

# **SPP 2017 RESOURCE ADEQUACY REPORT**

Published on June 19th, 2017

By Resource Adequacy Coordination

LMM-D-3

#### **REVISION HISTORY**

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS

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#### **OVERVIEW AND ASSUMPTIONS**

SPP submitted Tariff revisions to implement a Resource Adequacy Requirement (RAR) on March 3, 2017 (<u>ER17-1098</u>).

Attachment AA requires a Load Responsible Entity (LRE) to maintain capacity required to meet its load and planning reserve obligations. No later than June 15<sup>th</sup> of each year, a final report on the status of each LRE's compliance with the RAR for the upcoming Summer Season will be posted on the SPP website.

This report will assess resource adequacy across the SPP Balancing Authority (BA) for the 2017 Summer Season, and provide a five-year outlook of the BA and LREs, beginning with the 2018 Summer Season. The data for this report originates from the LRE and Generator Owner (GO) submitted Workbooks.

The reserve margin calculation is an industry planning metric used to examine future resource adequacy. This deterministic approach examines the forecasted Net Peak Demand (load) and the availability of existing resources to serve the forecasted Net Peak Demand for the current Summer Season and a five-year outlook.

Net Peak Demand projections, or load forecasts, are provided by each LRE. Load forecasts include peak hourly load, or Peak Demand, for the Summer Season of each year. Peak Demand projections are based on normal weather (50/50 distribution) and provided on a non-coincident basis.

#### DEFINITIONS

#### **Firm Capacity**

The projected accredited capacity of an LRE's commercially operable generating units, or portions of generating units, adjusted to reflect purchases and sales of accredited capacity with another party, and that is supported by firm transmission service to the LRE's load, or is Deliverable Capacity to meet the PRM portion of the Resource Adequacy Requirement.

#### **Firm Power**

Power sales and purchases deliverable with firm transmission service where the seller assumes the obligation to serve the purchaser's load with capacity, energy, and planning reserves that must be continuously available in a manner comparable to power delivered to native load customers.

#### Load Responsible Entity

An Asset Owner represented in the Integrated Marketplace with a registered physical asset that is either a) load or b) an Export Interchange Transaction as specified in Section 5.4 of Attachment AA.

#### **Net Peak Demand**

The forecasted Peak Demand less the a) projected impacts of demand response programs and behind-the-meter generation that are controllable and dispatchable and not registered as a Resource and b) contract amount of Firm Power purchased under agreements in effect as of the time of the forecasted Peak Demand, plus the contract amount of Firm Power sold to others in effect as of the time of the forecasted Peak Demand

#### **Peak Demand**

The highest demand including transmission losses for energy measured over a one clock hour period

#### **Planning Reserve Margin**

The Planning Reserve Margin ("PRM") shall be twelve percent (12%). If an LRE's Firm Capacity is comprised of at least seventy-five percent (75%) hydro-based generation, then such PRM shall be nine point eight nine percent (9.89%).

#### **Resource Adequacy Requirement**

The Resource Adequacy Requirement is equal to the LRE's Summer Season Net Peak Demand plus its Summer Season Net Peak Demand multiplied by the PRM.

#### **Summer Season**

June 1st through September 30<sup>th</sup> of each year.

#### SPP HIGHLIGHTS

The Southwest Power Pool (SPP) BA covers 575,000 square miles and encompasses all or parts of Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas and Wyoming. The SPP footprint has approximately 61,000 miles of transmission lines, 756 generating plants, and 4,811 transmission-class substations, and it serves a population of 18 million people.



- SPP's PRM target is 12%
- The six year assessment period starting in 2017 based on Firm Capacity is projected to be 29.7% and decreases to 25.9% by 2022
- Six year (2017-2022) peak demand average annual growth rate is 1.1%



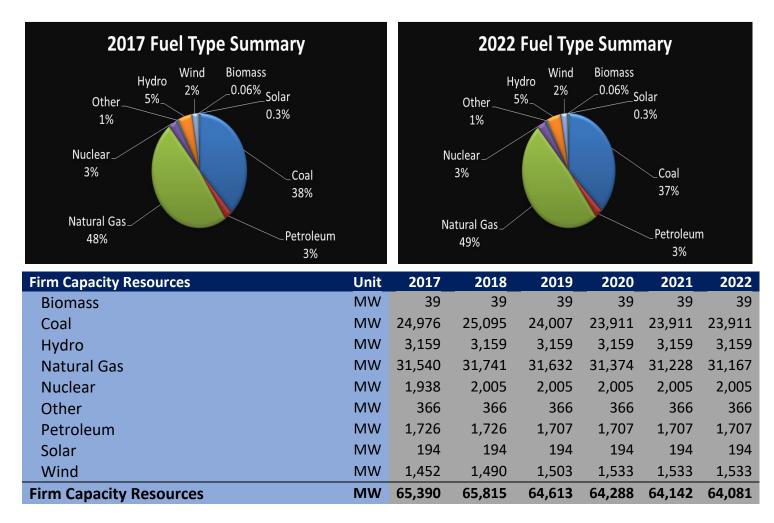


#### SPP CURRENT AND FIVE-YEAR OUTLOOK

Demand Summary	2017	2018	2019	2020	2021	2022
Peak Demand (Forecasted)	52,665	53,065	53,116	53,158	53 <i>,</i> 440	53,779
Controllable and Dispatchable DR - Available	663	708	736	744	730	725
Controllable and Dispatchable DEG - Available	164	160	161	142	139	141
Firm Power Purchases	1,655	1,655	1,553	1,551	1,551	1,551
Firm Power Sales	260	200	100	99	100	115
Net Peak Demand (Forecasted)	50,444	50,743	50,767	50,821	51,121	51,477
Firm Capacity (Units - MW)	2017	2018	2019	2020	2021	2022
Other Capacity Adjustments - Additions	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	397	41	41	5	5	5
Confirmed Retirements	16	388	1,170	1,379	1,469	1,469
Unconfirmed Retirements	0	83	236	236	236	478
Scheduled Outages	520	566	45	0	0	0
Transmission Limitations	14	0	0	0	0	0
Firm Capacity Purchases	277	277	277	279	279	179
Firm Capacity Sales	674	549	934	934	534	534
Firm Capacity Resources	65,390	65,815	64,613	64,288	64,142	64,081
Firm Capacity Resources (Other)	0	0	0	0	0	0
Firm Capacity (e.g. 65,390+674+277-14-520-397)	65,410	66,035	65,738	65,496	64,951	64,790
Planning Reserve Margin ( e.g. 65,390-50,444/65,390)	29.7%	30.1%	29.5%	28.9%	27.1%	25.9%
Resource Adequacy Requirement (e.g. 50,444 *12%)	56,497	56,832	56,859	56,919	57,256	57,655
SPP Excess Capacity	8,913	9,203	8,879	8,577	7,695	7,135

#### FUEL TYPE SUMMARY

The Firm Capacity is based on the available LRE and GO excess generation for the Summer Season. The amount of confirmed retirements increases from 16 MW to 1,469 MW by 2022, with coal accounting for 61% of the retirements and natural gas for the remaining 39%.

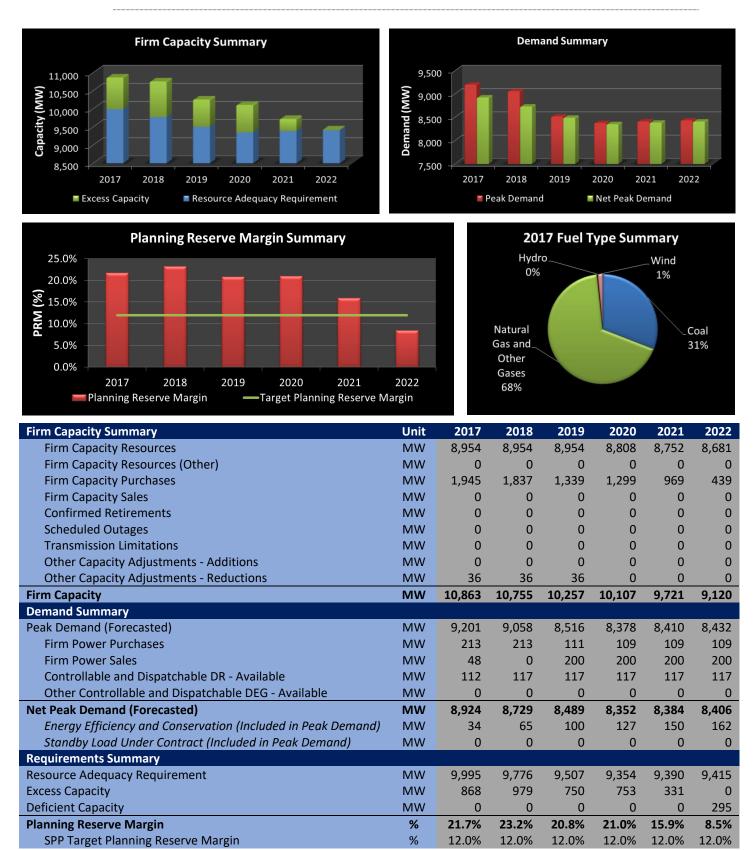


#### LOAD RESPONSIBLE ENTITIES

American Electric Power Arkansas Electric Cooperative Corporation **Basin Electric Power Cooperative** Carthage Water & Electric Plant (Did not meet the RAR for the 2017 Summer Season) City of Beatrice Nebraska City of Chanute **City of Fremont** City of Grand Island Nebraska Utilities City of Hastings Nebraska Utilities City of Malden Board of Public Works City of Neligh City of Piggott Municipal Light & Water **City of Poplar Bluff Municipal Utilities** City of Superior Nebraska City of West Plains Board of Public Works City Utilities of Springfield **Empire District Electric Company** ETEC/NTEC/Tex-La **Falls City Utilities Golden Spread Electric Cooperative** Grand River Dam Authority Greater Missouri Operations Company (KCP&L) Harlan Municipal Utilities Heartland Consumers Power District Independence Power & Light Kansas City Board of Public Utilities Kansas City Power & Light Kansas Municipal Energy Agency - EMP1 Kansas Municipal Energy Agency – EMP2 Kansas Municipal Energy Agency – EMP3 Kansas Municipal Energy Agency - Eudora Kansas Municipal Energy Agency - GC Kansas Municipal Energy Agency – Meade **Kansas Power Pool** Kennett Board of Public Works Lincoln Electric System MidAmerican Energy Company **Midwest Energy Missouri Joint Municipal Electric Utility Commission Missouri River Energy Services** Municipal Energy Agency of Nebraska

