

# Grand River Dam Authority Continuing Disclosure

For Twelve Months Ending December 31, 2021



June 23, 2022

**Historical Operating Results**  
**Debt Service Coverage**  
**(Unaudited)**

	2021	2020	2019	2018	2017
<b>Operating Revenues:</b>					
Municipal Power Sales	\$83,703,851	\$80,646,900	\$87,274,160	\$87,945,571	\$85,969,173
Industrial Power Sales	83,360,870	75,964,094	66,203,662	62,143,687	53,387,490
Off System Power Sales - Firm	72,679,252	73,069,666	73,274,605	73,918,540	73,548,915
Other Power Sales	1,398,969	352,773	718,261	574,039	801,176
Tribal Power Sales	26,649	6,821	-	-	-
Electric Cooperative Power Sales	-	-	-	-	8,320,155
Off System Power Sales - Spot	-	7,196,052	11,064,383	2,906,489	1,907,452
Interdepartmental Power Sales	525,256	482,623	-	-	-
Collection of Power Cost Adjustment and Fuel	200,736,991	145,404,123	148,792,586	191,513,982	195,990,056
Gross Power Sales	\$442,431,838	\$383,123,052	\$387,327,657	\$419,002,308	\$419,924,417
(Over)/Under Recovered Fuel Cost	91,770,856	(3,007,697)	8,668,517	(19,513,952)	2,370,052
Other Operating Revenues	43,034,245	24,140,475	25,774,726	36,769,868	13,472,574
(Deferral)/Recognition of Revenues related to the Rate Stabilization Fund	-	(31,703,098)	-	-	-
<b>Total Operating Revenues<sup>1</sup></b>	<b>\$577,236,939</b>	<b>\$372,552,732</b>	<b>\$421,770,900</b>	<b>\$436,258,224</b>	<b>\$435,767,043</b>
<b>Operating Expenses:</b>					
Fuel - Gas	\$143,746,598	\$69,431,317	\$71,993,174	\$79,272,265	\$40,761,992
Purchased Power	104,910,904	57,243,356	53,482,884	77,161,680	126,634,292
Fuel - Coal	28,908,419	13,020,677	31,953,792	15,530,485	29,673,660
Capacity Purchases	10,641,310	10,919,472	11,381,287	11,617,572	11,767,448
Interdepartmental - Salina Hydro Fuel	4,300,619	2,701,075	-	-	-
Electric Production (excluding fuel):					
Grand River Energy Center					
GREC 1 <sup>2</sup>	-	272,298	502,876	599,977	3,106,583
GREC 2	14,695,860	11,763,102	10,927,497	12,083,492	14,070,517
GREC 3 <sup>3</sup>	14,937,597	13,544,174	13,395,553	13,310,743	7,842,735
Redbud Plant <sup>4</sup>	9,398,809	8,181,169	9,872,814	8,567,225	9,011,586
Pensacola Hydro	7,435,097	7,530,976	7,451,039	7,134,071	8,422,897
Markham Ferry Hydro	2,869,156	3,320,004	3,227,243	3,171,702	4,037,801
Salina Pumped Storage	2,621,993	2,269,102	2,173,532	2,153,712	2,156,562
Transmission	30,241,481	30,797,029	28,285,417	29,551,381	26,783,935
Transmission of Electric by Others	12,841,837	12,569,456	10,448,970	12,324,480	15,595,460
Administrative & General <sup>5</sup>	24,315,591	24,092,765	22,828,968	21,747,590	19,788,615
Water Production <sup>1</sup>	483,464	608,088	204,811	276,039	316,384
<b>Total Operating Expenses<sup>6</sup></b>	<b>\$412,348,735</b>	<b>\$268,264,060</b>	<b>\$278,129,857</b>	<b>\$294,502,414</b>	<b>\$319,970,467</b>
<b>Net Operating Revenues</b>	<b>\$164,888,204</b>	<b>\$104,288,672</b>	<b>\$143,641,043</b>	<b>\$141,755,810</b>	<b>\$115,796,576</b>
Other Income <sup>7</sup>	(671,954)	24,295,123	44,918,347	10,293,765	8,677,204
<b>Net Revenues Available for Debt Service</b>	<b>\$164,216,250</b>	<b>\$128,583,795</b>	<b>\$188,559,390</b>	<b>\$152,049,575</b>	<b>\$124,473,780</b>
Other Available Funds <sup>8</sup>	6,499,303	-	-	-	133,053
<b>Total Funds Available for Debt Service</b>	<b>\$170,715,553</b>	<b>\$128,583,795</b>	<b>\$188,559,390</b>	<b>\$152,049,575</b>	<b>\$124,606,833</b>
Debt Service	83,321,043	82,921,130	78,649,723	68,111,102	66,853,861
<b>Available for Capital Improvements or Other Authorized Purposes</b>	<b>\$87,394,510</b>	<b>\$45,662,665</b>	<b>\$109,909,667</b>	<b>\$83,938,473</b>	<b>\$57,752,972</b>
<b>Debt Service Coverage (Total Avail. Funds)<sup>9</sup></b>	<b>2.05</b>	<b>1.55</b>	<b>2.40</b>	<b>2.23</b>	<b>1.86</b>

