Renewable Energy Standard outlined in K.S.A. 66-1258. However, the utility has voluntarily made an agreement with Governor Brownback stating that the utility will comply with the State’s RES.

KC-BPU currently has long-term power purchase agreements with the Smoky Hills wind farm in Lincoln and Ellsworth counties (in particular phase 1 of the wind farm), as well as the federally managed hydro-electric power marketers Southwestern Power Authority (SWPA) and Western Area Power Authority (WAPA). Lastly, the Company recently announced agreements with the Waste Corporation of Kansas and the City of Lawrence to purchase electricity from the Oak Grove Landfill and Bowersock Hydro-Electric Dam, respectively.

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity					Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Smoky Hills Wind Farm	Oak Grove Landfill	Bowersock Mills & Power	Southwestern Power Administration	Western Area Power Administration		
2011	10%	48.8	25.2	1.5	--	39	5	73.4	24.6
2012		49.1	25.2	1.5	--	39	5	73.4	24.2
2013		50.2	25.2	1.5	7	39	5	81.1	30.9
2014		50.2	25.2	1.5	7	39	5	81.1	30.8
2015		50.3	25.2	1.5	7	39	5	82.7	32.4
2016	15%	75.7	25.2	1.5	7	39	5	82.7	7.1
2017		75.9	25.2	1.5	7	39	5	82.7	6.9
2018		76.1	25.2	1.5	7	39	5	82.7	6.7
2019		76.2	25.2	1.5	7	39	5	82.7	6.5
2020	20%	101.8	25.2	1.5	7	39	5	82.7	(19.1)
2021		102.0	25.2	1.5	7	39	5	82.7	(19.3)
2022		102.2	25.2	1.5	7	39	5	82.7	(19.5)
2023		102.4	25.2	1.5	7	39	5	82.7	(19.7)
2024		102.6	25.2	1.5	7	39	5	82.7	(19.9)
2025		102.8	25.2	1.5	7	39	5	82.7	(20.1)
2026		103.0	25.2	1.5	7	39	5	82.7	(20.3)
2027		103.3	25.2	1.5	7	39	5	82.7	(20.5)
2028		103.5	25.2	1.5	7	39	5	82.7	(20.8)
2029		103.8	25.2	1.5	7	39	5	82.7	(21.1)
2030		104.0	25.2	1.5	7	39	5	82.7	(21.3)

**Appendix B-9—Kansas Power Pool (KPP)**

KPP is an association of municipal utility not statutorily subject to the State’s Renewable Energy Standard outlined in K.S.A. 66-1258. However, in preparing this report a representative from the organization requested that Staff include an examination of the organization’s renewable generation for illustrative purposes.

KPP currently has long-term power purchase agreements with John Deere Wind Energy to purchase electricity generated by ten 1.25MW wind turbines located just outside Greensburg, Kansas in Kiowa County. These wind turbines were completed in March 2010 as part of a larger project to rebuild the city after the devastating 2007 tornado. The Power Pool also receives 2.7MW of hydro-electric capacity from the Bowersock Hydro-Electric Dam located outside Lawrence, Kansas, and from the federally managed hydro-electric power marketers Southwestern Power Authority (SWPA), Western Area Power Authority (WAPA), and the Great River Dam Authority (GRDA).

	Renewable Capacity Required under Renewable Energy Standard (K.S.A. 66-1258)		Renewable Capacity					Total Renewable Capacity	Renewable Capacity Surplus (Deficit)
	Renewable Energy Standard	Renewable Capacity Needed for Compliance	Greensburg Wind Farm	Bowersock Mills & Power	Southwestern Power Administration	Western Area Power Administration	Great River Dam Authority		
2011	10%	38.2	12.5	2.7	9.4	4.5	9.9	40.5	2.3
2012		39.6	12.5	2.7	9.4	4.5	9.9	40.5	0.9
2013		40.9	12.5	2.7	9.4	4.5	9.9	40.5	(0.4)
2014		40.9	12.5	2.7	9.4	4.5	9.9	40.5	(0.4)
2015		43.0	12.5	2.7	9.4	4.5	9.9	40.5	(2.5)
2016	15%	67.2	12.5	2.7	9.4	4.5	9.9	40.5	(26.7)
2017		69.2	12.5	2.7	9.4	4.5	9.9	40.5	(28.7)
2018		71.2	12.5	2.7	9.4	4.5	9.9	40.5	(30.7)
2019		72.7	12.5	2.7	9.4	4.5	9.9	40.5	(32.1)
2020	20%	98.8	12.5	2.7	9.4	4.5	9.9	40.5	(58.3)
2021		100.7	12.5	2.7	9.4	4.5	9.9	40.5	(60.2)
2022		102.7	12.5	2.7	9.4	4.5	9.9	40.5	(62.1)
2023		104.6	12.5	2.7	9.4	4.5	9.9	40.5	(64.1)
2024		106.7	12.5	2.7	9.4	4.5	9.9	40.5	(66.2)
2025		108.9	12.5	2.7	9.4	4.5	9.9	40.5	(68.4)
2026		111.0	12.5	2.7	9.4	4.5	9.9	40.5	(70.5)
2027		113.3	12.5	2.7	9.4	4.5	9.9	40.5	(72.8)
2028		115.5	12.5	2.7	9.4	4.5	9.9	40.5	(75.0)
2029		117.8	12.5	2.7	9.4	4.5	9.9	40.5	(77.3)
2030	120.2	12.5	2.7	9.4	4.5	9.9	40.5	(79.7)	