Nebraska City Utilities Nebraska Public Power District Northwestern Energy NSP Energy Marketing (Not included due to all load being served with Firm Power contracts) **Oklahoma Gas & Electric Company** Oklahoma Municipal Power Authority **Omaha Public Power District** Paragould Light and Water Commission (Not included due to all load being served with Firm Power contracts) People's Electric Cooperative South Sioux City Nebraska Southwestern Power Administration Southwestern Public Service Company Sunflower Electric Power Corporation West Texas Municipals Westar Energy Western Area Power Administration Western Farmers Energy Services

# AMERICAN ELECTRIC POWER

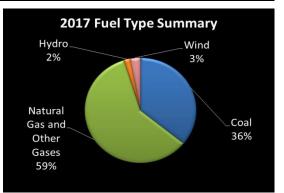


# ARKANSAS ELECTRIC COOPERATIVE CORPORATION









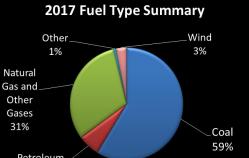
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	726	726	726	726	726	726
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	197	197	197	197	197	197
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	923	923	923	923	923	923
Demand Summary							
Peak Demand (Forecasted)	MW	864	890	909	926	946	965
Firm Power Purchases	MW	189	189	189	189	189	189
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	17	17	17	17	17	17
Other Controllable and Dispatchable DEG - Available	MW	4	4	4	4	4	4
Net Peak Demand (Forecasted)	MW	654	680	699	716	736	755
Energy Efficiency and Conservation (Included in Peak Demand)	MW	86	89	91	93	95	96
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	732	762	783	802	824	845
Excess Capacity	MW	191	162	140	121	99	78
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	41.2%	35.8%	32.0%	28.9%	25.4%	22.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

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# BASIN ELECTRIC POWER COOPERATIVE







Petroleum\_\_\_\_\_\_ 6%

Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	3,250	3,416	3,207	3,208	3,208	3,208
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	66	218	221	221	170	170
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	3,316	3,634	3,428	3,429	3,378	3,378
Demand Summary							
Peak Demand (Forecasted)	MW	2,768	2,795	2,863	2,903	2,953	2,993
Firm Power Purchases	MW	240	240	240	240	240	240
Firm Power Sales	MW	110	98	100	99	100	115
Controllable and Dispatchable DR - Available	MW	6	6	6	6	6	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	2,631	2,646	2,717	2,756	2,807	2,868
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	2,947	2,964	3,043	3,086	3,144	3,212
Excess Capacity	MW	369	670	384	343	234	165
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	26.0%	37.3%	26.1%	24.4%	20.3%	17.8%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

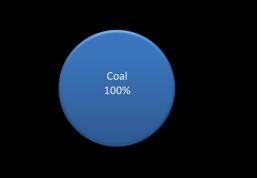
### **CARTHAGE WATER & ELECTRIC PLANT**





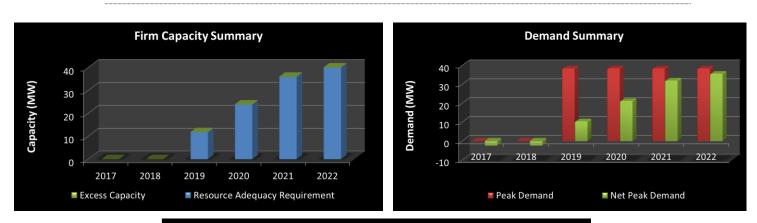


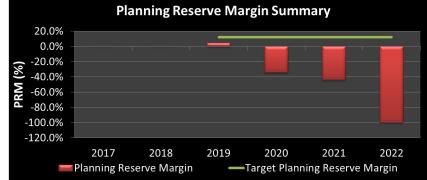
#### 2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	0	0	0	0	0	0
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	32	32	32	32	32	32
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	32	32	32	32	32	32
Demand Summary							
Peak Demand (Forecasted)	MW	64	64	65	65	66	66
Firm Power Purchases	MW	7	7	7	7	7	7
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	19	19	19	19	19	19
Net Peak Demand (Forecasted)	MW	38	38	39	39	40	40
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	43	43	44	44	45	45
Excess Capacity	MW	0	0	0	0	0	0
Deficient Capacity	MW	11	11	12	12	13	13
Planning Reserve Margin	%	-15.8%	-15.8%	-17.9%	-17.9%	-20.0%	-20.0%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

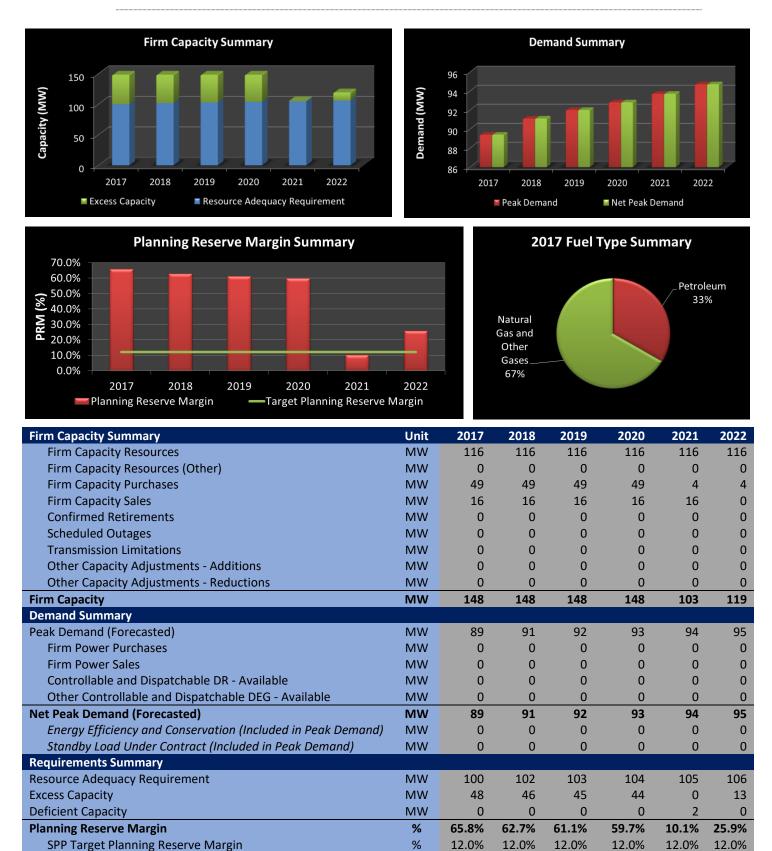
#### CITY OF BEATRICE NEBRASKA



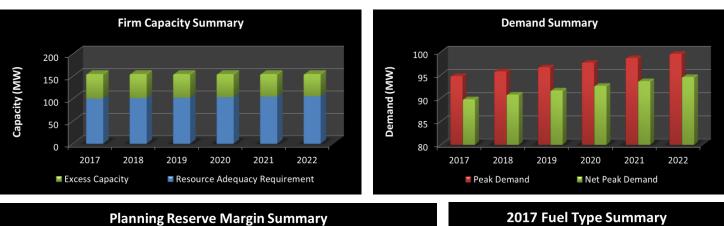


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	0	0	0	0	0	0
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	11	14	18	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	0	0	11	14	18	0
Demand Summary							
Peak Demand (Forecasted)	MW	0	0	39	39	39	39
Firm Power Purchases	MW	3	3	28	17	6	3
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	-3	-3	11	21	32	36
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW			12	24	36	40
Excess Capacity	MW			0	0	0	0
Deficient Capacity	MW			1	10	18	40
Planning Reserve Margin	%			4.8%	-34.3%	-43.9%	-100.0%
SPP Target Planning Reserve Margin	%			12.0%	12.0%	12.0%	12.0%

#### **CITY OF CHANUTE**

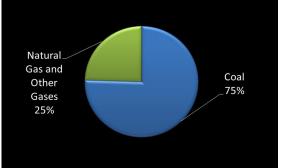


#### **CITY OF FREMONT**





#### 2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	155	155	155	155	155	155
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	155	155	155	155	155	155
Demand Summary							
Peak Demand (Forecasted)	MW	95	96	97	98	99	100
Firm Power Purchases	MW	5	5	5	5	5	5
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	90	91	92	93	94	95
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	101	102	103	104	105	106
Excess Capacity	MW	54	53	52	51	50	49
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	72.6%	70.7%	69.0%	67.2%	65.4%	63.8%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

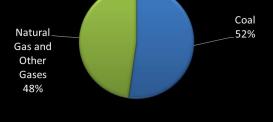
# CITY OF GRAND ISLAND NEBRASKA UTILITIES







2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	251	251	251	251	251	251
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	33	34	34	34	34	34
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	284	284	284	284	284	284
Demand Summary							
Peak Demand (Forecasted)	MW	167	168	169	170	171	173
Firm Power Purchases	MW	9	9	9	9	9	9
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	158	159	160	161	162	163
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	177	178	179	180	182	183
Excess Capacity	MW	107	107	105	104	103	101
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	80.1%	79.1%	77.9%	76.5%	75.3%	74.1%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# CITY OF HASTINGS NEBRASKA UTILITIES



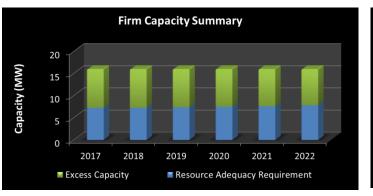




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Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	160	165	165	165	165	165
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	160	165	165	165	165	165
Demand Summary							
Peak Demand (Forecasted)	MW	93	94	96	97	98	99
Firm Power Purchases	MW	12	12	12	12	12	12
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	81	82	84	85	86	87
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	91	92	94	95	96	98
Excess Capacity	MW	70	73	72	71	69	68
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	97.8%	101.0%	98.1%	95.3%	92.5%	89.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# CITY OF MALDEN BOARD OF PUBLIC WORKS



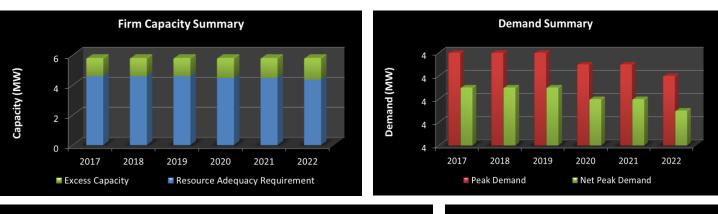




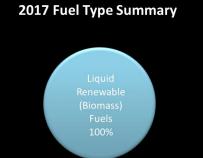
# 2017 Fuel Type Summary Petroleum 100%

Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	16	16	16	16	16	16
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	16	16	16	16	16	16
Demand Summary							
Peak Demand (Forecasted)	MW	12	12	12	12	12	12
Firm Power Purchases	MW	5	5	5	5	5	5
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	7	7	7	7	7	7
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	7	7	7	8	8	8
Excess Capacity	MW	9	9	9	8	8	8
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	146.2%	146.2%	142.4%	138.8%	135.3%	128.6%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# CITY OF NELIGH