Continuing Disclosure Requirements (xviii): Historical Operating Results

<sup>1</sup> Sales and expenses of Raw Water and Regulatory Credits are excluded from Operating Revenue.

<sup>2</sup> As of April 15, 2017, GREC 1 discontinued coal generation and had limited generation capability using natural gas. As of December 31, 2020, GREC 1 was retired.

<sup>3</sup> GREC 3 went into service April 1, 2017 and reached substantial completion July 15, 2017.

<sup>4</sup> Reflects the Authority's 36% undivided ownership of Redbud combined-cycle natural gas fired plant near Luther, Oklahoma.

<sup>5</sup> Excludes Governmental Accounting Standards Board Statement (GASB) No. 68 Accounting and Financial Reporting for Pensions and GASB Statement No. 75 Accounting for Other Post Employment Benefits, as these do not require a cash outlay.

<sup>6</sup> Excludes depreciation, which does not require a cash outlay.

<sup>7</sup> Consists primarily of interest income and contributions in aid of construction. Excludes change in fair value on investments, interest income restricted for special purposes, capitalized construction interest, and non-utility expense and revenue not part of the electric system.

<sup>8</sup> Other Available Funds consists of excess from the Debt Service Reserve Fund that were used for Debt Service Payments.

<sup>9</sup> Total Funds Available for Debt Service divided by Debt Service.

**Selected Cash and Investment Fund Balances**  
(Unaudited)

	2021	2020	2019	2018	2017
<b>Unrestricted</b>					
Revenue Fund and General Reserve Fund	\$194,693,889	\$302,684,730	\$284,370,975	\$273,037,494	\$217,608,675
<b>Restricted</b>					
Board Designated Funds	60,304,898	40,381,000	39,998,000	39,615,000	39,232,000
Rate Stabilization Fund	31,703,098	31,703,098	19,703,098	21,000,000	21,000,000
Debt Service Account	27,804,628	26,530,229	25,662,405	19,158,577	12,523,712
Insurance Proceeds	-	-	2,166,076	1,505,309	16,421,397
Debt Service Reserve Account	89,307,437	97,068,036	93,026,843	88,992,603	86,807,297
Pensacola Fish & Wildlife Mitigation Fund <sup>1</sup>	2,079,229	2,145,252	2,159,412	2,173,538	2,203,264
The Nature Conservancy Fund <sup>2</sup>	27,000	26,740	27,000	27,000	27,000
Third Party Private Grant	-	-	-	1,458	-
Riparian Lease Grants	70,665	107,125	107,125	107,125	-
<b>Total Cash and Investments</b>	<b>\$405,990,844</b>	<b>\$500,646,210</b>	<b>\$467,220,934</b>	<b>\$445,618,104</b>	<b>\$395,823,345</b>