## Appendix C—Commercial-Size Renewable Energy Generation

### Appendix C-1—Existing Renewable Generators within Kansas

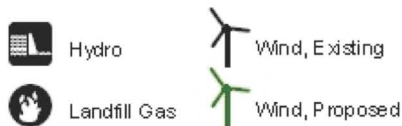
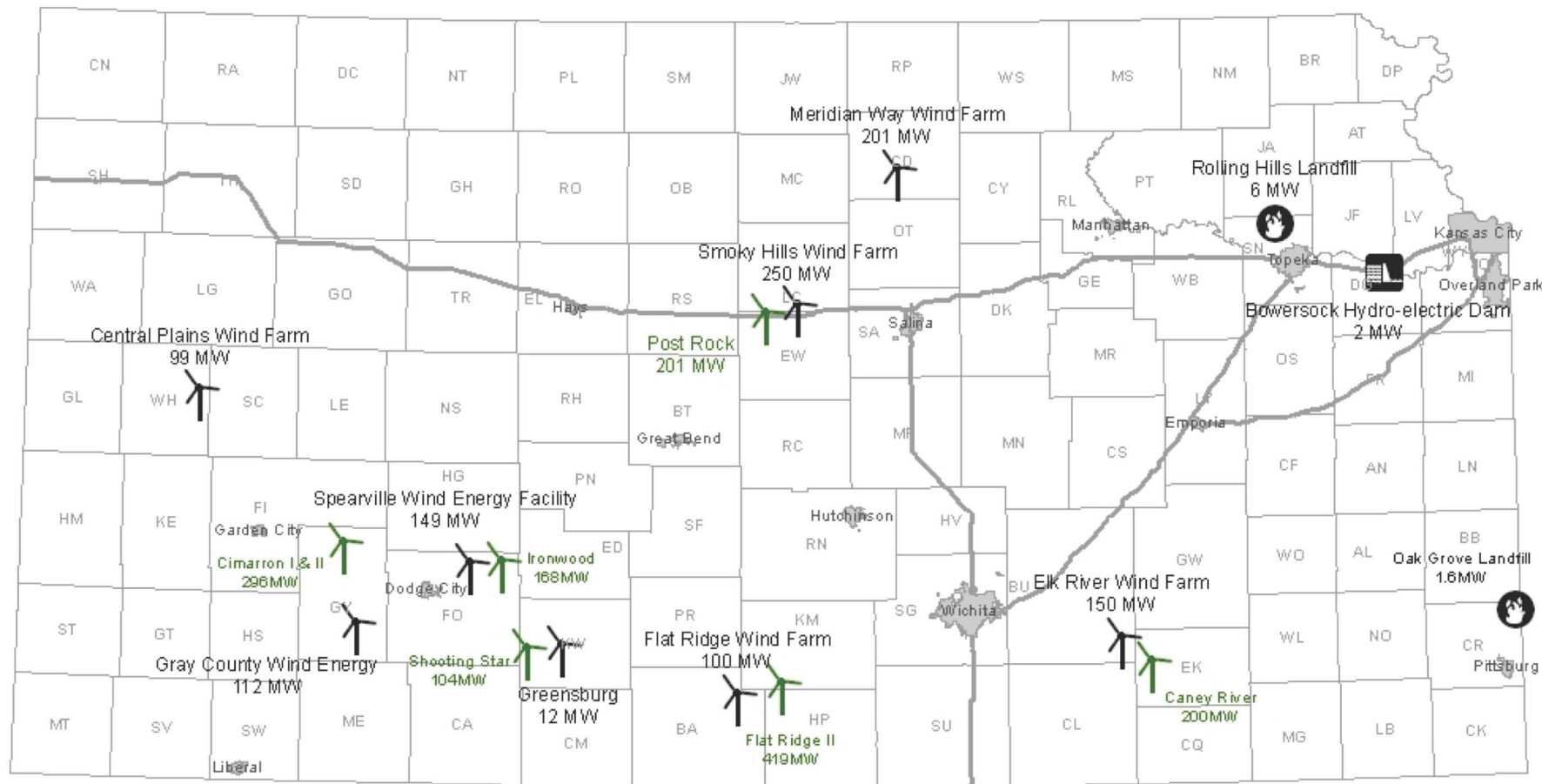
Renewable Generator (Total Nameplate Capacity)	County	Developer	Initial Month and Year of Operation	Utility Purchaser	Size
Gray County Wind Farm (112.2 MW)	Gray	NextEra (Florida Power & Light)	November 2001	Sunflower Electric (allocated to MKEC system)	50 MW
				Kansas City Power and Light – Greater Missouri Operations	60 MW
				<i>Unallocated</i>	2.2 MW
Elk River Wind Facility (150 MW)	Butler	PPM Energy (Ibedrola)	December 2005	Empire District Electric	150 MW
Spearville Wind Energy Facility Phase I (100.5 MW)	Ford	enXco	August 2006	Kansas City Power and Light	100.5 MW
Spearville Wind Energy Facility Phase II (48 MW)	Ford	enXco	December 2010	Kansas City Power and Light	48 MW
Smoky Hills Phase 1 (100.8 MW)	Lincoln and Ellsworth	TradeWind Energy	January 2008	Sunflower Electric	50.4 MW
				Kansas City Board of Public Utilities	25.2 MW
				Midwest Energy	25.2 MW
Smoky Hills Phase 2 (148.5 MW)	Lincoln and Ellsworth	TradeWind Energy	January 2009	Sunflower Electric (allocated to MKEC system)	24 MW
				Midwest Energy	24 MW
				City Power and Light (Independence, Mo.)	15 MW
				City Utilities of Springfield, Mo.	50 MW
				<i>Unallocated</i>	35.5 MW
Cloud County (Meridian Way) Wind Farm (105 MW)	Cloud	Horizon Wind Energy	November 2008	Empire District Electric	105 MW
					96 MW
Flat Ridge Wind Farm (100 MW)	Barber	BP Alternative Energy	March 2009	Westar Energy	100 MW
Central Plains Wind Farm (99 MW)	Wichita	RES America	March 2009	Westar Energy	99 MW
Greensburg (12.5 MW)	Kiowa	John Deere	September 2009	Kansas Power Pool	12.5 MW
Bowersock Hydro-electric Dam (2 MW)	Douglas	Kansas River Hydro Project	1922	Kansas Power Pool	2.7 MW
Rolling Hills Landfill (8 MW)	Shawnee	Waste Management	January 2009	Westar Energy	8 MW
Oak Grove Landfill (1.6 MW)	Crawford	Waste Corporation of Kansas	March 2010	Kansas City Board of Public Utilities	1.6 MW