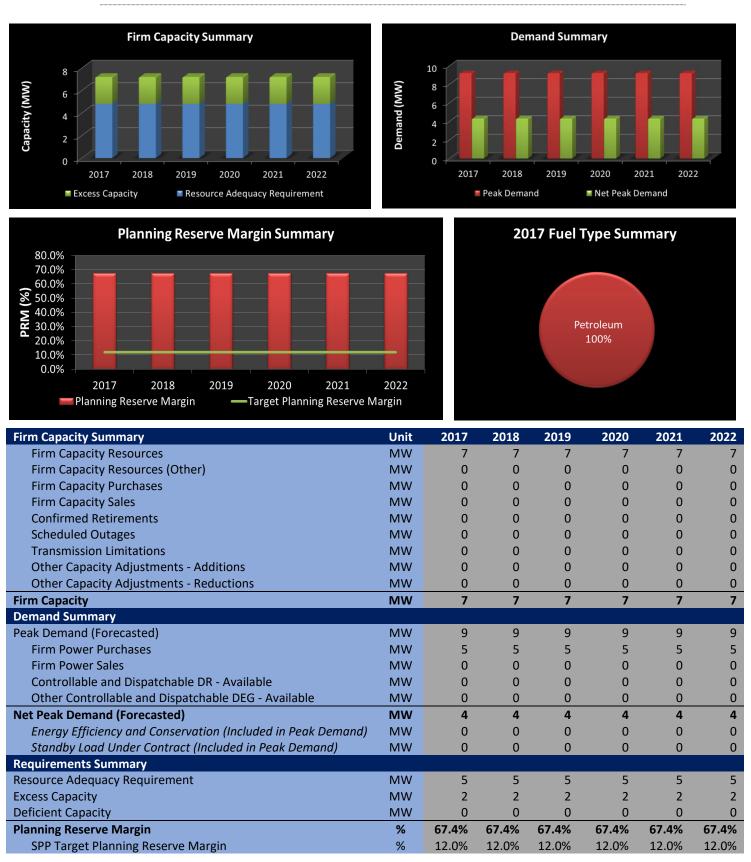






Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	6	6	6	6	6	6
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	6	6	6	6	6	6
Demand Summary							
Peak Demand (Forecasted)	MW	4	4	4	4	4	4
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	4	4	4	4	4	4
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	5	5	5	4	4	4
Excess Capacity	MW	1	1	1	1	1	1
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	41.5%	41.5%	41.5%	45.0%	45.0%	48.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# CITY OF PIGGOTT MUNICIPAL LIGHT & WATER



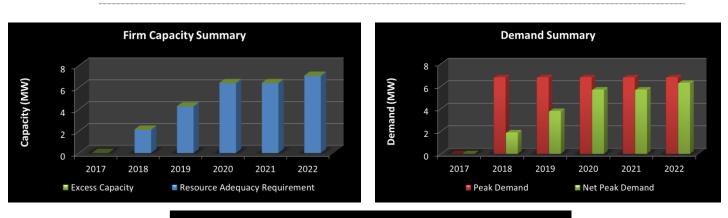
# CITY OF POPLAR BLUFF MUNICIPAL UTILITIES





Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	34	34	34	34	34	34
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	34	34	34	34	34	34
Demand Summary							
Peak Demand (Forecasted)	MW	83	83	84	84	85	86
Firm Power Purchases	MW	80	80	80	80	80	80
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	3	4	4	5	5	6
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	3	4	5	5	6	7
Excess Capacity	MW	30	29	29	28	28	27
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	983.9%	808.1%	681.4%	600.0%	522.2%	460.0%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

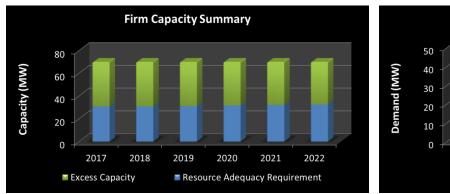
#### CITY OF SUPERIOR NEBRASKA





Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	0	0	0	0	0	0
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	0	0	0	0	0	0
Demand Summary							
Peak Demand (Forecasted)	MW	0	7	7	7	7	7
Firm Power Purchases	MW	0	5	3	1	1	1
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	0	2	4	6	6	6
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW		2	4	6	6	7
Excess Capacity	MW		0	0	0	0	0
Deficient Capacity	MW		2	4	6	6	7
Planning Reserve Margin	%		-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
SPP Target Planning Reserve Margin	%		12.0%	12.0%	12.0%	12.0%	12.0%

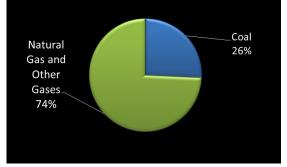
# CITY OF WEST PLAINS BOARD OF PUBLIC WORKS





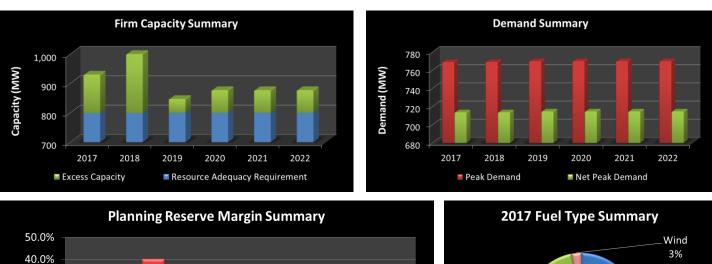




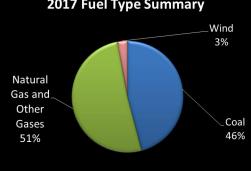


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	52	52	52	52	52	52
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	18	18	18	18	18	18
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	70	70	70	70	70	70
Demand Summary							
Peak Demand (Forecasted)	MW	43	43	43	43	44	44
Firm Power Purchases	MW	15	15	15	15	15	15
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	28	28	28	28	29	29
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	31	31	31	32	32	33
Excess Capacity	MW	39	39	39	38	38	37
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	154.5%	154.5%	150.9%	146.5%	143.1%	139.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# CITY UTILITIES OF SPRINGFIELD

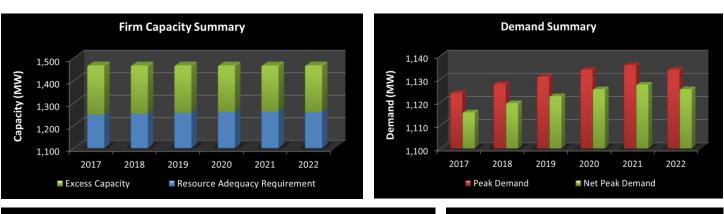




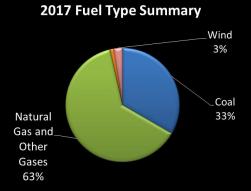


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	971	971	818	818	818	818
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	29	29	29	59	59	59
Firm Capacity Sales	MW	70	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	930	1,000	847	877	877	877
Demand Summary							
Peak Demand (Forecasted)	MW	769	769	770	770	770	770
Firm Power Purchases	MW	55	55	55	55	55	55
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	714	714	715	715	715	715
Energy Efficiency and Conservation (Included in Peak Demand)	MW	8	9	9	10	10	11
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	799	799	800	800	800	800
Excess Capacity	MW	131	201	47	77	77	77
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	30.3%	40.1%	18.5%	22.7%	22.7%	22.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# EMPIRE DISTRICT ELECTRIC COMPANY

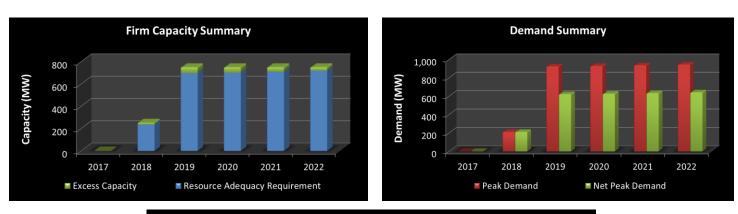






Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	1,467	1,467	1,467	1,467	1,467	1,467
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	1,467	1,467	1,467	1,467	1,467	1,467
Demand Summary							
Peak Demand (Forecasted)	MW	1,124	1,128	1,131	1,134	1,136	1,134
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	8	8	8	8	8	8
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	1,116	1,120	1,123	1,126	1,128	1,126
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,249	1,254	1,257	1,261	1,263	1,261
Excess Capacity	MW	218	213	210	206	204	206
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	31.5%	31.0%	30.7%	30.3%	30.1%	30.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

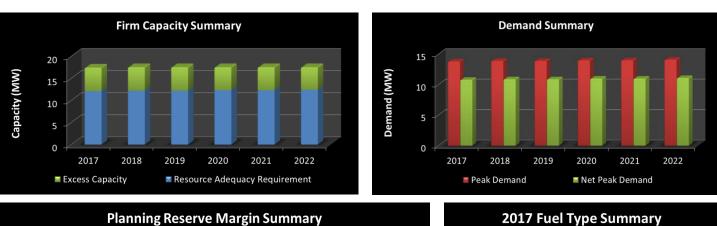
#### ETEC/NTEC/TEX-LA





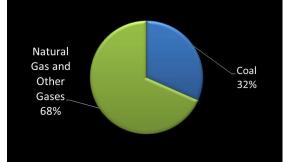
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	685	685	685	685	685	685
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	66	66	66	66	66	66
Firm Capacity Sales	MW	606	498	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	144	252	750	750	750	750
Demand Summary							
Peak Demand (Forecasted)	MW	0	212	925	929	936	944
Firm Power Purchases	MW	102	102	302	302	302	302
Firm Power Sales	MW	102	102	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	0	212	623	627	634	642
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW		237	698	702	710	719
Excess Capacity	MW		16	53	48	40	31
Deficient Capacity	MW		0	0	0	0	0
Planning Reserve Margin	%		19.3%	20.4%	19.7%	18.4%	16.9%
SPP Target Planning Reserve Margin	%		12.0%	12.0%	12.0%	12.0%	12.0%