*Continuing Disclosure Requirements (xix): Selected Cash and Investment Fund Balances*

**Cash Reserves (In Millions), Days Cash on Hand,  
And Fixed Charge Coverage**  
(Unaudited)

	2021	2020	2019	2018	2017
General Operating	194.7	302.7	284.3	273.0	217.6
Board Designated	60.3	40.4	40.0	39.6	39.2
Rate Stabilization Fund	31.7	31.7	19.7	21.0	21.0
Other Special Purpose	2.1	2.3	2.2	2.2	2.2
<b>Total</b>	<b>288.8</b>	<b>377.1</b>	<b>346.2</b>	<b>335.8</b>	<b>280.0</b>
Days Cash on Hand (General & Board Designated)	253	487	448	414	317
Fixed Charge Coverage	2.05	1.42	2.25	2.06	1.69

*Continuing Disclosure Requirements (xx): Cash Reserves (In Millions), Days Cash on Hand, and Fixed Charge Coverage*

<sup>1</sup> Required by Pensacola Dam operating license.

<sup>2</sup> Required by Pensacola Dam operating license to be funded up to a balance of \$27,000 on January 1 of each year to provide assistance to the Nature Conservancy for certain endangered species.

**Grand River Energy Center (GREC)  
Capacity Factors  
(Unaudited)**

Year	GREC 1 <sup>1</sup>	GREC 2	GREC 3
2017	8%	4%	31%
2018	-	9%	53%
2019	-	2%	52%
2020	-	1%	60%
2021	-	27%	41%

*Continuing Disclosure Requirements (ii): GREC Capacity Factors*

**Equivalent Availability Percentages  
Coal-Fired Plants  
(Unaudited)**

Year	GREC 1 <sup>1</sup>	GREC 2 <sup>2</sup>	NERC <sup>3</sup>
2017	31.7%	24.1%	77.2%
2018	-	91.1%	77.0%
2019	-	56.3%	78.5%
2020	-	33.9%	79.7%
2021	-	77.4%	NA <sup>4</sup>

*Continuing Disclosure Requirements (iii): Equivalent Availability Percentages-Coal Fired Plants*

**GREC Delivered Cost of Energy  
(dollars per million BTU)  
(Unaudited)**

YEAR	COAL <sup>5</sup>
2017	2.90
2018	2.43
2019	3.29
2020	3.65
2021	1.36

*Continuing Disclosure Requirements (iv): GREC Delivered Cost of Energy including handling.*

<sup>1</sup> As of April 15, 2017, GREC 1 was discontinued as a coal-fired generating unit. As of December 31, 2020 GREC 1 was retired.

<sup>2</sup> 2017 reflects an outage beginning July 1, 2016, due to impairment of unit caused by fire, and return to service September 2017. On July 29, 2019, GREC 2 experienced a mechanical outage that lasted until June 9, 2020.

<sup>3</sup> Percentages from NERC Website for Coal Primary Units with 400-599 MW Nameplate.

<sup>4</sup> Not available

<sup>5</sup> The decrease in cost in 2021 is due to increased generation, in combination with purchasing coal under new, lower price contracts.

**Equivalent Availability Percentages  
Combined-Cycle Natural Gas Generating Facilities  
(Unaudited)**

YEAR	REDBUD 1 <sup>1</sup>	REDBUD 2 <sup>1</sup>	REDBUD 3 <sup>1</sup>	REDBUD 4 <sup>1</sup>	GREC3	NERC <sup>2</sup>
2017	82.5%	79.1%	82.5%	75.3%	0.0%	84.2%
2018	69.2%	62.5%	63.7%	66.9%	88.8%	85.1%
2019	98.0%	98.0%	99.0%	99.0%	78.3%	85.1%
2020	97.4%	99.1%	99.6%	97.6%	84.1%	85.1%
2021	82.2%	81.3%	78.5%	87.2%	63.0%	NA <sup>3</sup>