### Appendix C-2—Announced New Renewable Generation within Kansas

Renewable Generator (Total Nameplate Capacity)	County			Utility Purchaser	Size
Caney River (200 MW)	Elk	TradeWind Energy	January 2012	Tennessee Valley Authority	200 MW
Post Rock (201 MW)	Ellsworth and Lincoln	Wind Capital Group	4 <sup>th</sup> Quarter 2012	Westar	201 MW
Ironwood (168 MW)	Ford and Hodgeman	Duke Energy Generation Services	4 <sup>th</sup> Quarter 2012	Westar	168 MW
Cimarron Energy Project (Cimarron I) (165 MW)	Gray	CPV Renewable Energy	4 <sup>th</sup> Quarter 2012	Tennessee Valley Authority	165 MW
Cimarron Energy Project (Cimarron II) (131 MW)	Gray	Duke Energy Generation Services	June 2012	Kansas City Power & Light	105.6 MW
			4 <sup>th</sup> Quarter 2012		25.4 MW
Shooting Star (104 MW)	Kiowa	Infinity Wind Power	4 <sup>th</sup> Quarter 2012	Sunflower	104 MW
Flat Ridge 2 Wind Farm (419.2 MW)	Harper, Kingman, Barber, and Sumner	BP Alternative Energy	4 <sup>th</sup> Quarter 2012	Associated Electric Cooperative	314.4 MW
				<i>Unallocated</i>	104.8 MW