#### FALLS CITY UTILITIES





#### 2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	12	12	12	12	12	12
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	6	6	6	6	6	6
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	17	18	18	18	18	18
Demand Summary							
Peak Demand (Forecasted)	MW	14	14	14	14	14	14
Firm Power Purchases	MW	3	3	3	3	3	3
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	11	11	11	11	11	11
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	12	12	12	12	12	12
Excess Capacity	MW	5	5	5	5	5	5
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	61.1%	60.6%	60.6%	59.1%	59.1%	57.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# GOLDEN SPREAD ELECTRIC COOPERATIVE

1,450

1,400

1,350

1,300

1,250

1,200

2017

Demand (MW)





#### 2017 Fuel Type Summary

2020

2022

2021

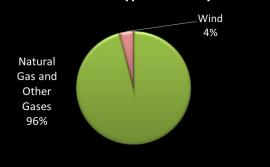
Net Peak Demand

**Demand Summary** 

2019

2018

Peak Demand

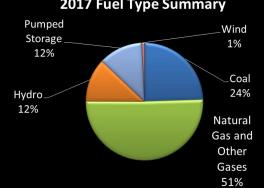


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	1,494	1,549	1,549	1,549	1,549	1,549
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	1,494	1,549	1,549	1,549	1,549	1,549
Demand Summary							
Peak Demand (Forecasted)	MW	1,358	1,383	1,405	1,421	1,434	1,444
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	51	51	51	51	51	51
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	1,307	1,332	1,354	1,370	1,383	1,393
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,463	1,491	1,516	1,534	1,549	1,560
Excess Capacity	MW	31	58	33	16	0	0
Deficient Capacity	MW	0	0	0	0	0	11
Planning Reserve Margin	%	14.4%	16.4%	14.4%	13.1%	12.0%	11.2%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### **GRAND RIVER DAM AUTHORITY**





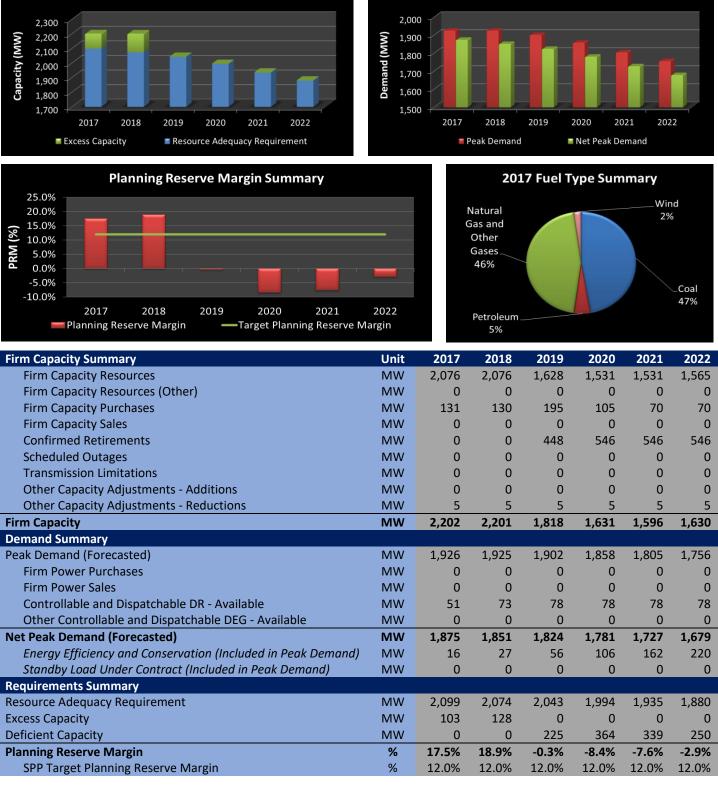


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	2,121	2,121	2,121	2,121	2,121	2,121
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	20	20	20	20	20
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	520	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	55	0	0	0	0	0
Firm Capacity	MW	1,546	2,101	2,101	2,101	2,101	2,101
Demand Summary							
Peak Demand (Forecasted)	MW	970	1,002	1,063	1,123	1,183	1,244
Firm Power Purchases	MW	13	13	13	13	13	13
Firm Power Sales	MW	442	442	442	442	442	442
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	30	30	30	30	30	30
Net Peak Demand (Forecasted)	MW	1,369	1,401	1,462	1,522	1,582	1,643
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,534	1,570	1,638	1,705	1,772	1,841
Excess Capacity	MW	12	531	463	396	328	260
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	12.9%	49.9%	43.6%	38.0%	32.7%	27.8%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

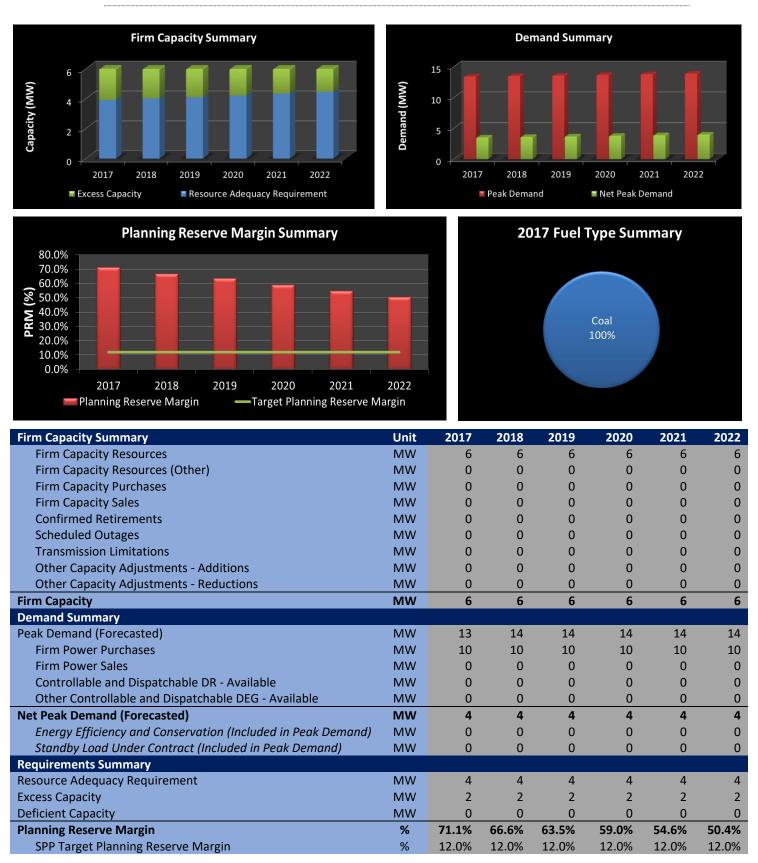
Firm Capacity Summary

# GREATER MISSOURI OPERATIONS COMPANY (KCP&L)

**Demand Summary** 



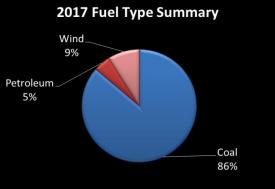
## HARLAN MUNICIPAL UTILITIES



## HEARTLAND CONSUMERS POWER DISTRICT

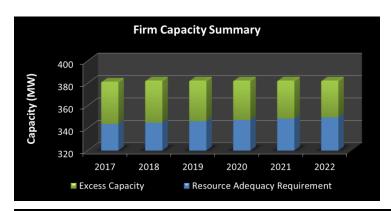


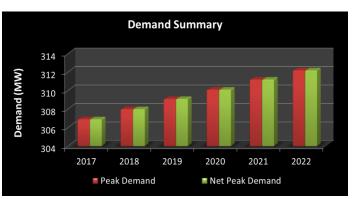




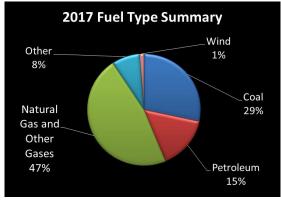
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	135	135	135	135	135	134
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	12	12	12	12	12	12
Firm Capacity Sales	MW	96	98	101	101	50	50
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	50	48	45	45	96	95
Demand Summary							
Peak Demand (Forecasted)	MW	37	37	38	39	39	40
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	37	37	38	39	39	40
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	41	42	42	43	44	45
Excess Capacity	MW	9	6	2	2	52	50
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	36.7%	28.8%	18.5%	16.3%	144.0%	137.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### **INDEPENDENCE POWER & LIGHT**





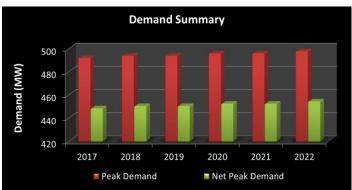




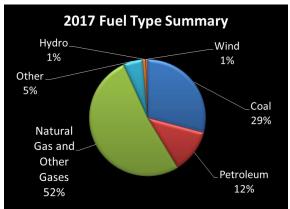
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	268	268	268	268	268	268
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	113	114	114	114	114	114
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	381	382	382	382	382	382
Demand Summary							
Peak Demand (Forecasted)	MW	307	308	309	310	311	312
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	307	308	309	310	311	312
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	344	345	346	347	349	350
Excess Capacity	MW	38	37	36	35	34	33
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	24.3%	24.2%	23.7%	23.3%	22.9%	22.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

# KANSAS CITY BOARD OF PUBLIC UTILITIES







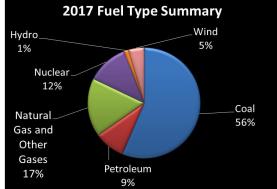


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	810	810	810	810	810	810
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	11	11	11	11	11	11
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	821	821	821	821	821	821
Demand Summary							
Peak Demand (Forecasted)	MW	492	494	494	496	496	498
Firm Power Purchases	MW	43	43	43	43	43	43
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	449	451	451	453	453	455
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	502	505	505	507	507	509
Excess Capacity	MW	318	316	316	314	314	311
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	82.9%	82.1%	82.1%	81.3%	81.3%	80.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### **KANSAS CITY POWER & LIGHT**



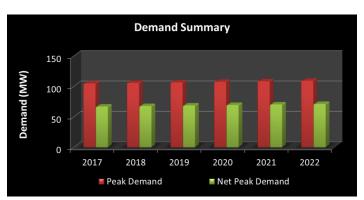




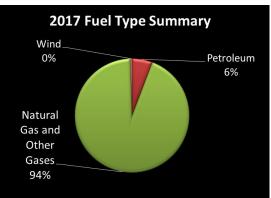
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	4,344	4,344	4,010	4,010	4,010	4,010
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	256	292	292	292	292	292
Firm Capacity Sales	MW	137	112	167	77	15	15
Confirmed Retirements	MW	0	0	334	334	334	334
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	4,463	4,524	4,135	4,225	4,287	4,287
Demand Summary							
Peak Demand (Forecasted)	MW	3,440	3,441	3,434	3,419	3,390	3,380
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	20	34	55	64	51	51
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	3,420	3,407	3,379	3,355	3,339	3,329
Energy Efficiency and Conservation (Included in Peak Demand)	MW	18	35	54	75	112	141
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	3,831	3,816	3,784	3,757	3,740	3,729
Excess Capacity	MW	633	708	351	467	547	558
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	30.5%	32.8%	22.4%	25.9%	28.4%	28.8%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS MUNICIPAL ENERGY AGENCY – EMP1



