

Grand River Dam Authority

Continuing Disclosure

For Twelve Months Ending December 31, 2019



May 28, 2020

Historical Operating Results¹

Debt Service Coverage

(Unaudited)

	2019	2018	2017	2016	2015
Operating Revenues:					
Municipal Power Sales	\$87,274,160	\$87,945,571	\$85,969,173	\$90,870,556	\$84,067,312
Off System Power Sales - Firm	73,274,605	73,918,540	73,548,915	73,674,711	69,557,344
Industrial Power Sales	66,203,662	62,143,687	53,387,490	48,771,715	39,004,123
Off System Power Sales - Spot	11,064,383	2,906,489	1,907,452	528,985	3,795,651
Other Power Sales	718,261	574,039	801,176	957,605	2,087,228
Electric Cooperative Power Sales	-	-	8,320,155	21,772,835	20,132,598
Collection of Power Cost Adjustment and Fuel	148,792,586	191,513,982	195,990,056	154,447,704	225,770,082
Gross Power Sales ²	\$387,327,657	\$419,002,308	\$419,924,417	\$391,024,111	\$444,414,338
(Over)/Under Recovered Fuel Cost	8,668,517	(19,513,952)	2,370,052	37,041,989	(42,844,350)
Other Operating Revenues ³	25,774,726	36,769,868	13,472,574	13,866,452	12,252,558
Rate Stabilization Fund	-	-	-	(21,000,000)	-
Total Operating Revenues	\$421,770,900	\$436,258,224	\$435,767,043	\$420,932,552	\$413,822,546
Operating Expenses:					
Fuel-Coal	\$31,953,792	\$15,530,485	\$29,673,660	\$61,521,520	\$79,481,496
Fuel-Gas	71,993,174	79,272,265	40,761,992	58,261,865	64,322,618
Purchased Power	53,482,884	77,161,680	126,634,292	72,262,052	39,786,787
Capacity Purchase	11,381,287	11,617,572	11,767,448	6,077,745	4,739,067
Electric Production (excluding fuel):					
Grand River Energy Center					
GREC 1 ⁴	502,876	599,977	3,106,583	10,362,387	10,969,136
GREC 2 ⁵	10,927,497	12,083,492	14,070,517	11,164,680	13,951,800
GREC 3 ⁶	13,395,553	13,310,743	7,842,735	-	-
Redbud Plant ⁷	9,872,814	8,567,225	9,011,586	8,369,006	5,459,108
Pensacola Hydro	7,451,039	7,134,071	8,422,897	7,028,198	5,043,530
Markham Ferry Hydro	3,227,243	3,171,702	4,037,801	3,923,825	3,228,177
Salina Pumped Storage	2,173,532	2,153,712	2,156,562	2,354,965	2,293,119
Transmission	28,285,417	29,551,381	26,783,935	25,530,658	24,751,487
Transmission of Electric by Others	10,448,970	12,324,480	15,595,460	17,157,631	14,459,003
Administrative & General ⁸	22,828,968	21,747,590	19,788,615	16,048,057	13,201,268
Water Production ⁹	204,811	276,039	316,384	484,794	754,286
Total Operating Expenses	\$278,129,857	\$294,502,414	\$319,970,467	\$300,547,383	\$282,440,882
Net Operating Revenues	\$143,641,043	\$141,755,810	\$115,796,576	\$120,385,169	\$131,381,664
Other Income ¹⁰	44,918,347	10,293,765	8,677,204	12,265,711	8,656,223
Net Revenues Available for Debt Service	\$188,559,390	\$152,049,575	\$124,473,780	\$132,650,880	\$140,037,887
Rate Stabilization Fund	-	-	0	21,000,000	-
Other Available Funds ¹¹	-	-	133,053	-	-
Total Funds Available for Debt Service	\$188,559,390	\$152,049,575	\$124,606,833	\$153,650,880	\$140,037,887
Debt Service	78,649,723	68,111,102	66,853,861	74,915,875	75,501,064
Available for Capital Improvements or Other Authorized Purposes	\$109,909,667	\$83,938,473	\$57,752,972	\$78,735,005	\$64,536,823
Debt Service Coverage (Total Avail. Funds)¹²	2.40	2.23	1.86	2.05	1.85

Continuing Disclosure Requirements (xviii): Historical Operating Results

¹ Excludes depreciation, which is not included in Operating Expenses, as defined in General Bond Resolution 5107 and does not require a cash outlay.