Continuing Disclosure Requirements (v): Equivalent Availability Percentages-Redbud Generating Facility

**Operating Revenues  
For Twelve Months Ending December 31, 2021  
(Unaudited)**

	SALES (MWH)	BASE REVENUES (BEFORE PCA)	AUTHORITY REVENUES (AFTER PCA)
Municipal Power Sales	3,044,960	\$83,703,851	\$176,201,161
Industrial and Commercial Power Sales	3,276,529	83,360,870	167,185,919
Tribal Power Sales	411	26,649	44,701
Sub-Total Load Following Contract Power Sales	6,321,900	\$167,091,370	\$343,431,781
Off System Power Sales - Firm	1,692,949	72,679,252	73,589,099
(Over)/Under Recovered Fuel Cost	-	-	91,770,856
Other Power Sales <sup>4</sup>	47,898	(1,109,021)	(1,109,021)
Total Contract Power Sales	8,062,747	\$238,661,601	\$507,682,715
Off System Power Sales - Spot	467,155	21,694,104	21,694,104
Interdepartmental Power Sales	176,319	4,825,875	4,825,875
Total Power Sales	8,706,221	\$265,181,580	\$534,202,694
Other Operating Revenues <sup>5</sup>	-	43,034,245	43,034,245
<b>Total Operating Revenues</b>	<b>8,706,221</b>	<b>\$308,215,825</b>	<b>\$577,236,939</b>

Continuing Disclosure Requirements (vi): Operating Revenues

<sup>1</sup> Percentages provided by Oklahoma Gas and Electric Company (Redbud Operator/Majority Owner).

<sup>2</sup> Percentages from NERC Website for Combined Cycle Units All Sizes.

<sup>3</sup> Not Available.

<sup>4</sup> Includes sales to Oklahoma Municipal Power Authority (OMPA). OMPA's portion includes fixed and variable operating expenses, administrative and general expenses, and capital improvements. The negative revenue in 2021 is a result of increased resource revenue earned by GREC Unit 2 during Winter Storm Uri.

<sup>5</sup> Sales of Water are excluded from Other Operating Revenues.

**Municipal Revenues**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>1</sup>
City of Coffeyville, Kansas	1999	2042	6%	\$36,288,814
Stillwater Utilities Authority	1987	2042	6	34,080,506
City of Siloam Springs, Arkansas	1989	2042	3	19,359,283
Claremore Public Works Authority	1946	2042	3	17,536,926
Miami Public Utilities Board	1947	2042	2	13,053,889
Tahlequah Public Works Authority	1947	2042	2	11,173,074
Cushing Municipal Authority	1953	2042	1	7,124,447
Sallisaw Municipal Authority	1952	2042	1	6,823,955
City of Pryor Creek Municipal Utility Board	1951	2042	1	5,933,316
Stilwell Area Development Authority	1950	2042	1	4,929,274
Wagoner Public Works Authority	1947	2042	1	4,700,511
Collinsville Municipal Authority	2003	2042	1	3,985,045
Skiatook Public Works Authority	1977	2042	1	3,455,280
Stroud Utilities Authority	1986	2042	0	2,858,945
Mannford Public Works Authority	2003	2042	0	2,261,124
Lindsay Public Works Authority	2000	2025	0	1,461,471
Pawnee Public Works Authority	1953	2042	0	1,175,301
<b>Total Municipal Power Sales</b>			29%	\$176,201,161