## Commercial-Size Renewable Generation within Kansas



**Appendix D— Inventory of Major Power Plants Serving Kansas Loads**

<b>Operating Utility</b>	<b>Power Plant Name Unit / Primary Fuel Source (B-Base, I-Intermediate, P-Peaking)</b>	<b>County</b>	<b>Ownership</b>	<b>Nameplate Capacity (MW)</b>	<b>Initial Year of Operation</b>	<b>2010 Net Generation (MWh)</b>
<b>Wolf Creek Nuclear Generating Corporation</b>	<b>Wolf Creek Nuclear (B)</b>	Coffey	KCPL (47%) Westar (47%) KEPCo (6%)	1,160	1985	9,555,681
<b>Westar Energy, Inc.</b>	<b>Jeffrey Energy Center Coal (B)</b>	Pottawatomie	Westar (92%) MKEC (8%)	2,164	1978 - 1983	12,358,599
	<b>Lawrence Energy Center Coal (B)</b>	Douglas	Westar (100%)	529	1955 - 1971	3,367,046
	<b>Hutchinson Natural gas (P)</b>	Reno	Westar (100%)	395	1965 - 1983	133,863
	<b>Abilene Natural gas (P)</b>	Dickinson	Westar (100%)	64	1973	17,087
	<b>Tecumseh Coal (B) and Natural gas (P)</b>	Shawnee	Westar (100%)	239	1957 - 1972	1,259,612
	<b>Gordon Evans Natural gas (P)</b>	Sedgwick	Westar (100%)	835	1961 - 2001	573,430
	<b>Murray Gill Natural gas (P)</b>	Sedgwick	Westar (100%)	293	1952 - 1959	186,662
	<b>Neosho Natural gas (P)</b>	Labette	Westar (100%)	67	1954	-1,649
	<b>Emporia Energy Center Natural gas (LF) and Natural gas (P)</b>	Lyon	Westar (100%)	663	2008-2009	373,285
	<b>Spring Creek Energy Center Natural gas (P)</b>	Logan, Oklahoma	Westar (100%)	278	2001	100,277
<b>Kansas City Power and Light (KCP&amp;L)</b>	<b>LaCygne Coal (B)</b>	Linn	KCPL (50%) Westar (50%)	1,418	1973 - 1977	8,910,098

<b>Operating Utility</b>	<b>Power Plant Name Unit / Primary Fuel Source</b> (B-Base, I-Intermediate, P-Peaking)	<b>County</b>	<b>Ownership</b>	<b>Nameplate Capacity (MW)</b>	<b>Initial Year of Operation</b>	<b>2010 Net Generation (MWh)</b>
	<b>Osawatomie</b> Natural gas (P)	Miami	KCPL (100%)	90	2003	631
	<b>West Gardner</b> Natural gas (P)	Johnson	KCPL (100%)	360	2003	32,654
	<b>Iatan I</b> Coal (B)	Platte, Missouri	KCPL (70%) KCPL-GMO (18%) Empire (12%)	651	1980	5,176,379
	<b>Iatan II</b> Coal (B)	Platte, Missouri	KCPL (54.71%) KCPL-GMO (18%) Empire (12%) MJMEUC (11.76%) KEPCo (3.53%)	850	2010	1,451,079
	<b>Montrose</b> Coal (B)	Henry, Missouri	KCPL (100%)	510	1958 - 1964	3,151,506
	<b>Hawthorn</b> Coal (B)	Jackson, Missouri	KCPL (100%)	563	1969	4,075,196
	<b>Hawthorn Combine Cycle</b> Natural gas (P)	Jackson, Missouri	KCPL (100%)	292	1997 - 2000	
	<b>Hawthorn Combustion Turbine</b> Natural gas (P)	Jackson, Missouri	KCPL (100%)	180	2000	
	<b>Northeast Station</b> Natural gas (P) and Distillate fuel oil (P)	Jackson, Missouri	KCPL (100%)	522	1972 - 1985	-1,223
<b>Kansas City Board of Public Utilities (KC-BPU)</b>	<b>Quindaro</b> Coal (B)	Wyandotte	KC-BPU (100%)	183	1965 - 1971	1,079,476
	<b>Quindaro Combustion Turbine</b> Natural gas (P) and Distillate fuel oil (P)	Wyandotte	KC-BPU (100%)	115	1969 - 1977	
	<b>Nearman Creek</b> Coal (B)	Wyandotte	KC-BPU (100%)	229	1981	1,512,511

