TRAINING, SAFETY &
ENVIRONMENTAL
3142 Hwy 412B, PO Box 609
Chouteau, OK 74337-0609
918-256-5545

GRDA
Grand River Dam Authority

May 10, 2023

Ms. Amber Edwards
Environmental Programs Manager
Land Protection Division
Oklahoma Department of Environmental Quality
707 North Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

**RE: Financial Strength Information and
Closure Post Closure Cost Adjustment 2023
Grand River Dam Authority (GRDA)
Grand River Energy Center (GREC) Landfill
Chouteau, Mayes County, Oklahoma
Solid Waste Permit No. 3549012**

Dear Ms. Edwards:

GRDA is submitting Financial Strength Information to support utilization of the Corporate Financial Test as the mechanism for financial assurance of the above referenced landfill.

This information is being submitted in accordance with the financial assurance requirements as found in OAC 252:517-17-81 of the Oklahoma Disposal of Coal Combustion Residuals From Electric Utilities regulations.

Information being provided includes:

- A demonstration of financial assurance for closure and post-closure costs, signed and notarized by the GRDA Chief Financial Officer/Corporate Treasurer of GRDA
- Independent accountant's report on applying agreed upon procedures
- The independent auditor's report embedded in the financial statements of GRDA
- The 2023 worksheet for calculating closure and post-closure cost estimates

As required, a copy of this information is being placed into the operating record of the facility.

If you have any questions on this matter, or if you require any additional information, please do not hesitate to contact me,

Sincerely,

Michael L Bednar

Michael L. Bednar
Manager of Environmental Compliance

GRDA
Grand River Dam Authority

April 25, 2023

Ms. Carol Bartlett
Environmental Program Specialist
Land Protection Division
Department of Environmental Quality
P. O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Dear Ms. Bartlett:

I am the Chief Financial Officer of the Grand River Dam Authority, an agency of the State of Oklahoma, with its principal place of business located in Mayes County, Oklahoma. This letter is in support of this agency's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs as specified in 27 A O.S. Sections 2-10-701(C)(6) and OAC 252:517-17.

This agency is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated in accordance with the Oklahoma Administrative Code and the Oklahoma Solid Waste Management Act. We have updated our estimates, and the current closure and/or post-closure cost estimates covered by the test are shown for each facility:

GRDA Units No. 1 and No. 2 Fly Ash Disposal	Closure	$1,742,211.51
Chouteau, Oklahoma	Post-Closure	$978,861.70

The effective date of the response is for the fiscal year of this agency which ends on December 31, 2022. The figures for the following items marked with an asterisk are derived from this agency's independently audited, year-end financial statements for the latest completed fiscal year ended 2022:

1. Sum of current closure and post-closure cost estimates: $1,742,211.51 Closure and $978,861.70 Post-Closure for a sum of $2,721,073.21.

2. Current bond ratings of most recent issuance of this firm and name of rating service: A1 Moody's Investors Service, Inc., AA- Standard & Poor's Rating Services, A+ Fitch Ratings, Ltd.

3. Date of issuance of bond: August 30, 2017

4. Date of maturity of bond: 2022-2040

*5. Tangible net worth: $843,917,121

*6. Total assets in United States: $1,916,316,700

7. Is line 5 at least $10 million? Yes

8. Is line 5 at least 6 times line 1? Yes

9. Are at least 90% of firm's assets located in the United States? Yes

10. Is line 6 at least 6 times line 1? Yes

I hereby certify that the representations made in this letter are, to the best of my knowledge, true and accurate.

Date: April 25, 2023

Lorie Gudde
Lorie Gudde
Chief Financial Officer/Corporate Treasurer

ACKNOWLEDGMENT

STATE OF OKLAHOMA)

COUNTY OF MAYES)

Before me, a Notary Public, in and for said county and state, on this 2nd day of May 2023, personally appeared Lorie Gudde, Chief Financial Officer/Corporate Treasurer, to me known to be the identical person who executed the within and foregoing instrument.

Crystal Dawn Ward
Notary Public

Notary Public State of Oklahoma
Crystal Dawn Ward
My Commission # 23000326
Expires 1/7/2027

My commission expires: 01/07/2027

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Grand River Dam Authority

(A Component Unit of the State of Oklahoma)

Basic Financial Statements as of and for the Years Ended December 31, 2022, and 2021, Required Supplementary Information (Unaudited), and Independent Auditors' Report

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

TABLE OF CONTENTS

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Independent Accountants' Report

Grand River Dam Authority and Oklahoma Department of Environmental Quality

We have performed the procedures enumerated below on the accompanying letter dated April 25, 2023 from Grand River Dam Authority to the Oklahoma Department of Environmental Quality regarding the compliance with the financial test option as of December 31, 2022. Grand River Dam Authority is responsible for the compliance with the aforementioned financial test.