*Continuing Disclosure Requirements (vii): Municipal Revenues*

**Industrial and Commercial Revenues**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	PRODUCT	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>1</sup>
Google Inc.	Internet Search Engine	2007	2024	21%	\$118,930,045
Pryor Chemical Company	Chemical Products	2004	2024	2	11,916,788
Solae, LLC	Food Supplements	1975	2024	1	6,562,366
Air Products Manufacturing Corporation	Industrial Gases	1976	2024	1	6,137,802
American Castings, LLC	Iron Castings	2003	2024	1	4,306,970
Cascades Tissue Group - Oklahoma	Paper Products	1975	2024	1	4,266,780
Gold Bond Building Products, LLC	Building Products	1950	2024	1	3,324,376
Berry Plastics Corporation	Plastic Bags	1990	2024	1	3,091,151
Oklahoma Ordnance Works Authority	Administration	1978	2024	0	1,598,422
Cabot Norit Americas Inc.	Chemical Products	1996	2024	0	1,212,807
All Other Industrial (23)				1	5,502,555
All Other Commercial (54)				0	335,857
<b>Total Industrial and Commercial Power Sales</b>				30%	\$167,185,919

*Continuing Disclosure Requirements (viii): Industrial and Commercial Revenues*

<sup>1</sup> Represents revenues after Power Cost Adjustment (PCA).

**Tribal Revenues**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>1</sup>
Citizen Potawatomi Nation Utility Authority	2019	2024	0%	\$44,701
<b>Total Tribal Power Sales</b>			0%	\$44,701

**Off System Revenues - Firm**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>1</sup>
Kansas Municipal Energy Agency	2000	2026	6%	\$34,284,973
Paragould, Arkansas, Light and Water Commission	1992	2038	5	26,118,115
Oklahoma Municipal Power Agency <sup>2</sup>	2007	2040	3	18,674,062
City of Poplar Bluff, Missouri	1992	2039	2	13,085,801
Western Farmers Electric Cooperative <sup>3</sup>	2010	2025	(3)	(18,573,852)
<b>Total Off System Power Sales - Firm</b>			13%	\$73,589,099

*Continuing Disclosure Requirements (x): Off System Revenues-Firm*

**Other Revenues-Unit Output Agreement**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES
Oklahoma Municipal Power Agency <sup>4</sup>	1985	2036	0%	(\$1,109,021)
<b>Total Other Power Sales</b>			0%	(\$1,109,021)

*Continuing Disclosure Requirements (xi): Other Revenues-Unit Output Agreement*

<sup>1</sup> Represents revenues after power cost adjustment (PCA).

<sup>2</sup> Sales began in 1985 with a unit contingent output agreement from GREC 2. Off-System Firm Sales began in 2007.

<sup>3</sup> The Authority and Western Farmers Electric Cooperative entered an interchange agreement for emergency and replacement energy exchanges in 1983. Off-System Firm Sales began in 2010. The Net Energy Revenue (NER) agreement began in 2019. The negative revenue in 2021 is a result of an increased share of NER due WFEC due to increased resource revenue earned during Winter Storm Uri.

<sup>4</sup> These sales include a share of Authority fixed and variable operating expenses, administrative and general expenses, and capital improvements. The negative revenue in 2021 is a result of increased resource revenue earned by GREC Unit 2 during Winter Storm Uri.

**Off System Revenues-Spot**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

CUSTOMER	REVENUES				
	2021	2020	2019	2018	2017
Southwest Power Pool	\$ 21,694,104	\$ 14,387,541	\$ 19,497,781	\$ 8,265,043	\$ 3,929,617
Oklahoma Gas and Electric Company <sup>1</sup>	-	-	700,000	-	-
<b>Total Off System Power Sales - Spot</b>	<b>\$21,694,104</b>	<b>\$14,387,541</b>	<b>\$20,197,781</b>	<b>\$8,265,043</b>	<b>\$3,929,617</b>

