# Grand River Dam Authority Continuing Disclosure

For Twelve Months Ending December 31, 2018



# Historical Operating Results<sup>1</sup> Debt Service Coverage (Unaudited)

	2018	2017	2016	2015	2014
Operating Revenues:					
Municipal Power Sales	\$158,178,701	\$155,321,529	\$164,287,568	\$156,666,084	\$162,263,174
Electric Cooperative Power Sales	-	13,540,646	36,058,789	34,396,282	36,156,719
Industrial Power Sales	115,969,331	98,288,184	89,478,086	72,750,758	64,423,504
Off System Power Sales - Firm	131,825,709	141,143,500	142,177,129	138,227,708	141,896,445
Off System Power Sales - Spot	8,265,043	3,929,617	3,206,456	9,796,229	2,749,850
Other Power Sales	1,180,064	1,083,936	1,245,086	3,001,297	4,595,212
Collection of Power Cost Adjustment	3,583,460	6,617,005	(45,429,003)	29,575,980	50,167,078
Gross Power Sales	\$419,002,308	\$419,924,417	\$391,024,111	\$444,414,338	\$462,251,982
(Over)/Under Recovered Fuel Cost	(19,513,952)	2,370,052	37,041,989	(42,844,350)	1,694,077
Other Operating Revenues <sup>2</sup>	36,769,868	13,472,574	13,866,452	12,252,558	10,965,506
Rate Stabilization Fund	-	-	(21,000,000)	-	
Total Operating Revenues	\$436,258,224	\$435,767,043	\$420,932,552	\$413,822,546	\$474,911,565
Operating Expenses:					
Fuel-Coal	\$15,530,485	\$29,673,660	\$61,521,520	\$79,481,496	\$98,999,035
Fuel-Gas	79,272,265	40,761,992	58,261,865	64,322,618	72,948,083
Purchased Power	77,161,680	126,634,292	72,262,052	39,786,787	75,601,577
Capacity Purchase	11,617,572	11,767,448	6,077,745	4,739,067	4,570,160
Electric Production (excluding fuel):					
Grand River Energy Center					
GREC 1 <sup>3</sup>	599,977	3,106,583	10,362,387	10,969,136	10,852,066
GREC 2 <sup>4</sup>	12,083,492	14,070,517	11,164,680	13,951,800	15,266,538
GREC 3 <sup>5</sup>	13,310,743	7,842,735	-	-	-
Redbud Plant <sup>6</sup>	8,567,225	9,011,586	8,369,006	5,459,108	10,622,173
Pensacola Hydro	7,134,071	8,422,897	7,028,198	5,043,530	4,215,985
Markham Ferry Hydro	3,171,702	4,037,801	3,923,825	3,228,177	3,228,603
Salina Pumped Storage	2,153,712	2,156,562	2,354,965	2,293,119	1,389,162
GRDA Police <sup>7</sup>	-	-	-	-	2,018,368
Transmission	29,551,381	26,783,935	25,530,658	24,751,487	22,156,462
Transmission of Electric by Others	12,324,480	15,595,460	17,157,631	14,459,003	12,876,319
Administrative & General <sup>8</sup>	21,747,590	19,788,615	16,048,057	13,201,268	15,530,402
Water Production <sup>9</sup>	276,039	316,384	484,794	754,286	469,641
Total Operating Expenses	\$294,502,414	\$319,970,467	\$300,547,383	\$282,440,882	\$350,744,574
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Net Operating Revenues	\$141,755,810	\$115,796,576	\$120,385,169	\$131,381,664	\$124,166,991
201 10	10,293,765	8,677,204	12,265,711	8,656,223	20,570,370
Other Income <sup>10</sup>					
Net Revenues Available for Debt Service	\$152,049,575	\$124,473,780	\$132,650,880	\$140,037,887	\$144,737,361
Rate Stabilization Fund	-	-	21,000,000	-	-
Other Available Funds <sup>11</sup>	-	133,053	-	-	13,703,911
Total Funds Available for Debt Service	\$152,049,575	\$124,606,833	\$153,650,880	\$140,037,887	\$158,441,272
Debt Service	68,111,102	66,853,861	74,915,875	75,501,064	77,599,134
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Available for Capital Improvements or					
Other Authorized Purposes	\$83,938,473	\$57,752,972	\$78,735,005	\$64,536,823	\$80,842,138
Dobt Comice Coverage /Tatal Ave. 1 5 v. 4.12	2.23	1.86	2.05	1.85	2.04
Debt Service Coverage (Total Avail. Funds) <sup>12</sup>	2.23	1.00	2.03	1.03	2.04

Continuing Disclosure Requirements (xviii): Historical Operating Results

<sup>&</sup>lt;sup>1</sup> Excludes depreciation, which is not included in Operating Expenses, as defined in General Bond Resolution 5107 and does not require a cash outlay.