² Individual line amounts were restated for 2015-2018 for comparison to 2019, based on a change to collect all fuel in Collection of Power Cost Adjustment and Fuel, rather than \$0.023 per kWh in base rates.

³ Sales of Raw Water are excluded from Other Operating Revenues, per General Bond Resolution 5107, as they do not relate to the Electric System.

⁴ As of April 15, 2017, GREC 1 discontinued generation with coal. GREC 1 has limited capability of generating using natural gas via the igniter system.

⁵ 2015 reflects the Authority's 62% ownership of GREC 2. Effective January 1, 2016, reflects GRDA's 100% ownership.

⁶ 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).

⁷ Reflects the Authority's 36% undivided ownership of Redbud combined-cycle natural gas fired plant near Luther, Oklahoma.

⁸ 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.

⁹ 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.

¹⁰ Consists primarily of interest income and contributions in aid of construction. Excludes change in fair value on instruments, interest income restricted for special purposes, and capitalized construction interest.

¹¹ Other Available Funds consists of excess from the Debt Service Reserve Fund that were used for Debt Service Payments.

¹² Total Funds Available for Debt Service divided by Debt Service.

Selected Cash and Investment Fund Balances
(Unaudited)

	2019	2018	2017	2016	2015
<u>Unrestricted</u>					
Revenue Fund and General Reserve Fund	\$284,370,975	\$273,037,494	\$217,608,675	\$175,088,943	\$173,842,198
<u>Board Designated</u>					
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	17,498,000	17,115,000	16,732,000	16,349,000	15,766,000
<u>Other Special Purposes-Restricted</u>					
Pensacola Fish & Wildlife Mitigation Fund ¹	2,159,412	2,173,538	2,203,264	2,350,982	2,451,663
The Nature Conservancy Fund ²	27,000	27,000	27,000	27,000	27,000
Third Party Private Grant	-	1,458	-	-	-
Riparian Lease Grant	107,125	107,125	-	-	-
<u>Restricted</u>					
Debt Service Reserve Account ³	93,026,843	88,992,603	86,807,297	86,628,908	89,208,703
Construction Account	2,166,076	1,505,309	16,421,397	78,733,893	328,410,668
Debt Service Account	25,662,405	19,158,577	12,523,712	18,524,343	18,238,867
Rate Stabilization Fund	19,703,098	21,000,000	21,000,000	21,000,000	-
Total Cash and Investments	\$467,220,934	\$445,618,104	\$395,823,345	\$421,203,069	\$650,445,099

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

¹ Required by Pensacola Dam operating license.

² 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.

³ Deposits and interest receivable to this account, not legally restricted, has been reclassified as unrestricted and included in the General Reserve Fund.

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

	2019	2018	2017	2016	2015
General Operating Unrestricted	\$284.3	\$273.0	\$217.6	\$175.1	\$173.8
Board Designated	40.0	39.6	39.2	38.8	38.3
Rate Stabilization Fund	19.7	21.0	21.0	21.0	-
Other Special Purpose	2.2	2.2	2.2	2.4	2.5
Total	\$346.2	\$335.8	\$280.0	\$237.3	\$214.6
Days Cash on Hand (General and Board Designated)	448	414	317	285	274
Fixed Charge Coverage	2.25	2.06	1.69	1.97	1.79

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

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

Year	GREC 1 ¹	GREC 2	GREC 3
2015	47%	39%	N/A
2016	39%	14%	N/A
2017	8%	4%	31%
2018	0%	9%	53%
2019	0%	2%	52%

Continuing Disclosure Requirements (ii): GREC Capacity Factors

Equivalent Availability Percentages
Coal-Fired Plants
(Unaudited)

Year	GREC 1 ¹	GREC 2 ²	NERC ³
2015	88.8%	64.4%	82.3%
2016	77.4%	27.4%	79.5%
2017	31.7%	24.1%	77.2%
2018	0.0%	91.1%	77.0%
2019	0.0%	56.3%	NA ⁴

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

¹ As of April 15, 2017, GREC 1 was discontinued as a coal-fired generating unit.