Grand River Dam Authority has agreed to and acknowledged that the procedures performed are appropriate to meet the intended purpose of the engagement to assist the Authority and the Oklahoma Department of Environmental Quality in evaluating the Authority's compliance with the financial test option as of December 31, 2022, included in the accompanying letter. Additionally, Oklahoma Department of Environmental Quality has agreed to and acknowledged that the procedures performed are appropriate to meet its purposes. This report may not be suitable for any other purpose. The procedures performed may not address all the items of interest to a user of this report and may not meet the needs of all users of this report and, as such, users are responsible for determining whether the procedures performed are appropriate for their purposes.

The procedures and associated findings are as follows:

- We compared the tangible net worth amount included in item 5 of the letter referred to above with the corresponding ending net position balance in the basic financial statements of the Authority as of and for the year ended December 31, 2022 and noted that such amounts are in agreement.
- We compared the total assets in United States amount included in item 6 of the letter referred to above with the corresponding total assets balance in the basic financial statements of the Authority as of and for the year ended December 31, 2022 and noted that such amounts were in agreement.
- We multiplied the sum of closure and post-closure cost estimates in item 1 of the letter by 6 and noted that the tangible net worth amount in item 5 of the letter is greater than the product of this multiplication.
- We multiplied the sum of closure and post-closure cost estimates in item 1 of the letter by 6 and noted that the amount of total assets in the United States of America included in item 6 of the letter is greater than the product of this multiplication.

We were engaged by Grand River Dam Authority to perform this agreed-upon procedures engagement and conducted our engagement in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an audit or review engagement, the objective of which would be the expression of an opinion or conclusion, respectively, on compliance regarding the accompanying letter dated April 25, 2023 and the information contained therein. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

We are required to be independent of Grand River Dam Authority and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements related to our agreed-upon procedures engagement.

This report is intended solely for and the use of Grand River Dam Authority and Oklahoma Department of Environmental Quality and is not intended to be, and should not be, used by anyone other than these specified parties.

Baker Tilly US, LLP

Madison, Wisconsin
May 3, 2023

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Independent Auditors' Report

To the Board of Directors of
Grand River Dam Authority

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Grand River Dam Authority (GRDA), as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the GRDA's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the financial position of the GRDA as of December 31, 2022 and 2021, and the changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards).* Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the GRDA and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the GRDA's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the GRDA's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the GRDA's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the required supplementary information, as listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the other information included in the annual report but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated March 31, 2023 on our consideration of the GRDA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the GRDA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the GRDA's internal control over financial reporting and compliance.

Baker Tilly US, LLP

Madison, Wisconsin
March 31, 2023

Management's Discussion and Analysis – Unaudited

The following discussion and analysis of the Grand River Dam Authority's (GRDA or the Authority) financial performance provides an overview of the Authority's financial activities for the year ended December 31, 2022, and provides a comparison with the prior years' financial results. Please read it in conjunction with the financial statements, which follow this section.

USING THIS FINANCIAL REPORT

This annual financial report consists of a series of financial statements and reflects the self-supporting, proprietary activities of the Authority, funded primarily by the sale of electrical power and energy.

The State of Oklahoma reports the business-type activities of the Authority as a discretely presented major component unit.

The basic financial statements presented in this report consist of the Statements of Net Position; the Statements of Revenues, Expenses, and Changes in Net Position; the Statements of Cash Flows; and the Notes to Financial Statements.

STATEMENTS OF NET POSITION; STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION; STATEMENTS OF CASH FLOWS; AND NOTES TO FINANCIAL STATEMENTS

The Authority's Statements of Net Position and Statements of Revenues, Expenses, and Changes in Net Position provide an indication of the Authority's financial health.

The Statements of Net Position report all of the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, using the accrual basis of accounting, as well as an indication of which assets can be used for general purposes and which are restricted as a result of bond covenants, contracts, or for other purposes.

The Statements of Revenues, Expenses, and Changes in Net Position report all of the Authority's revenues and expenses recognized during the time periods indicated.

The Statements of Cash Flows report the cash provided and used by operating activities, as well as other cash sources, such as investment income or bond proceeds, and other cash uses, such as cash payments for repayment of bonds and capital additions.