<sup>&</sup>lt;sup>2</sup> Sales of Raw Water are excluded from Other Operating Revenue per General Bond Resolution 5107 as they do not relate to the Electric System

<sup>&</sup>lt;sup>3</sup> As of April 15, 2017, GREC 1 was discontinued as a coal-fired generating unit. GREC 1 has limited capability of generating using natural gas via the igniter system.

<sup>&</sup>lt;sup>4</sup> For 2014 through 2016, reflects the Authority's 62% ownership of GREC 2. Effective January 1, 2016, reflects GRDA's 100% ownership.

<sup>&</sup>lt;sup>5</sup> GREC 3 reached Substantial Completion December 23, 2017. All revenues and expenses associated with the unit prior to that date were capitalized in accordance with Code of Federal Regulations Title 18, Electric Plant Instruction 3(18).

 $<sup>^6</sup>$  Reflects the Authority's 36% undivided ownership of Redbud combined-cycle natural gas fired plant near Luther, Oklahoma

 $<sup>^{7}</sup>$  In 2015, GRDA began allocating GRDA Police to other operating expenses for each business unit.

<sup>&</sup>lt;sup>8</sup> Excludes Governmental Accounting Standards Board (GASB) Statement No. 68 Accounting and Financial Reporting for Pensions impact to pension expense and GASB Statement No. 75 Accounting for Other Post Employment Benefits impact to expense as these do not require a cash outlay.

<sup>&</sup>lt;sup>9</sup> Expenses related to the Sales of Raw Water are excluded from Water Production per General Bond Resolution 5107 as they do not relate to the Electric System.

<sup>&</sup>lt;sup>10</sup> Consists primarily of interest income. 2014 includes Contribution in Aid of Construction of \$12.7 million. Excludes change in fair value on instruments, interest income restricted for special purposes and capitalized construction interest.

<sup>&</sup>lt;sup>11</sup> Other Available Funds consisted of excess from the Debt Service Reserve Fund that were used for Debt Service Payments.

<sup>&</sup>lt;sup>12</sup> Total Funds Available for Debt Service divided by Debt Service.

#### **Selected Cash and Investment Fund Balances**

(Unaudited)

	2018	2017	2016	2015	2014
Unrestricted					
Revenue Fund and General Reserve Fund	\$273,037,494	\$217,608,675	\$175,088,943	\$173,842,198	\$158,052,673
Board Designated					
In the General Reserve Fund:					
Supplemental Reserve for Environmental Costs	22,500,000	22,500,000	22,500,000	22,500,000	22,500,000
Supplemental Reserve for Unforeseen Risks	17,115,000	16,732,000	16,349,000	15,766,000	11,133,000
Other Special Purposes-Restricted					
Pensacola Fish & Wildlife Mitigation Fund <sup>1</sup>	2,173,538	2,203,264	2,350,982	2,451,663	1,044,351
The Nature Conservancy Fund <sup>2</sup>	27,000	27,000	27,000	27,000	27,000
Walton Foundation Fund	1,458				
Riparian Lease Grant	107,125				
Certificate of Deposit for SPP Line of Credit <sup>3</sup>	-	-	-	-	4,250,000
Restricted					
Debt Service Reserve Account <sup>4</sup>	88,992,603	86,807,297	86,628,908	89,208,703	88,451,195
Construction Account	1,505,309	16,421,397	78,733,893	328,410,668	518,754,428
Debt Service Account	19,158,577	12,523,712	18,524,343	18,238,867	17,705,259
Rate Stabilization Fund	21,000,000	21,000,000	21,000,000	-	-
Total Cash and Investments	\$445,618,104	\$395,823,345	\$421,203,069	\$650,445,099	\$821,917,906