² 2016 and 2017 reflect an outage, beginning July 1, 2016 and returned to service September 2017, due to impairment of unit caused by fire.

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

⁴ Not Available.

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

YEAR	COAL
2015	2.12
2016	2.20
2017	2.90
2018	2.43
2019	3.29

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

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

YEAR	REDBUD 1 ¹	REDBUD 2 ¹	REDBUD 3 ¹	REDBUD 4 ¹	GREC3	NERC ²
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%	85.1%
2019	98.0%	98.0%	99.0%	99.0%	78.3%	NA ³

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

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

² Percentages from NERC Website for Combined Cycle Units All Sizes.

³ Not Available.

Operating Revenues
For Twelve Months Ending December 31, 2019
(Unaudited)

	SALES (1000 KWH)	BASE REVENUES (BEFORE PCA)	TOTAL REVENUES (AFTER PCA)
Municipal Power Sales	3,081,466	\$87,274,160	\$144,616,580
Industrial and Commercial Power Sales	2,515,759	66,203,662	113,152,293
Electric Cooperative Power Sales	-	-	-
Sub-Total Load Following Contract Power Sales	5,597,225	\$153,477,822	\$257,768,873
Off System Power Sales - Firm	2,003,561	73,274,605	108,448,435
(Over)/Under Recovered Fuel Cost	-	-	8,668,517
Other Power Sales ¹	3,965	718,261	912,568
Total Contract Power Sales	7,604,751	\$227,470,688	\$375,798,393
Off System Power Sales - Spot	567,446	11,064,383	20,197,781
Total Power Sales	8,172,197	\$238,535,071	\$395,996,174
Other Operating Revenues ²	-	25,774,726	25,774,726
Total Operating Revenues³	8,172,197	\$264,309,797	\$421,770,900

Continuing Disclosure Requirements (vi): Operating Revenues

¹ 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.

² Sales of Water are excluded from Other Operating Revenues.

³ Does not reflect Interdepartmental Power Sales.

Municipal Revenues
For Twelve Months Ending December 31, 2019
(Unaudited)

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES ⁴
City of Coffeyville, Kansas	1999	2042	8%	\$34,834,004
Stillwater Utilities Authority	1987	2042	6	24,691,742
Claremore Public Works Authority	1946	2042	4	15,430,351
City of Siloam Springs, Arkansas	1989	2042	3	13,273,088
Tahlequah Public Works Authority	1947	2042	2	10,118,921
Miami Public Utilities Board	1947	2042	2	9,233,716
Sallisaw Municipal Authority	1952	2042	2	6,461,034
Cushing Municipal Authority	1953	2042	1	5,539,208
City of Pryor Creek Municipal Utility Board	1951	2042	1	5,301,042
Wagoner Public Works Authority	1947	2042	1	4,160,684
Stilwell Area Development Authority	1950	2042	1	4,062,243
Collinsville Municipal Authority	2003	2042	1	2,839,252
Mannford Public Works Authority	2003	2042	1	2,130,780
Stroud Utilities Authority	1986	2042	1	2,023,754
Skiatook Public Works Authority	1977	2042	-	1,920,282
Lindsay Public Works Authority	2000	2025	-	1,495,889
Pawnee Public Works Authority	1953	2042	-	1,100,590
Total Municipal Power Sales			34%	\$144,616,580

Continuing Disclosure Requirements (vii): Municipal Revenues

⁴ Represents revenues after power cost adjustment (PCA).