The Notes to Financial Statements provide additional explanation and detail about the financial information, as well as required disclosures.

FINANCIAL HIGHLIGHTS

The financial performance of the Authority in fiscal year 2022 was exceptionally strong as it embraced "New Horizons". The continued positive trend in the growth of Sales of power is the result of decades of commitment from wholesale customers and continuing growth from the industrial sector customers. Fiscal year 2021 kicked off strong after the Authority experienced back-to-back historical events in both 2021 and 2020. The events of 2020 were shaded by the COVID-19 pandemic, and the books weren't even closed on fiscal year 2020 before the Authority was facing an unforeseeable challenge yet again. Winter Storm Uri impacted the Authority and much of the Southwest Power Pool (SPP) footprint, during which temperatures reached double-digit negative values. These extreme cold temperatures, prolonged over multiple days, combined with the lack of both solar and wind generation due to weather conditions was further complicated by a limited natural gas supply.

On February 4, 2021, the SPP issued a cold weather alert to all grid operators, followed by a February 9 call for conservative operations. This was escalated on February 15 when the SPP issued an Energy Emergency Alert (EEA) Level 1, which is triggered when all generation is committed, and there is concern about maintaining required reserves. Less than two and a half hours after issuing EEA Level 1, the SPP issued an EEA Level 2, which signifies that load management procedures are in effect. Roughly three hours following EEA Level 2, the SPP set a new record winter peak, and an EEA Level 3 was issued. EEA Level 3 is issued when the balancing authority, SPP, is no longer able to meet minimum contingency reserve requirements, and firm load interruption is imminent. At 13:04 on February 15, the Authority's load shedding plan was called into action. This was the first instance since joining the SPP that loads were called to be shed. Various levels of EEA's were in effect through the morning of February 19, with conservative operations finally ending at 22:00 on February 20.

During this event, the Authority incurred unprecedented natural gas and purchased power prices. The Authority's financial impact for this event totaled $102.4 million. The Authority was able to fund the event entirely through cash reserves and will recover these costs over the next 120 months through a modification to the Power Cost Adjustment (PCA) rate schedule.

On October 26, 2021, a failure of a flange gasket caused a fire that damaged mechanical, electrical, civil/structural, and various control systems of GREC Unit 3 (GREC 3), which resulted in the unit being taken offline for repair. While repairs are finishing up, the total damage is estimated not to exceed $10 million. The Authority's financial impact will be limited to the insurance deductible that's estimated to be between $1 million and $5 million. The unit returned to service on March 25, 2022. Further repairs are scheduled for the Fall 2023 outage, which will complete the restoration.

On March 28, 2022, Standard and Poor's affirmed the GRDA rating AA-, with a stable outlook. From April 2021 to March 2022, Fitch Ratings and Moody's Investor Service issued rating affirmations of A+, with a stable outlook, and A1, with a stable outlook, respectively. All three affirmations were largely due to the Authority's continuing financial health and increasing debt leverage. S&P noted robust unrestricted cash balances and liquidity, as well as a strong fixed charge coverage and good operating performance of the main generating units. Fitch based its decision, in part, on GRDA's continued strong financial performance and very low operating costs. Moody's noted GRDA's diverse and competitively priced resource mix as a key reason for its rating.

FINANCIAL HIGHLIGHTS - DECEMBER 31, 2022, 2021, AND 2020

	2022	2021	2020
CONDENSED SCHEDULE OF NET POSITION			
Assets:			
Current assets	**311,285,630**	228,442,359	220,111,240
Net utility plant	**1,217,097,589**	1,213,283,232	1,228,205,944
Noncurrent investments	**293,318,721**	345,227,973	378,500,098
Under recovered power costs	**49,610,150**	62,197,807	-
Nonutility plant	**34,237,907**	23,251,235	8,140,478
Pension benefit assets	-	30,042,207	-
Other noncurrent assets	**10,766,703**	5,543,071	3,832,434
Total assets	**1,916,316,700**	1,907,987,884	1,838,790,194
Deferred outflows related to pension plans	**24,558,350**	5,375,121	13,484,694
Deferred outflows related to other postemployment benefits	**2,369,786**	3,110,655	3,408,830
Deferred outflows related to loss on reacquired debt	**21,654,847**	24,650,250	27,810,693
Deferred outflows related to derivative hedges	**4,026,920**	-	333,110
Total deferred outflows	**52,609,903**	33,136,026	45,037,327
Liabilities:			
Current liabilities	**102,751,855**	88,822,985	78,937,570
Noncurrent liabilities	**896,540,722**	930,982,609	1,005,007,245
Total liabilities	**999,292,577**	1,019,805,594	1,083,944,815
Deferred inflows related to pension plans	**2,111,281**	36,383,164	603,759
Deferred inflows related to other postemployment benefits	**2,305,327**	494,229	633,829
Deferred inflows related to regulated operations	**121,300,297**	100,674,199	88,634,963
Deferred inflows related to derivative hedges	-	5,001,140	-
Total deferred inflows	**125,716,905**	142,552,732	89,872,551
Net Position:			
Net investment in capital assets	**345,268,266**	317,117,339	305,481,403
Restricted for:			
Board designated	**58,189,994**	60,304,898	40,381,000
Debt service	**25,129,999**	24,310,417	22,889,999
Pension benefits	-	30,042,207	-
Other special purposes	**2,086,139**	2,106,229	2,208,452
Unrestricted	**413,242,723**	344,884,494	339,049,301
Total net position	**843,917,121**	778,765,584	710,010,155