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

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

	2018	2017	2016	2015	2014
General Operating Unrestricted	\$273.0	\$217.6	\$175.1	\$173.8	\$158.1
Board Designated	39.6	39.2	38.8	38.3	33.6
Rate Stabilization Fund	21.0	21.0	21.0	-	-
Other Special Purpose	2.2	2.2	2.4	2.5	5.3
Total	\$335.8	\$280.0	\$237.3	\$214.6	\$197.0
Days Cash on Hand (General and Board Designated)	414	317	285	274	199
Fixed Charge Coverage	2.06	1.69	1.97	1.81	1.99

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

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

<sup>&</sup>lt;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.

<sup>&</sup>lt;sup>3</sup> Required by Southwest Power Pool (SPP) to participate in the Integrated Market. Changed to an unsecured Line of Credit in 2015.

<sup>&</sup>lt;sup>4</sup> Deposits and interest receivable to this account, not legally restricted, has been reclassified as unrestricted and included in the General Reserve Fund.

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

Year	GREC 1	GREC 2	GREC 3
2014	47.0%	56.0%	N/A
2015	47.0%	39.0%	N/A
2016	39.0%	14.0%	N/A
2017	8.0% 1	4.0%	31.0%
2018	0.0%	9.0%	53.0%

Continuing Disclosure Requirements (ii): GREC Capacity Factors

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

Year	GREC 1	GREC 2	NERC <sup>2</sup>
2014	79.0%	78.6%	81.4%
2015	88.8%	64.4%	82.3%
2016	77.4%	27.4% <sup>3</sup>	79.5%
2017	31.7% <sup>1</sup>	24.1% <sup>3</sup>	77.2%
2018	0.0% 1	91.1%	$NA^4$

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

<sup>&</sup>lt;sup>1</sup> As of April 15, 2017, GREC 1 was discontinued as a coal-fired generating unit.

 $<sup>^{2}</sup>$  Percentages from NERC Website for Coal Primary Units with 400-599MW Nameplate.

 $<sup>^{3}</sup>$  Reflects outage beginning July 1, 2016, due to impairment of unit caused by fire.

<sup>&</sup>lt;sup>4</sup> Not Available.

## GREC Delivered Cost of Energy (dollars per million BTU)

(Unaudited)

YEAR	COAL
2014	2.28
2015	2.12
2016	2.20
2017	2.90
2018	2.43

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

## 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>
2014	67.3%	94.1%	91.3%	74.2%	0.0%	83.3%
2015	81.5%	86.8%	89.3%	91.6%	0.0%	84.6%
2016	86.9%	86.8%	84.2%	87.7%	0.0%	85.2%
2017	82.5%	79.1%	82.5%	75.3%	0.0%	84.2%
2018	69.2%	62.5%	63.7%	66.9%	88.8%	NA <sup>3</sup>

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

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

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

<sup>&</sup>lt;sup>3</sup> Not Available.

#### **Operating Revenues**

### For Twelve Months Ending December 31, 2018 (Unaudited)

	SALES (1000 KWH)	BASE REVENUES (BEFORE PCA)	TOTAL REVENUES (AFTER PCA)
Municipal Deven Calca	2.052.644	¢150 170 701	¢150 500 500
Municipal Power Sales	3,053,614	\$158,178,701	\$159,589,580
Industrial and Commercial Power Sales	2,340,245	115,969,331	117,035,831
Electric Cooperative Power Sales	-	<u> </u>	<u> </u>
Sub-Total Load Following Contract Power Sales	5,393,859	\$274,148,032	\$276,625,411
Off System Power Sales - Firm	2,517,703	131,825,709	132,931,790
(Over)/Under Recovered Fuel Cost	_,5,, 55	-	(19,513,952)
Other Power Sales <sup>1</sup>	14,993	1,180,064	1,180,064
Total Contract Power Sales	7,926,555	\$407,153,805	\$391,223,313
Off System Power Sales - Spot	301,377	8,265,043	8,265,043
Total Power Sales	8,227,932	\$415,418,848	\$399,488,356
Other Operating Revenues <sup>2</sup>	-	36,769,868	36,769,868
Rate Stabilization Fund	-	-	
Total Operating Revenues <sup>3</sup>	8,227,932	\$452,188,716	\$436,258,224