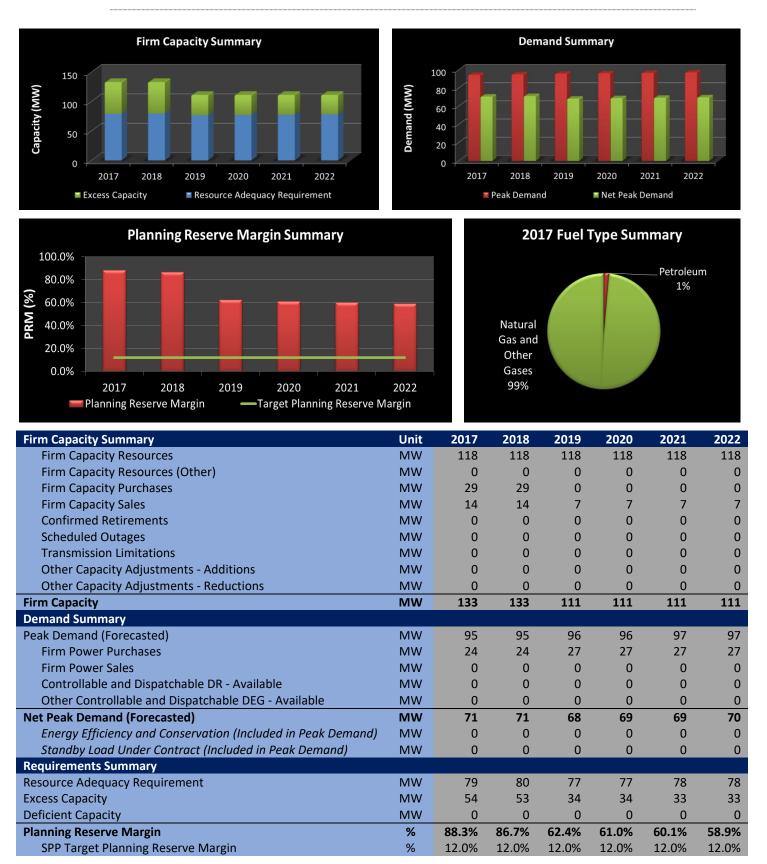




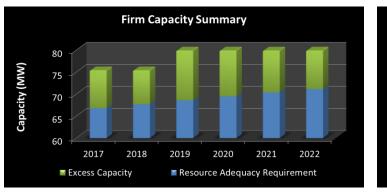


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	80	80	80	80	80	80
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	20	20	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	100	100	80	80	80	80
Demand Summary							
Peak Demand (Forecasted)	MW	105	106	107	108	109	109
Firm Power Purchases	MW	38	38	38	38	38	38
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	67	68	69	70	70	71
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	75	76	77	78	79	80
Excess Capacity	MW	25	24	3	2	1	0
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	49.6%	47.6%	16.5%	15.0%	13.5%	12.2%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS MUNICIPAL ENERGY AGENCY – EMP2



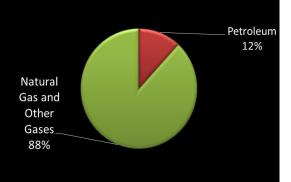
### KANSAS MUNICIPAL ENERGY AGENCY – EMP3







#### 2017 Fuel Type Summary



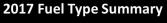
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	80	80	80	80	80	80
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	5	5	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	75	75	80	80	80	80
Demand Summary							
Peak Demand (Forecasted)	MW	82	83	84	85	86	86
Firm Power Purchases	MW	23	23	23	23	23	23
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	60	60	61	62	63	64
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	67	68	69	69	70	71
Excess Capacity	MW	9	8	11	10	10	9
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	26.4%	24.8%	30.5%	28.8%	27.2%	25.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS MUNICIPAL ENERGY AGENCY – EUDORA











Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	0	0	0	0	0	0
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	15	15	15	15	15	15
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	15	15	15	15	15	15
Demand Summary							
Peak Demand (Forecasted)	MW	12	13	13	13	13	13
Firm Power Purchases	MW	1	1	1	1	1	1
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	12	12	12	12	12	12
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	13	13	13	14	14	14
Excess Capacity	MW	2	2	2	1	1	1
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	27.1%	26.1%	25.0%	23.0%	22.0%	21.0%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS MUNICIPAL ENERGY AGENCY – GC







#### 2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	27	27	27	27	27	27
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	52	37	27	27	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	79	64	54	54	27	27
Demand Summary							
Peak Demand (Forecasted)	MW	75	78	79	80	81	81
Firm Power Purchases	MW	5	5	2	2	2	2
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	70	72	77	78	78	79
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	78	81	86	87	88	88
Excess Capacity	MW	1	0	0	0	0	0
Deficient Capacity	MW	0	17	32	33	60	61
Planning Reserve Margin	%	13.8%	-11.2%	-29.6%	-30.2%	-65.3%	-65.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS MUNICIPAL ENERGY AGENCY – MEADE

5

4

2017

Demand (MW)





#### 2017 Fuel Type Summary

2020

2021

Net Peak Demand

2022

**Demand Summary** 

2019

2018

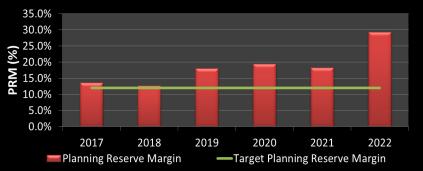
Peak Demand

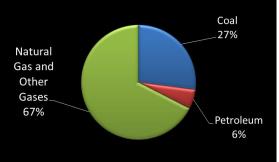


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	7	7	7	7	7	7
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	7	7	7	7	7	7
Demand Summary							
Peak Demand (Forecasted)	MW	5	5	5	5	5	5
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	5	5	5	5	5	5
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	5	5	5	5	5	5
Excess Capacity	MW	1	1	1	1	1	1
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### KANSAS POWER POOL

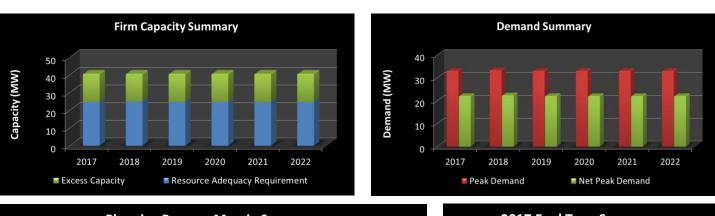






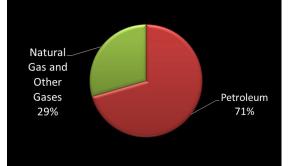
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	209	209	209	209	209	209
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	59	59	59	59	59	59
Firm Capacity Sales	MW	50	50	25	25	25	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	218	218	243	243	243	268
Demand Summary							
Peak Demand (Forecasted)	MW	215	217	229	227	229	231
Firm Power Purchases	MW	24	24	24	24	24	24
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	192	193	206	203	205	207
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	215	216	230	228	230	232
Excess Capacity	MW	3	1	12	15	13	36
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	13.6%	12.7%	18.0%	19.4%	18.2%	29.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### KENNETT BOARD OF PUBLIC WORKS



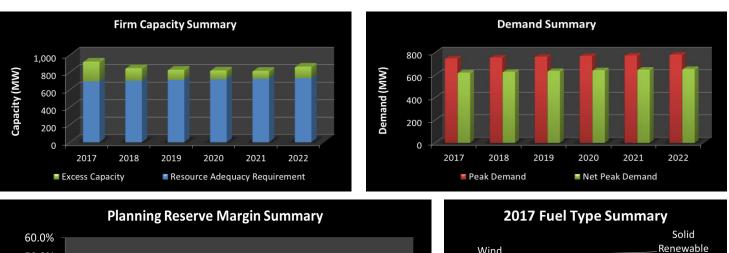


#### 2017 Fuel Type Summary

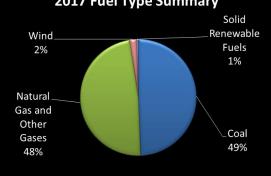


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	41	41	41	41	41	41
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	41	41	41	41	41	41
Demand Summary							
Peak Demand (Forecasted)	MW	33	34	33	33	33	33
Firm Power Purchases	MW	11	11	11	11	11	11
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	22	23	22	22	22	22
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	25	25	25	25	25	25
Excess Capacity	MW	16	16	16	16	16	16
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	83.3%	80.9%	83.3%	83.3%	83.3%	83.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### LINCOLN ELECTRIC SYSTEM

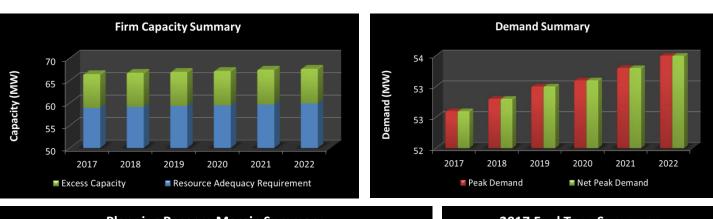






Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	765	765	764	763	763	764
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	224	159	159	159	159	159
Firm Capacity Sales	MW	67	78	95	102	107	60
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	1	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	921	847	829	821	816	864
Demand Summary							
Peak Demand (Forecasted)	MW	749	757	764	771	776	782
Firm Power Purchases	MW	127	127	127	127	127	127
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	622	630	637	644	649	655
Energy Efficiency and Conservation (Included in Peak Demand)	MW	9	9	9	8	8	8
Standby Load Under Contract (Included in Peak Demand)	MW	7	7	7	7	7	7
Requirements Summary							
Resource Adequacy Requirement	MW	697	706	714	722	727	734
Excess Capacity	MW	224	141	115	99	89	130
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	48.1%	34.4%	30.1%	27.4%	25.6%	31.8%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### MIDAMERICAN ENERGY COMPANY