Continuing Disclosure Requirements (xii): Off System Revenues-Spot

**Other Operating Revenues**  
**For Twelve Months Ending December 31, 2021**  
**(Unaudited)**

SOURCE	REVENUES				
	2021	2020	2019	2018	2017
Other Transmission and Ancillary Services	\$32,630,774	\$15,233,356	\$17,578,032	\$25,540,888	\$1,249,542
Base Plan Funded Transmission Revenues	6,186,265	6,160,945	6,184,740	9,024,113	10,531,059
Renewable Energy Certificates	3,225,447	1,713,530	1,235,764	1,231,950	708,313
Other Operating Revenues	991,759	1,032,644	776,190	972,916	983,660
<b>Total Other Operating Revenues<sup>2</sup></b>	<b>\$43,034,245</b>	<b>\$24,140,475</b>	<b>\$25,774,726</b>	<b>\$36,769,867</b>	<b>\$13,472,574</b>

Continuing Disclosure Requirement (xiii): Other Operating Revenues

**Average Annual Contract Sales Price (Cents/kWh)**  
**(Unaudited)**

	2021	2020	2019 <sup>3</sup>	2018	2017
Average Annual Base Rate	2.59	2.57	2.98	5.13	5.02
Average Annual PCA	2.85	1.82	1.96	0.05	0.08
<b>Average Annual Total</b>	<b>5.44</b>	<b>4.39</b>	<b>4.94</b>	<b>5.18</b>	<b>5.10</b>

Continuing Disclosure Requirements (xiv): Average Annual Contract Sales Price

<sup>1</sup> Sale of short term capacity only.

<sup>2</sup> Sales of Water are excluded from Other Operating Revenue.

<sup>3</sup> In April 2019, the fuel base of \$0.023 in base rates was reduced to a fuel base of \$0.00, such that all fuel is now collected in PCA.



## Historical Energy Resources (MWh) (Unaudited)

Year	Conventional Hydro Generation	Pumped- Storage Hydro Generation	Combined- Cycle Gas Generation	Coal-Fired Thermal Generation	Long-Term Wind Purchase	Other Purchased Power	Municipal SPA Allocation <sup>1</sup>	Total Resources
2017	619,522	138,133	3,240,163	507,698	986,837	3,099,589	30,316	8,622,258
2018	517,421	151,625	4,237,428	399,495	1,393,896	1,890,274	31,634	8,621,773
2019	1,378,635	92,342	4,498,505	59,666	1,367,024	1,034,124	49,054	8,479,350
2020	849,286	108,555	4,576,147	26,658	1,328,836	1,519,740	45,271	8,454,493
2021	804,354	80,411	3,344,733	1,214,266	1,327,967	2,003,325	39,622	8,814,678

Continuing Disclosure Requirements (xv): Historical Energy Resources

## GRDA Historic Dispatch (GWh) (Unaudited)

	2021	2020	2019	2018	2017
GREC 1	-	(16.993)	(17.760)	(22.394)	323.301
GREC 2	1,214.266	43.651	77.426	421.889	184.397
GREC 3	1,793.649	2,452.600	2,146.008	2,280.922	1,358.873
Redbud	1,551.084	2,123.547	2,352.497	1,956.506	1,881.290
Pensacola	516.610	511.416	829.386	341.110	370.950
Markham Ferry	287.744	337.870	549.249	176.311	248.572
Salina	80.411	108.555	92.342	151.625	138.133
Canadian Hills	124.365	143.256	152.097	159.057	173.822
Breckinridge	402.373	402.071	402.824	425.360	440.227
Kay Wind	305.913	318.101	326.220	328.882	337.747
Red Dirt	495.316	465.408	485.883	480.596	35.041
Other Purchases	2,042.947	1,565.011	1,083.178	1,921.909	3,129.905
<b>Total</b>	<b>8,814.678</b>	<b>8,454.493</b>	<b>8,479.350</b>	<b>8,621.773</b>	<b>8,622.258</b>

Continuing Disclosure Requirements (i): GRDA Historic Dispatch (GWh)

<sup>1</sup> GRDA is the scheduling agent for Skiatook and Coffeyville's allocation of SPA (Southwestern Power Administration) hydro power.