Industrial and Commercial Revenues
For Twelve Months Ending December 31, 2019
(Unaudited)

CUSTOMER	PRODUCT	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES ¹
Google	Internet Search Engine	2007	2022	17%	\$72,314,646
Pryor Chemical Company	Chemical Products	2004	2022	2	10,092,192
Solae, LLC	Food Supplements	1975	2022	1	5,772,707
Air Products Manufacturing Corporation	Industrial Gases	1976	2022	1	4,385,724
American Castings, LLC	Iron Castings	2003	2022	1	3,866,405
Cascades Tissue Group - Oklahoma	Paper Products	1975	2022	1	3,609,269
NGC Industries, LLC	Building Products	1950	2022	1	2,889,724
Berry Plastics Corporation	Plastic Bags	1990	2022	1	2,625,677
Oklahoma Ordnance Works Authority	Administration	1978	2022	-	1,136,495
Chevron Phillips Chemical Company, LP	Chemical	1996	2022	-	827,721
All Other Industrial (23)				1	5,329,498
All Other Commercial (49)				-	302,235
Total Industrial and Commercial Power Sales				26%	\$113,152,293

Continuing Disclosure Requirements (viii): Industrial and Commercial Revenues

¹ Represents revenues after power cost adjustment (PCA).

Off System Revenues - Firm
For Twelve Months Ending December 31, 2019
(Unaudited)

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES ²
Western Farmers Electric Cooperative (WFEC) ³	2010	2025	9%	\$36,899,913
Kansas Municipal Energy Agency	2000	2026	6	24,257,950
Paragould, Arkansas, Light and Water Commission	1992	2038	5	22,896,196
Oklahoma Municipal Power Agency ⁴	2007	2040	3	12,873,286
City of Poplar Bluff, Missouri	1992	2039	3	11,521,090
Total Off System Power Sales - Firm			26.00%	\$108,448,435

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

² Represents revenues after power cost adjustment (PCA).

³ The Authority and WFEC entered into an interchange agreement for emergency and replacement energy exchanges in 1983. Off-System Firm Sales began in 2010.

⁴ Sales began in 1985 with a unit contingent output agreement for GREC 2. Off-System Firm Sales began in 2007.

Other Revenues-Unit Output Agreement
For Twelve Months Ending December 31, 2019
(Unaudited)

CUSTOMER	CUSTOMER SINCE	CONTRACT EXPIRES	% REVENUES	AUTHORITY REVENUES
Oklahoma Municipal Power Agency ¹	1985	2036	0%	\$912,568
Total Other Power Sales			0%	\$912,568

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

¹ These sales include share of Authority fuel costs, fixed and variable operating expenses, administrative and general expenses, and capital improvements.

Off System Revenues-Spot
For Twelve Months Ending December 31, 2019
(Unaudited)

CUSTOMER	REVENUES				
	2019	2018	2017	2016	2015
Southwest Power Pool	\$19,497,781	\$8,265,043	\$3,929,617	\$3,206,456	\$9,796,229
Oklahoma Gas and Electric Company ²	700,000	-	-	-	0
Total Off System Power Sales - Spot	\$20,197,781	\$8,265,043	\$3,929,617	\$3,206,456	\$9,796,229

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

² Sale of short term capacity only.

Other Operating Revenues
For Twelve Months Ending December 31, 2019
(Unaudited)

SOURCE	REVENUES				
	2019	2018	2017	2016	2015 ⁴
Other Transmission and Ancillary Services	\$17,578,032	\$25,540,888	\$1,249,542	\$682,531	\$2,395,693
Base Plan Funded Transmission Revenues	6,184,740	9,024,113	10,531,059	11,204,681	8,749,560
Renewable Energy Certificates	1,235,764	1,231,950	708,313	786,707	593,516
Other Operating Revenues ³	776,190	972,916	983,660	1,192,533	513,789
Total Other Operating Revenues	\$25,774,726	\$36,769,867	\$13,472,574	\$13,866,452	\$12,252,558

Continuing Disclosure Requirement (xiii): Other Operating Revenues

³ Sales of Water are excluded from Other Operating Revenue.

⁴ Other Operating Revenue has been amended for 2015 to exclude Sales of Water, which were inappropriately included in prior disclosures.