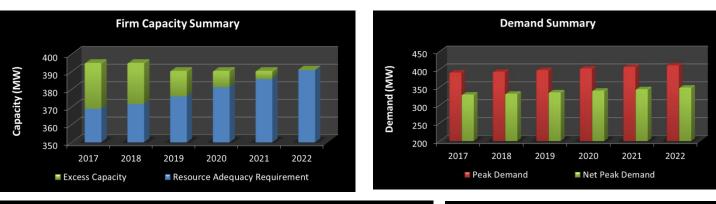




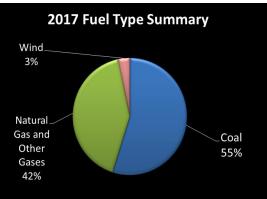
# 2017 Fuel Type Summary Coal 100%

Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	66	67	67	67	67	68
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	66	67	67	67	67	68
Demand Summary							
Peak Demand (Forecasted)	MW	53	53	53	53	53	54
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	53	53	53	53	53	54
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	59	59	59	59	60	60
Excess Capacity	MW	7	8	8	8	8	8
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	26.2%	26.3%	26.2%	26.4%	26.5%	26.4%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### MIDWEST ENERGY



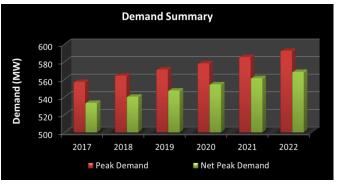




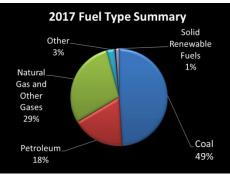
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	115	115	115	115	115	115
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	281	281	276	276	276	276
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	395	395	391	391	391	391
Demand Summary							
Peak Demand (Forecasted)	MW	391	393	398	403	407	411
Firm Power Purchases	MW	6	6	6	6	6	6
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	23	23	24	24	24	24
Other Controllable and Dispatchable DEG - Available	MW	33	33	33	33	33	33
Net Peak Demand (Forecasted)	MW	330	332	336	341	345	349
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	369	372	376	381	386	391
Excess Capacity	MW	26	23	14	9	5	0
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	19.9%	19.0%	16.3%	14.7%	13.3%	11.9%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### MISSOURI JOINT MUNICIPAL ELECTRIC UTILITY COMMISSION







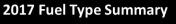


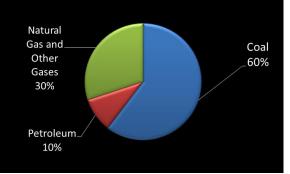
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	590	590	590	590	590	590
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	206	208	208	208	208	108
Firm Capacity Sales	MW	88	53	53	53	53	53
Confirmed Retirements	MW	16	16	16	16	16	16
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	708	745	745	745	745	645
Demand Summary							
Peak Demand (Forecasted)	MW	557	564	571	578	585	593
Firm Power Purchases	MW	24	24	24	24	24	24
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	534	541	548	555	562	569
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	598	605	613	621	629	637
Excess Capacity	MW	111	140	132	124	116	8
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	32.8%	37.9%	36.1%	34.4%	32.7%	13.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### MISSOURI RIVER ENERGY SERVICES







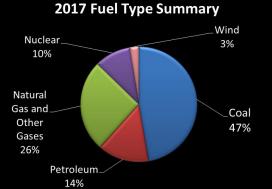


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	496	496	496	496	496	496
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	0	0	0	0
Firm Capacity Sales	MW	34	189	154	154	154	154
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	462	307	342	342	342	342
Demand Summary							
Peak Demand (Forecasted)	MW	232	235	237	237	241	242
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	232	235	237	237	241	242
Energy Efficiency and Conservation (Included in Peak Demand)	MW	8	12	16	20	24	27
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	260	264	265	266	270	271
Excess Capacity	MW	202	43	77	76	72	71
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	99.2%	30.3%	44.5%	44.0%	41.9%	41.2%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### MUNICIPAL ENERGY AGENCY OF NEBRASKA

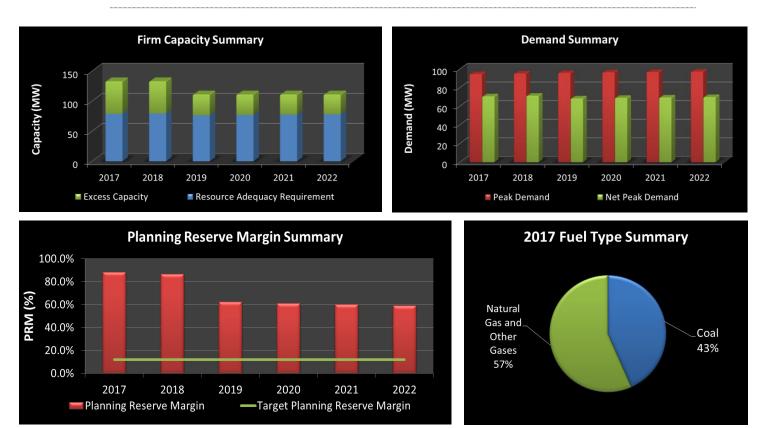






Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	190	188	188	188	188	188
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	66	66	66	66	66	66
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	256	254	254	254	254	254
Demand Summary							
Peak Demand (Forecasted)	MW	167	168	170	170	171	172
Firm Power Purchases	MW	20	20	20	20	20	20
Firm Power Sales	MW	62	62	62	62	62	62
Controllable and Dispatchable DR - Available	MW	1	1	1	1	1	1
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	208	209	210	211	212	213
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	233	234	235	236	237	238
Excess Capacity	MW	24	21	19	18	17	16
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	23.4%	22.0%	21.1%	20.6%	20.2%	19.6%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### NEBRASKA CITY UTILITIES



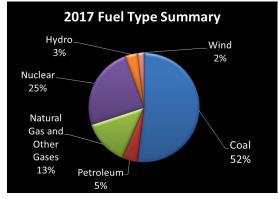
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	38	38	38	38	38	38
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	11	11	11	11	11	11
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	49	49	49	49	49	49
Demand Summary							
Peak Demand (Forecasted)	MW	37	37	37	37	37	37
Firm Power Purchases	MW	8	8	8	8	8	8
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	29	29	29	29	29	29
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	33	33	32	32	32	32
Excess Capacity	MW	16	16	16	16	16	16
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	67.0%	67.7%	68.3%	68.3%	68.9%	68.9%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### NEBRASKA PUBLIC POWER DISTRICT





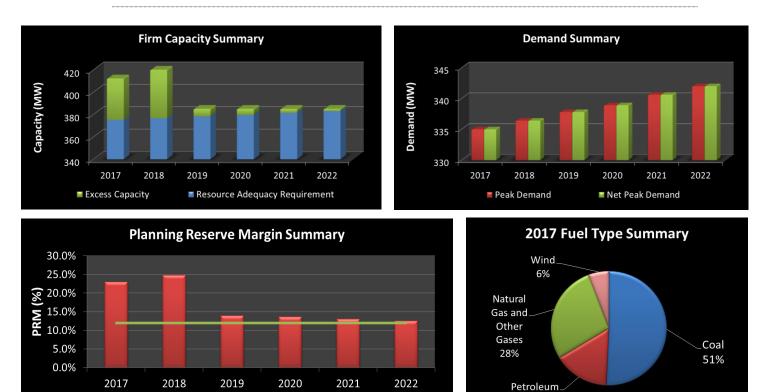




Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	3,072	3,077	3 <i>,</i> 054	3,054	3,054	3,053
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	195	198	198	198	198	198
Firm Capacity Sales	MW	281	191	166	166	166	166
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	10	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	2,976	3,083	3,086	3,086	3,086	3,084
Demand Summary							
Peak Demand (Forecasted)	MW	2,943	2,987	2,925	2,876	2,870	2,854
Firm Power Purchases	MW	473	473	473	473	473	473
Firm Power Sales	MW	35	29	42	19	8	1
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	2,506	2,543	2,493	2,421	2,405	2,381
Energy Efficiency and Conservation (Included in Peak Demand)	MW	4	7	10	13	17	20
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	2,806	2,848	2,792	2,712	2,693	2,667
Excess Capacity	MW	170	236	293	374	393	417
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	18.8%	21.3%	23.8%	27.4%	28.3%	29.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

Planning Reserve Margin

#### NORTHWESTERN ENERGY



15%

Unit	2017	2018	2019	2020	2021	2022
MW	382	385	385	385	385	385
MW	0	0	0	0	0	0
MW	30	35	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	412	420	385	385	385	385
MW	335	336	338	339	341	342
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	335	336	338	339	341	342
MW	0	0	0	0	0	0
MW	0	0	0	0	0	0
MW	375	377	378	380	381	383
MW	37	43	7	5	4	2
MW	0	0	0	0	0	0
%	23.0%	24.9%	14.0%	13.6%	13.0%	12.6%
%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
	MW MW MW MW MW MW MW MW MW MW MW MW MW M	MW 382   MW 0   MW 335   MW 0   MW 335   MW 0   MW 335   MW 0   MW 375   MW 37   MW 0   MW 37   MW 0	MW     382     385       MW     0     0       MW     335     336       MW     0     0       MW     375     377       MW     37     43       MW     0     0       MW     37     43       MW     0     0       MW <td>MW     382     385     385       MW     0     0     0       MW     30     35     0       MW     0     0     0       MW     335     336     338       MW     0     0     0       MW     335     336     338       MW     0     0     0       MW     375     377     378       MW     37     43     7</td> <td>MW     382     385     385       MW     0     0     0       MW     30     35     0     0       MW     30     35     0     0       MW     0     0     0     0       MW     335     336     338     339       MW     0     0     0     0       MW     0     0     0     0       MW     0     0     0     0       MW     335     336     338     339       MW     0     0     0     0       MW     335     336     338     &lt;</td> <td>MW     382     385     385     385     385       MW     0     0     0     0     0       MW     30     35     0     0     0       MW     00     0     0     0     0       MW     00     0     0     0     0       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0</td>	MW     382     385     385       MW     0     0     0       MW     30     35     0       MW     0     0     0       MW     335     336     338       MW     0     0     0       MW     335     336     338       MW     0     0     0       MW     375     377     378       MW     37     43     7	MW     382     385     385       MW     0     0     0       MW     30     35     0     0       MW     30     35     0     0       MW     0     0     0     0       MW     335     336     338     339       MW     0     0     0     0       MW     0     0     0     0       MW     0     0     0     0       MW     335     336     338     339       MW     0     0     0     0       MW     335     336     338     <	MW     382     385     385     385     385       MW     0     0     0     0     0       MW     30     35     0     0     0       MW     00     0     0     0     0       MW     00     0     0     0     0       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0       MW     335     336     338     339     341       MW     0     0     0     0     0