Continuing Disclosure Requirements (vi): Operating Revenues

## Municipal Revenues For Twelve Months Ending December 31, 2018 (Unaudited)

	CUSTOMER	CONTRACT	%	AUTHORITY
CUSTOMER	SINCE	EXPIRES	REVENUES	REVENUES <sup>4</sup>
City of Coffeyville, Kansas	1999	2042	9%	\$36,857,370
Stillwater Utilities Authority	1987	2042	7	27,452,289
Claremore Public Works Authority	1946	2042	4	17,163,747
City of Siloam Springs, Arkansas	1989	2042	4	14,687,696
Tahlequah Public Works Authority	1947	2042	3	11,333,796
Miami Public Utilities Board	1947	2042	3	10,448,181
Sallisaw Municipal Authority	1952	2042	2	7,136,896
Cushing Municipal Authority	1953	2042	1	6,232,003
City of Pryor Creek Municipal Utility Board	1951	2042	1	5,904,560
Wagoner Public Works Authority	1947	2042	1	4,689,810
Stilwell Area Development Authority	1950	2042	1	4,465,311
Collinsville Municipal Authority	2003	2042	1	3,088,246
Skiatook Public Works Authority	1977	2042	1	2,699,198
Mannford Public Works Authority	2003	2042	1	2,375,481
Stroud Utilities Authority	1986	2042	1	2,159,330
Lindsay Public Works Authority	2000	2025	-	1,642,463
Pawnee Public Works Authority	1953	2042	-	1,253,203
Total Municipal Power Sales			40%	\$159,589,580

Continuing Disclosure Requirements (vii): Municipal Revenues

<sup>&</sup>lt;sup>1</sup> Includes sales to Oklahoma Municipal Power Authority (OMPA). OMPA's portion includes fuel cost, fixed and variable operating expenses, administrative and general expenses, and capital improvements.

<sup>&</sup>lt;sup>2</sup> Sales of Water are excluded from Other Operating Revenues.

<sup>&</sup>lt;sup>3</sup> Does not reflect Interdepartmental Power Sales.

<sup>&</sup>lt;sup>4</sup> Represents revenues after power cost adjustment (PCA).

# Industrial and Commercial Revenues For Twelve Months Ending December 31, 2018 (Unaudited)

CUSTOMER	PRODUCT	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>1</sup>
COSTOWER	PRODUCT	SINCL	LAFIRLS	REVENUES	REVENUES
Google	Internet Search Engine	2007	2021	18%	\$71,425,011
Pryor Chemical Company	Chemical Products	2004	2021	3	12,309,029
Solae, LLC	Food Supplements	1975	2021	2	6,324,192
Air Products Manufacturing Corporation	Industrial Gases	1976	2021	1	4,832,172
American Castings, LLC	Iron Castings	2003	2021	1	4,328,883
Orchids Paper Products Company	Paper Products	1975	2021	1	4,060,855
NGC Industries, LLC	<b>Building Products</b>	1950	2021	1	3,255,932
Berry Plastics-Central Region	Plastic Bags	1990	2021	1	2,894,310
Chevron Phillips Chemical Company, LP	Chemical	1997	2021	-	966,354
Cabot Norit Americas Inc.	Chemical Products	1996	2021	-	925,499
All Other Industrial (18)				1	5,204,010
All Other Commercial (52)				-	509,584
Total Industrial and Commercial Power Sales	S			29%	\$117,035,831

Continuing Disclosure Requirements (viii): Industrial and Commercial Revenues

# Off System Revenues - Firm For Twelve Months Ending December 31, 2018 (Unaudited)

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES <sup>2</sup>
Western Farmers Electric Cooperative (WFEC) <sup>3</sup>	2010	2025	14%	\$57,241,368
Paragould, Arkansas, Light and Water Commission	1992	2038	6	25,205,123
Kansas Municipal Energy Agency	2000	2026	6	23,382,271
Oklahoma Municipal Power Agency <sup>4</sup>	2007	2040	4	14,402,842
City of Poplar Bluff, Missouri	1992	2039	3	12,700,186
Total Off System Power Sales - Firm			33%	\$132,931,790

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

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

<sup>&</sup>lt;sup>2</sup> Represents revenues after power cost adjustment (PCA).