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

	2019 ¹	2018	2017	2016	2015
Average Annual Base Rate	2.98	5.13	5.02	5.05	4.88
Average Annual PCA	1.96	0.05	0.08	(0.53)	0.36
Average Annual Total	4.94	5.18	5.10	4.52	5.24

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

Historical Energy Resources (MWh)
(Unaudited)

Year	Run-of-River Hydro Generation	Pumped-Storage Hydro Generation	Combined- Cycle Gas Generation	Coal-Fired Thermal Generation	Long-Term Wind Purchase	Other Purchased Power	Municipals' SPA Allocation ¹	Total Resources
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
2019	1,378,635	92,342	4,498,505	59,666	1,367,024	1,034,124	49,054	8,479,350

Continuing Disclosure Requirements (xv): Historical Energy Resources

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

GRDA Historic Dispatch (GWh)
(Unaudited)

	2019	2018	2017	2016	2015
GREC 1	(17.760)	(22.394)	323.301	1,672.822	2,014.725
GREC 2	77.426	421.889	184.397	633.694	1,106.083
GREC 3	2,146.008	2,280.922	1,358.873	-	-
Redbud	2,352.497	1,956.506	1,881.290	2,625.974	2,837.754
Pensacola	829.386	341.110	370.950	475.255	526.139
Markham Ferry	549.249	176.311	248.572	251.699	347.677
Salina	92.342	151.625	138.133	89.060	67.972
Wind Purchases	1,367.024	1,393.895	986.837	981.175	329.699
Other Purchases	1,083.178	1,921.909	3,129.905	2,355.390	1,663.998
Total	8,479.350	8,621.773	8,622.258	9,085.069	8,894.047

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

Historical Demand Requirements and Resources (MW) (Unaudited)

Year	Contract Demand Requirements			Rated Capability of Resources							
	Contract Peak Demand	Required Capacity Margin ¹	Contract Demand plus Required Margin	Run-of-River Hydro Generation ²	Pumped-Storage Hydro Generation ³	Combined-Cycle Gas Generation ⁴	GREC Thermal Generation ⁵	Purchased Power ⁶	Wind Capacity ⁷	Municipals' SPA Allocation ⁸	
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	901	545	171	25	13	2,167
2019	1,499	204	1,703	254	258	902	492	172	75	13	2,165

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

¹ Minimum Required Capacity Margin is 13.6% of contract peak demand or 12% of system capacity, per SPP Criteria 2.1.9.

² The total of Pensacola and Markham Ferry capability.

³ 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.

⁴ Includes the Authority's 36% ownership interest in Redbud gas fired plant near Luther, Oklahoma purchased October 1, 2008. Beginning in 2017, includes the Authority's 100% interest in GREC 3, a combined-cycle natural gas unit located at Chouteau, Oklahoma.

⁵ 2019 GRDA's 100% ownership of GREC 2. The board approved a plan to decommission GREC 1 upon approval by SPP.

⁶ 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.

⁷ Includes increased capacity ratings for 2019. 6.930 MW capacity of the 138.6 MW nameplate rating from Red Dirt, 38 MW capacity of the 98.1 MW nameplate rating from Breckinridge, 23 MW capacity of the 98.9 MW nameplate rating from Kay Wind, and 6.65 MW capacity of the 45.6 MW nameplate rating of Canadian Hills.

⁸ GRDA is the scheduling agent for Skiatook's and Coffeyville's allocation of SPA (Southwestern Power Administration) hydro power.

Historical Sales by Customer Group (MWh) (Unaudited)

Year	Cooperative	Municipal	Industrial	Off System ⁹		Contract Power Sales	Off System Spot	Total Power Sales			Total Requirements
				Firm	Other ¹⁰			Pumping	Other ¹¹		
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	-	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

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

⁹ A reduction in the MWh reflects a change for the financial settlement of energy outside of the SPP Integrated Marketplace.

¹⁰ GREC 2 Output Power Sales to Oklahoma Municipal Power Authority.

¹¹ GRDA internal use and system losses.