2017

Planning Reserve Margin

2018

2019

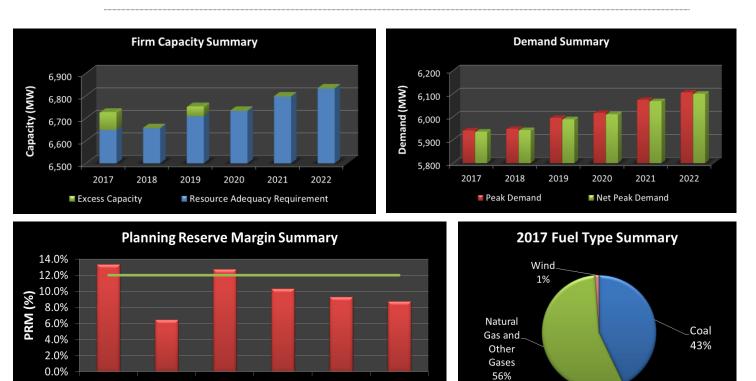
2020

2021

-Target Planning Reserve Margin

2022

# **OKLAHOMA GAS & ELECTRIC COMPANY**



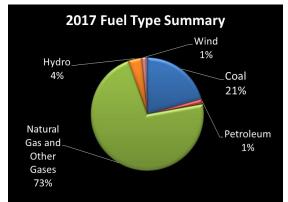
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	6,259	6,380	6,284	6,284	6,284	6,284
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	468	468	468	348	348	348
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	372	372	372	372	372
Scheduled Outages	MW	0	521	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	6,727	6,327	6,752	6,632	6,632	6,632
Demand Summary							
Peak Demand (Forecasted)	MW	5,942	5,949	5,996	6,017	6,074	6,106
Firm Power Purchases	MW	6	6	6	6	6	6
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	5,936	5,943	5,990	6,011	6,068	6,100
Energy Efficiency and Conservation (Included in Peak Demand)	MW	162	222	248	273	300	326
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	6,648	6,656	6,709	6,733	6,796	6,832
Excess Capacity	MW	79	0	44	0	0	0
Deficient Capacity	MW	0	329	0	100	164	200
Planning Reserve Margin	%	13.3%	6.5%	12.7%	10.3%	9.3%	8.7%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

## OKLAHOMA MUNICIPAL POWER AUTHORITY





# Demand Summary

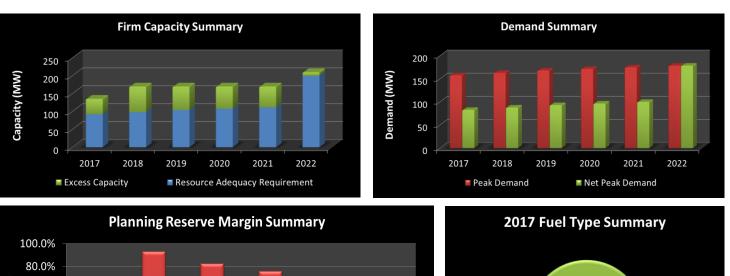


Firm Capacity Resources   MW   713   7								
Firm Capacity Resources (Other)   MW   0   0   0   0   0   0     Firm Capacity Purchases   MW   59   792   792   1	Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Purchases   MW   59   70   70	Firm Capacity Resources	MW	713	713	713	713	713	713
Firm Capacity Sales   MW   0   0   0   0   0   0   0     Confirmed Retirements   MW   0	Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Confirmed Retirements     MW     0     0     0     0     0     0       Scheduled Outages     MW     0	Firm Capacity Purchases	MW	59	79	79	79	79	79
Scheduled Outages   MW   0   0   0   0   0   0   0     Transmission Limitations   MW   0	Firm Capacity Sales	MW	0	0	0	0	0	0
Transmission Limitations   MW   0<	Confirmed Retirements	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions   MW   0 <td>Scheduled Outages</td> <td>MW</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	Scheduled Outages	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions     MW     0	Transmission Limitations	MW	0	0	0	0	0	0
Firm Capacity     MW     772     793     793 <t< td=""><td>Other Capacity Adjustments - Additions</td><td>MW</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></t<>	Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Demand Summary       Peak Demand (Forecasted)     MW     782     784     786     788     790     793       Firm Power Purchases     MW     162 <td>Other Capacity Adjustments - Reductions</td> <td>MW</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Peak Demand (Forecasted)   MW   782   784   786   788   790   793     Firm Power Purchases   MW   162	Firm Capacity	MW	772	792	792	792	792	792
Firm Power Purchases   MW   162<	Demand Summary							
Firm Power SalesMW0000000000Controllable and Dispatchable DR - AvailableMW0000000000Other Controllable and Dispatchable DEG - AvailableMW0000000000Net Peak Demand (Forecasted)MW620622624626628631Energy Efficiency and Conservation (Included in Peak Demand)MW0000000000Standby Load Under Contract (Included in Peak Demand)MW0000000000Requirements SummaryResource Adequacy RequirementMW694696699701704706Excess CapacityMW789593918886	Peak Demand (Forecasted)	MW	782	784	786	788	790	793
Controllable and Dispatchable DR - AvailableMW000000Other Controllable and Dispatchable DEG - AvailableMW000000Net Peak Demand (Forecasted)MW620622624626628631Energy Efficiency and Conservation (Included in Peak Demand)MW000000Standby Load Under Contract (Included in Peak Demand)MW000000Requirements SummaryRequirement SummaryMW694696699701704706Excess CapacityMW789593918886	Firm Power Purchases	MW	162	162	162	162	162	162
Other Controllable and Dispatchable DEG - AvailableMW000000Net Peak Demand (Forecasted)MW620622624626628631Energy Efficiency and Conservation (Included in Peak Demand)MW0000000Standby Load Under Contract (Included in Peak Demand)MW00000000Requirements SummaryMW694696699701704706Excess CapacityMW789593918886	Firm Power Sales	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)MW620622624626628631Energy Efficiency and Conservation (Included in Peak Demand)MW000000Standby Load Under Contract (Included in Peak Demand)MW0000000Requirements SummaryMW694696699701704706Excess CapacityMW789593918886	Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Energy Efficiency and Conservation (Included in Peak Demand)MW000000Standby Load Under Contract (Included in Peak Demand)MW000000Requirements SummaryResource Adequacy RequirementMW694696699701704706Excess CapacityMW789593918886	Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)MW000000Requirements SummaryResource Adequacy RequirementMW694696699701704706Excess CapacityMW789593918886	Net Peak Demand (Forecasted)	MW	620	622	624	626	628	631
Requirements SummaryResource Adequacy RequirementMW694696699701704706Excess CapacityMW789593918886	Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Resource Adequacy Requirement     MW     694     696     699     701     704     706       Excess Capacity     MW     78     95     93     91     88     86	Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Excess Capacity MW 78 95 93 91 88 86	Requirements Summary							
	Resource Adequacy Requirement	MW	694	696	699	701	704	706
	Excess Capacity	MW	78	95	93	91	88	86
	Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin % 24.6% 27.4% 26.9% 26.5% 26.0% 25.6%	Planning Reserve Margin	%	24.6%	27.4%	26.9%	26.5%	26.0%	25.6%
SPP Target Planning Reserve Margin     %     12.0%     <	SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### OMAHA PUBLIC POWER DISTRICT



#### PEOPLE'S ELECTRIC COOPERATIVE

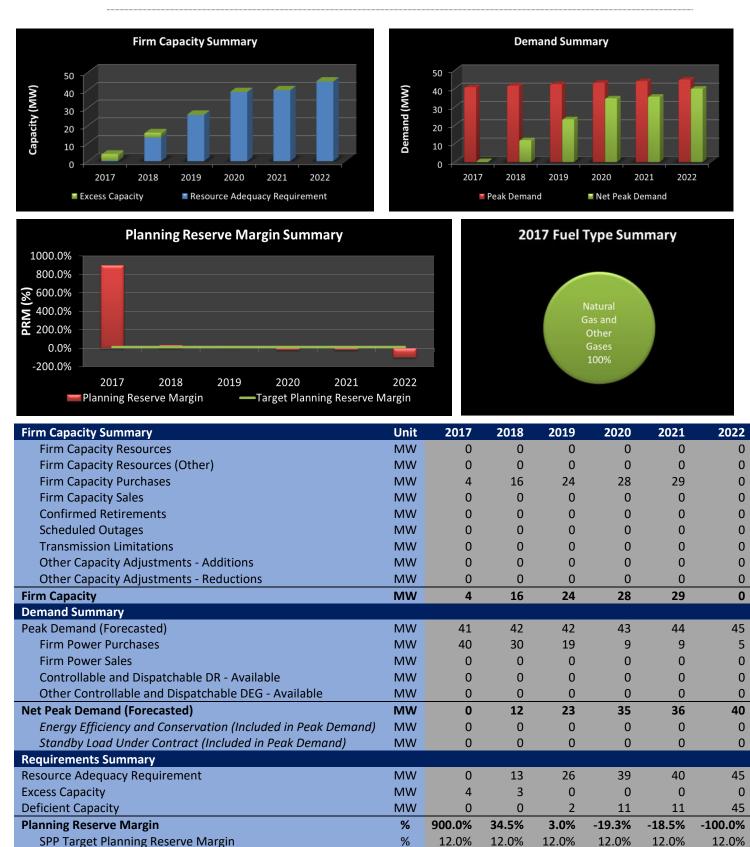




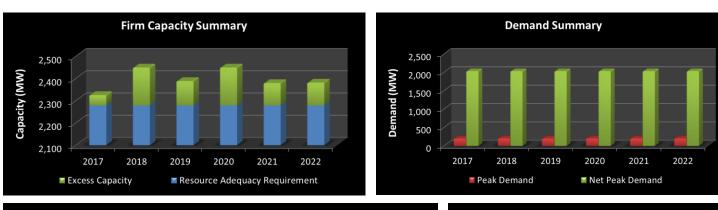


Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	60	73	73	73	73	73
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	75	97	97	97	97	137
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	135	170	170	170	170	210
Demand Summary							
Peak Demand (Forecasted)	MW	158	163	168	171	175	178
Firm Power Purchases	MW	75	75	75	75	75	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	83	88	93	96	100	178
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	93	98	104	108	112	200
Excess Capacity	MW	42	71	65	62	58	10
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	63.4%	93.1%	82.3%	75.8%	69.8%	17.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### SOUTH SIOUX CITY NEBRASKA