<sup>&</sup>lt;sup>3</sup> The Authority and WFEC entered an interchange agreement for emergency and replacement energy exchanges in 1983. Off-System Firm Sales began in 2010.

 $<sup>^4</sup>$  Sales began in 1985 with a unit contingent output agreement from GREC 2. Off-System Firm Sales began in 2007.

#### Other Revenues-Unit Output Agreement

For Twelve Months Ending December 31, 2018 (Unaudited)

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES
Oklahoma Municipal Power Agency <sup>1</sup>	1985	2036	0%	\$1,180,064
Total Other Power Sales			0%	\$1,180,064

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

#### **Off System Revenues-Spot**

### For Twelve Months Ending December 31, 2018 (Unaudited)

	REVENUES								
CUSTOMER	2018	2017	2016	2015	2014				
Southwest Power Pool	\$8,265,043	\$3,929,617	\$3,206,456	\$9,796,229	\$2,417,239				
Associated Electric Cooperative Inc.	-	-	-	0	6,550				
Western Farmers Electric Cooperative	-	-	-	-	0				
All Others	-	-		0	326,061				
Total Off System Power Sales - Spot	\$8,265,043	\$3,929,617	\$3,206,456	\$9,796,229	\$2,749,850				

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

#### **Other Operating Revenues**

### For Twelve Months Ending December 31, 2018 (Unaudited)

	REVENUES								
SOURCE	2018	2017	2016	2015 <sup>3</sup>	2014 <sup>3</sup>				
Base Plan Funded Transmission Revenues	\$9,024,113	\$10,531,059	\$11,204,681	\$8,749,560	\$7,694,908				
Other Transmission and Ancillary Services	25,540,888	1,249,542	682,531	2,395,693	1,462,103				
Renewable Energy Certificates	1,231,950	708,313	786,707	593,516	697,344				
Other Operating Revenues <sup>2</sup>	972,916	983,660	1,192,533	513,789	1,111,151				
Total Other Operating Revenues	\$36,769,867	\$13,472,574	\$13,866,452	\$12,252,558	\$10,965,506				

Continuing Disclosure Requirement (xiii): Other Operating Revenues

<sup>&</sup>lt;sup>1</sup> These sales include its share of Authority fuel costs, fixed and variable operating expenses, administrative and general expenses, and capital improvements.

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

<sup>&</sup>lt;sup>3</sup> Other Operating Revenue has been amended for 2014 and 2015 to exclude Sales of Water, which were inappropriately included in prior disclosures.

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

(Unaudited)

	2018	2017	2016	2015	2014
Average Annual Base Rate	5.13	5.02	5.05	4.88	4.89
Average Annual PCA	0.05	0.08	(0.53)	0.36	0.61
Average Annual Total	5.18	5.10	4.52	5.24	5.50

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

#### **Historical Energy Resources (MWh)**

(Unaudited)

	Run-of-River	Pumped-Storage	Combined-	Coal-Fired	Long-Term	Other	Municipals'	
	Hydro	Hydro	Cycle Gas	Thermal	Wind	Purchased	SPA	Total
Year	Generation	Generation	Generation	Generation	Purchase	Power	Allocation <sup>1</sup>	Resources
2014	325,372	129,333	2,137,660	3,595,061	174,336	2,478,267	23,914	8,863,943
2015	873,816	67,972	2,837,754	3,120,808	329,699	1,624,113	39,885	8,894,047
2016	726,954	89,060	2,625,974	2,306,516	981,175	2,318,847	36,543	9,085,069
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

Continuing Disclosure Requirements (xv): Historical Energy Resources

### GRDA Historic Dispatch (GWh) (Unaudited)

	2018	2017	2016	2015	2014
GREC 1	(22.394)	323.301	1,672.822	2,014.725	2,005.519
GREC 2	421.889	184.397	633.694	1,106.083	1,589.542
GREC 3	2,280.922	1,358.873	-	-	-
Redbud	1,956.506	1,881.290	2,625.974	2,837.754	2,137.660
Pensacola	341.110	370.950	475.255	526.139	214.107
Markham Ferry	176.311	248.572	251.699	347.677	111.265
Salina	151.625	138.133	89.060	67.972	129.333
Wind Purchases	1,393.895	986.837	981.175	329.699	174.336
Other Purchases	1,921.909	3,129.905	2,355.390	1,663.998	2,502.181
Total	8,621.773	8,622.258	9,085.069	8,894.047	8,863.943