Operating Utility	Power Plant Name Unit / Primary Fuel Source (B-Base, I-Intermediate, P-Peaking)	County	Ownership	Nameplate Capacity (MW)	Initial Year of Operation	2010 Net Generation (MWh)
	<b>Nearman Creek Combustion Turbine</b> Natural gas (P)	Wyandotte	KC-BPU (100%)	76 <i>(with 45MW additional announced)</i>	2006 <i>(addition planned 2012)</i>	
	<b>Kaw</b> Natural gas (P)	Wyandotte	KC-BPU (100%)		1955 - 1962	(Out of Service)
<b>Kansas Electric Power Cooperatives (KEPCo)</b>	<b>Sharpe</b> Distillate fuel oil (I)	Coffey	KEPCo (100%)	20	2002	29
<b>Sunflower Electric Power Corporation</b>	<b>Holcomb Station</b> Coal (B)	Finney	Sunflower (100%)	360	1983	2,632,936
	<b>Garden City Station</b> Natural gas (I) and Natural gas (P)	Finney	Sunflower (100%)	239.2	1962 - 1979	57,907
<b>Mid-Kansas Electric Company (MKEC)</b>	<b>Cimarron River Station</b> Natural gas (I) and Natural gas (P)	Seward	MKEC (100%)	75	1963 - 1967	108
	<b>Clifton Station</b> Natural gas (P) and Distillate fuel oil (P)	Washington	MKEC (100%)	75.5	1974	8,321
	<b>Fort Dodge Station</b> Natural gas (LF) <i>(formerly Judson Large)</i>	Ford	MKEC (100%)	144.6	1968	335,942
	<b>Great Bend Station</b> Natural gas (I) <i>(formerly Arthur Mullergren)</i>	Barton	MKEC (100%)	96	1963	NA
<b>Empire District Electric Company</b>	<b>Riverton</b> Coal (B)	Cherokee	Empire (100%)	92	1950	636,540
	<b>Riverton Combustion Turbine</b> Natural gas (P)	Cherokee	Empire (100%)	236	1964 - 2007	
	<b>Asbury</b> Coal (B)	Jasper, Missouri	Empire (100%)	210	1970 - 1986	1,265,722

<b>Operating Utility</b>	<b>Power Plant Name Unit / Primary Fuel Source</b> (B-Base, I-Intermediate, P-Peaking)	<b>County</b>	<b>Ownership</b>	<b>Nameplate Capacity (MW)</b>	<b>Initial Year of Operation</b>	<b>2010 Net Generation (MWh)</b>
	<b>Empire Energy Center</b> Natural gas (P)	Jasper, Missouri	Empire (100%)	272	1978 - 2003	97,449
	<b>Ozark Beach</b> Hydro (B)	Taney, Missouri	Empire (100%)	16	1931	88,104
	<b>State Line Combine Cycle</b> Natural gas (P)	Jasper, Missouri	Empire (60%) Westar (40%)	499	2001	1,812,618
	<b>State Line Combustion Turbine</b> Natural gas (P)	Jasper, Missouri	Empire (100%)	89	1995	19,062
<b>Plum Point Energy Associates, LLC</b>	<b>Plum Point Energy</b> Coal (B)	Mississippi, Arkansas	EIF Plum Point (29.6%) John Hancock (27.25%) MJMEUC (22.11%) Empire (7.52%) East Texas Coop. (7.52%) Mississippi Municipal Energy Agency (6%)	665	2010	1,342,051
<b>McPherson Board of Public Utilities</b>	<b>McPherson 2</b> Natural gas (P) and Distillate fuel oil (P)	McPherson	McPherson-BPU (100%)	180	1973 - 1979	1,177
	<b>McPherson 3</b> Natural gas (P)	McPherson	McPherson-BPU (100%)	99.9	1998	NA
<b>Midwest Energy, Inc.</b>	<b>Colby</b> Dual Fuel (P)	Thomas	Midwest (100%)	13	1970	NA
	<b>Great Bend</b> Dual Fuel (P)	Barton	Midwest (100%)	10	1948 - 1956	NA
	<b>Bird City</b> Distillate fuel oil (P)	Cheyenne	Midwest (100%)	4	1965	NA
	<b>Goodman Energy Center</b> Natural gas (P)	Ellis	Midwest (100%)	74.7	2008	NA