## Historical Demand Requirements and Resources (MW)

(Unaudited)

Year	Contract Demand Requirements			Rated Capability of Resources								
	Contract Peak Demand	Required Capacity Margin <sup>1</sup>	Contract Demand plus Required Margin	Conventional Hydro Generation <sup>2</sup>	Pumped-Storage Hydro Generation	Combined-Cycle Gas Generation <sup>3</sup>	GREC Thermal Generation <sup>4</sup>	Purchased Power <sup>5</sup>	Wind Capacity <sup>6</sup>	Municipal SPA Allocation <sup>7</sup>	Total Resources	
2017	1,408	169	1,577	254	258	907	545	171	17	13	2,165	
2018	1,478	177	1,655	254	258	901	545	171	25	13	2,167	
2019	1,499	180	1,679	254	258	902	492	172	75	13	2,166	
2020	1,541	185	1,726	254	258	924	492	172	67	13	2,180	
2021	1,604	192	1,796	246	258	924	492	172	59	13	2,164	

Continuing Disclosure Requirements (xvi): Historical Demand Requirements and Resources (MW)

## Historical Sales by Customer Group (MWh)

(Unaudited)

Year	Cooperative	Tribal	Municipal	Industrial	Off System <sup>8</sup> Firm	Other <sup>9</sup>	Contract		Total Power			Total Requirements
							Power Sales	Off System Spot	Sales	Pumping	Other <sup>10</sup>	
2017	226,978	-	3,015,320	1,952,204	2,938,895	6,902	8,140,299	103,239	8,243,538	257,707	121,013	8,622,258
2018	-	-	3,053,614	2,340,245	2,517,703	14,994	7,926,556	301,377	8,227,933	288,843	104,997	8,621,773
2019	-	-	3,081,466	2,515,759	2,003,561	3,965	7,604,751	567,446	8,172,197	198,592	108,561	8,479,350
2020	-	72	2,959,080	2,970,244	1,681,835	2,828	7,614,059	504,926	8,118,985	228,339	107,169	8,454,493
2021	-	411	3,044,960	3,276,530	1,692,949	47,898	8,062,748	467,155	8,529,903	169,132	115,643	8,814,678

Continuing Disclosure Requirements (xvii): Historical Sales by Customer Group (MWh)

<sup>1</sup> Minimum Required Capacity Margin is 12% of net peak demand, per SPP Criteria 2.1.9.

<sup>2</sup> The total of Pensacola and Markham Ferry capability.

<sup>3</sup> Includes the Authority's 36% ownership interest in Redbud gas plant near Luther, Oklahoma, purchased October 1, 2008. Beginning in 2017, includes GREC 3, a combined-cycle natural gas unit, located in Chouteau, Oklahoma.

<sup>4</sup> Represents GRDA's 100% ownership of GREC 2. As of December 31, 2020, all other GREC thermal generation capacity was retired. In 2019, GREC 2 was derated from 520 MW to 492 MW.

<sup>5</sup> Includes 86 MW capacity contract with City of Coffeyville, Kansas, 21 MW capacity contract with Cushing Municipal Authority, and 64 MW capacity contract with Stillwater Utilities Authority.

<sup>6</sup> Includes 6.9 MW capacity of the 138.6 MW nameplate rating from Red Dirt, 28 MW capacity of the 98.1 MW nameplate rating from Breckinridge, 18 MW capacity of the 98.9 MW nameplate rating from Kay Wind, and 6 MW capacity of the 45.6 MW nameplate rating of Canadian Hills.

<sup>7</sup> GRDA is the scheduling agent for Skiatook and Coffeyville's allocation of SPA (Southwestern Power Administration) hydro power.

<sup>8</sup> A reduction in the MWhs reflect a change of financial settlement of energy outside of the SPP Integrated Marketplace.

<sup>9</sup> GREC 2 Output Power Sales to Oklahoma Municipal Power Authority.

<sup>10</sup> GRDA internal use and system losses.