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

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

#### **Historical Demand Requirements and Resources (MW)**

(Unaudited)

	Contract D	emand Requ	irements	Rated Capability of Resources								
Year	Contract Peak Demand	Required Capacity Margin <sup>1</sup>	Contract Demand plus Required Margin	Run-of-River Hydro Generation <sup>2</sup>	Pumped- Storage Hydro Generation <sup>3</sup>	Combined- Cycle Gas Generation <sup>4</sup>	GREC Thermal Generation <sup>5</sup>	Purchased Power <sup>6</sup>	Wind Capacity <sup>7</sup>	Municipals' SPA Allocation <sup>8</sup>	Total Resources	
2014	1,420	193	1,613	254	260	439	812	111	1	13	1,890	
2015	1,406	191	1,597	254	260	439	812	111	12	13	1,901	
2016	1,531	208	1,739	254	258	439	1,010	142	17	13	2,133	
2017	1,408	191	1,599	254	258	907	545	171	17	13	2,165	
2018	1,478	201	1,679	254	258	907	545	171	25	13	2,173	

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

#### **Historical Sales by Customer Group (MWh)**

(Unaudited)

Year	Cooperative	Municipal	Industrial	Off System Firm	Other <sup>9</sup>	Contract Power Sales	Off System Spot	Total Power Sales	Pumping	Other <sup>10</sup>	Total Requirements
2014	640,025	3,266,293	1,287,651	3,074,595	96,537	8,365,101	79,648	8,444,749	235,935	183,259	8,863,943
2015	620,160	3,156,468	1,467,245	2,985,668	12,497	8,242,038	343,271	8,585,309	142,563	166,175	8,894,047
2016	621,128	3,192,044	1,769,842	2,978,366	10,125	8,571,505	191,999	8,763,504	178,286	143,279	9,085,069
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	0	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

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

<sup>&</sup>lt;sup>1</sup> Minimum Required Capacity Margin is 13.6% of contract peak demand or 12% of system capacity per SPP Criteria 2.1.9.

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

<sup>&</sup>lt;sup>3</sup> The Salina Pumped Storage capacity of 258 MW is limited to 25% daily plant factor operation and therefore suitable for peaking operations only. On June 1, 2016, the nameplate rating for Units #5 and #6 were revised from 44 MW to 43 MW.

<sup>&</sup>lt;sup>4</sup> Includes the Authority's 36% ownership interest in the 1,230 MW Redbud combined-cycle natural gas fired plant near Luther, Oklahoma purchased October 1, 2008. Actual capacity (442.8, 36 % of 1230) is dependent on weather temperature and is reported as 457 Winter (Jan-May and Oct-Dec) and 439 Summer (Jun-Sep) on FERC 714. Beginning 2017, includes the Authority's 100% interest in the 468 MW GREC 3 combined-cycle natural gas unit.

<sup>&</sup>lt;sup>5</sup> Includes GRDA's 62% interest in GREC 2 through 2015. Effective January 1, 2016, reflects GRDA's 100% ownership. Reflects 490 MW of coal-fired generation for GREC 1 through April 15, 2017, when GREC 1 was discontinued as a coal-fired generating unit. Now includes 25 MW simple-cycle natural gas-fired generation based on igniter system capability.

<sup>&</sup>lt;sup>6</sup> Includes 86 MW capacity contract with City of Coffeyville, KS, 21 MW capacity contract with Cushing Municipal Authority, and 64 MW capacity contract with Stillwater Utilities Authority.

<sup>&</sup>lt;sup>7</sup> Includes 6.930 MW capacity of the 140 MW nameplate rating from Red Dirt, 4.905 MW capacity of the 99 MW nameplate rating from Breckinridge, 4.945 MW of capacity of the 98.9 MW nameplate rating from Kay, and 8 MW capacity of the 48 MW nameplate rating of Canadian Hills.

<sup>&</sup>lt;sup>8</sup> GRDA is the scheduling agent for Skiatook's and Coffeyville's allocation of SPA (Southwestern Power Administration) hydro power.

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

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