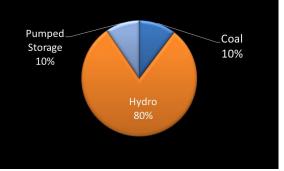


#### SOUTHWESTERN POWER ADMINISTRATION



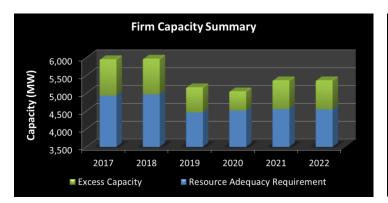






Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	2,355	2,355	2,355	2,355	2,355	2,355
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	213	143	143	143	143	143
Firm Capacity Sales	MW	26	26	26	26	26	26
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	194	0	63	0	78	78
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	24	24	22	24	16	14
Firm Capacity	MW	2,325	2,449	2,388	2,449	2,379	2,381
Demand Summary							
Peak Demand (Forecasted)	MW	203	203	203	203	203	203
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	1,832	1,832	1,832	1,832	1,832	1,832
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	2,035	2,035	2,035	2,035	2,035	2,035
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	2,236	2,236	2,236	2,236	2,236	2,236
Excess Capacity	MW	88	213	151	213	143	145
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	14.2%	20.3%	17.3%	20.3%	16.9%	17.0%
SPP Target Planning Reserve Margin	%	9.89%	9.89%	9.89%	9.89%	9.89%	9.89%

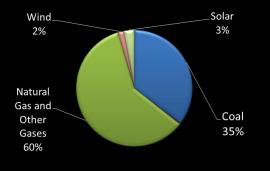
#### SOUTHWESTERN PUBLIC SERVICE COMPANY





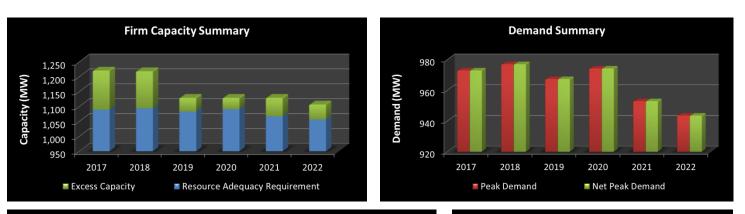


2017 Fuel Type Summary



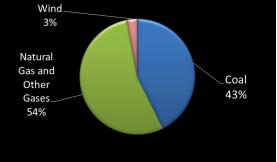
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	4,485	4,485	4,485	4,373	4,283	4,283
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	1,471	1,486	1,083	1,083	1,083	1,083
Firm Capacity Sales	MW	0	0	400	400	0	0
Confirmed Retirements	MW	0	0	0	112	202	202
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	5,956	5,971	5,168	5,056	5,366	5,366
Demand Summary							
Peak Demand (Forecasted)	MW	4,622	4,657	4,205	4,253	4,293	3,963
Firm Power Purchases	MW	171	171	171	171	171	0
Firm Power Sales	MW	0	0	0	0	0	150
Controllable and Dispatchable DR - Available	MW	41	42	43	43	43	44
Other Controllable and Dispatchable DEG - Available	MW	0	2	3	5	6	8
Net Peak Demand (Forecasted)	MW	4,410	4,442	3,988	4,034	4,073	4,061
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	4,939	4,975	4,467	4,518	4,562	4,548
Excess Capacity	MW	1,017	996	701	538	804	818
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	35.1%	34.4%	29.6%	25.3%	31.7%	32.1%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

#### SUNFLOWER ELECTRIC POWER CORPORATION



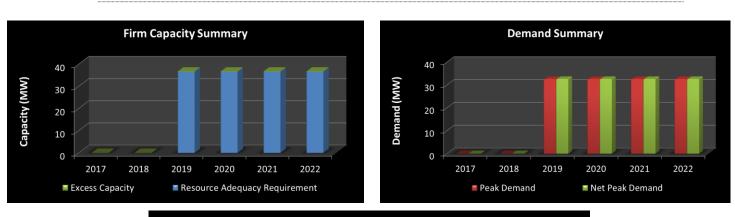


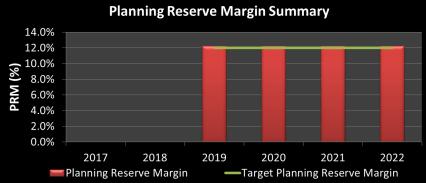
2017 Fuel Type Summary



Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	1,061	1,074	1,122	1,122	1,122	1,100
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	188	188	7	7	7	7
Firm Capacity Sales	MW	29	44	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	1,220	1,218	1,129	1,129	1,129	1,107
Demand Summary							
Peak Demand (Forecasted)	MW	973	977	967	974	953	944
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	973	977	967	974	953	944
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,090	1,094	1,083	1,091	1,067	1,057
Excess Capacity	MW	131	124	45	38	62	50
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	25.4%	24.7%	16.7%	15.9%	18.5%	17.3%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

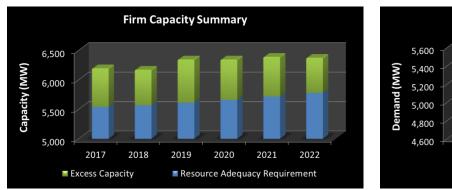
#### WEST TEXAS MUNICIPALS





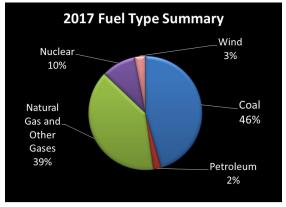
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	0	0	0	0	0	0
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	0	0	37	37	37	37
Firm Capacity Sales	MW	0	0	0	0	0	0
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	0	0	37	37	37	37
Demand Summary							
Peak Demand (Forecasted)	MW	0	0	33	33	33	33
Firm Power Purchases	MW	0	0	0	0	0	0
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	0	0	33	33	33	33
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW			37	37	37	37
Excess Capacity	MW			0	0	0	0
Deficient Capacity	MW			0	0	0	0
Planning Reserve Margin	%			12.2%	12.2%	12.2%	12.2%
SPP Target Planning Reserve Margin	%			12.0%	12.0%	12.0%	12.0%

#### WESTAR ENERGY



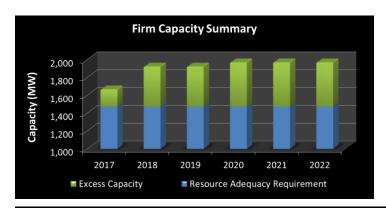


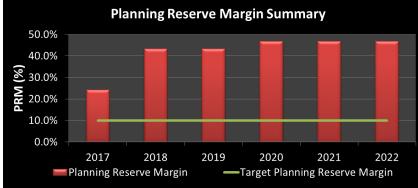




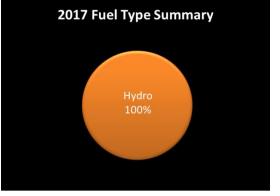
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	6,527	6,527	6,527	6,527	6,527	6,527
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	433	383	420	355	275	209
Firm Capacity Sales	MW	766	741	604	539	414	364
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	6,194	6,169	6,343	6,343	6,388	6,372
Demand Summary							
Peak Demand (Forecasted)	MW	5,307	5,323	5,360	5,396	5,441	5,492
Firm Power Purchases	MW	112	112	112	112	112	112
Firm Power Sales	MW	0	0	0	0	0	0
Controllable and Dispatchable DR - Available	MW	244	240	236	231	226	221
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	4,951	4,971	5,012	5,053	5,104	5,159
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	5,545	5,567	5,613	5,659	5,716	5,778
Excess Capacity	MW	649	602	730	684	672	594
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	25.1%	24.1%	26.6%	25.5%	25.2%	23.5%
SPP Target Planning Reserve Margin	%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%

### WESTERN AREA POWER ADMINISTRATION





# Demand Summary



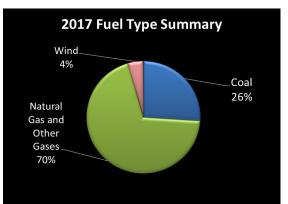
Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	2,406	2,406	2,406	2,406	2,406	2,406
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	2	2	2	4	4	4
Firm Capacity Sales	MW	440	440	440	440	440	440
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	45	45	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	301	0	0	0	0	0
Firm Capacity	MW	1,667	1,923	1,923	1,970	1,970	1,970
Demand Summary							
Peak Demand (Forecasted)	MW	738	738	738	738	738	738
Firm Power Purchases	MW	144	144	144	144	144	144
Firm Power Sales	MW	748	748	748	748	748	748
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	0	0	0	0	0	0
Net Peak Demand (Forecasted)	MW	1,342	1,342	1,342	1,342	1,342	1,342
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,475	1,475	1,475	1,475	1,475	1,475
Excess Capacity	MW	192	448	448	495	495	495
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	24.2%	43.3%	43.3%	46.8%	46.8%	46.8%
SPP Target Planning Reserve Margin	%	9.89%	9.89%	9.89%	9.89%	9.89%	9.89%

#### WESTERN FARMERS ENERGY SERVICES









Firm Capacity Summary	Unit	2017	2018	2019	2020	2021	2022
Firm Capacity Resources	MW	1,359	1,359	1,359	1,359	1,359	1,359
Firm Capacity Resources (Other)	MW	0	0	0	0	0	0
Firm Capacity Purchases	MW	325	325	355	355	355	355
Firm Capacity Sales	MW	0	0	0	0	0	40
Confirmed Retirements	MW	0	0	0	0	0	0
Scheduled Outages	MW	0	0	0	0	0	0
Transmission Limitations	MW	0	0	0	0	0	0
Other Capacity Adjustments - Additions	MW	0	0	0	0	0	0
Other Capacity Adjustments - Reductions	MW	0	0	0	0	0	0
Firm Capacity	MW	1,683	1,683	1,713	1,713	1,713	1,673
Demand Summary							
Peak Demand (Forecasted)	MW	1,537	1,554	1,590	1,601	1,610	2,080
Firm Power Purchases	MW	460	460	460	460	460	610
Firm Power Sales	MW	246	246	246	246	246	0
Controllable and Dispatchable DR - Available	MW	0	0	0	0	0	0
Other Controllable and Dispatchable DEG - Available	MW	47	40	40	19	15	15
Net Peak Demand (Forecasted)	MW	1,276	1,300	1,336	1,368	1,381	1,455
Energy Efficiency and Conservation (Included in Peak Demand)	MW	0	0	0	0	0	0
Standby Load Under Contract (Included in Peak Demand)	MW	0	0	0	0	0	0
Requirements Summary							
Resource Adequacy Requirement	MW	1,429	1,455	1,496	1,532	1,547	1,630
Excess Capacity	MW	254	228	217	181	167	44
Deficient Capacity	MW	0	0	0	0	0	0
Planning Reserve Margin	%	31.9%	29.5%	28.2%	25.3%	24.1%	15.0%

Southwest Power Pool, Inc.