FINANCIAL HIGHLIGHTS - DECEMBER 31, 2022, 2021, AND 2020 (continued)

	2022	2021	2020
CONDENSED SCHEDULE OF CHANGES IN NET POSITION			
Operating revenues:			
Sales of power	**589,878,953**	534,202,694	380,115,355
Other operating revenues	**75,348,353**	43,686,459	24,695,083
Regulatory asset revenues	**2,977,337**	1,894,078	24,057,317
Transfer (provision) for rate stabilization	-	-	(31,703,098)
Total operating revenues	**668,204,643**	579,783,231	397,164,657
Non-operating revenues:			
Investment income-net	**(29,107,670)**	(5,071,429)	17,846,422
Award revenue (loss) - operating	**59,951**	14,197	86,255
Income (loss) - nonoperating	**(5,207,691)**	-	3,182
Income from nonutility operations	**(1,852,356)**	(5,782,860)	(4,445,325)
Costs (recovered) to be recovered	**(23,657,987)**	(13,987,866)	(3,854,699)
Total non-operating revenues	**(59,765,753)**	(24,827,958)	9,635,835
Total revenues	**608,438,890**	554,955,273	406,800,492
Operating expenses:			
Fuel	**(186,042,989)**	(176,955,635)	(82,451,994)
Purchased power – net	**(149,404,112)**	(115,552,213)	(68,162,828)
Operations	**(84,078,173)**	(71,525,025)	(68,833,979)
Depreciation	**(62,844,949)**	(61,722,410)	(72,422,157)
Maintenance	**(26,966,147)**	(24,000,269)	(24,722,494)
Administrative and general	**(23,895,732)**	(16,339,863)	(31,624,140)
Total operating expenses	**(533,232,102)**	(466,095,415)	(348,217,592)
Non-operating expenses:			
Interest expense	**(43,853,908)**	(45,821,069)	(47,672,958)
Amortization of debt discount	**(106,750)**	-	(38,706)
Amortization of bond premium	**9,677,196**	10,187,106	10,662,823
Total non-operating expenses	**(34,283,462)**	(35,633,963)	(37,048,841)
Total expenses	**(567,515,564)**	(501,729,378)	(385,266,433)
Award revenue - capital	**24,228,211**	15,529,534	12,037,982
Net increase in net position	**65,151,537**	68,755,429	33,572,041
Net position – beginning of year	**778,765,584**	710,010,155	676,438,114
Net position – end of year	**843,917,121**	778,765,584	710,010,155

The financial results are further discussed in the following paragraphs and reflect the financial impact of the highlights mentioned above.

NET POSITION

The balance of Net position increased by $65.2 million in 2022, which was an 8% growth, following a $68.7 million, or a 10% growth, in 2021. The 2022 increase was mainly attributable to increase in Sales of power of $55.7 million and $31.7 million increase in Other operating revenues. The 2021 increase was mostly due to a $64.7 million increase in Operating income over 2020, which represented a 132% increase.

Total assets increased by $8.3 million, which represents less than 1% in 2022 following a $69.2 million increase in 2021. This equates to a 4% increase over 2020. The 2022 increase is due to the increase of $11.0 million in Nonutility plant as GRDA continues the construction of WOKA whitewater park. Additionally, the pension asset of $30.0 million was eliminated as market conditions drove the Authority's Net pension position back to a liability. This is offset by a $31.4 million increase in cash and investments. In 2021, the Authority had three asset financial statement lines with a balance that didn't carry a balance for 2020. Current under recovered power costs, Noncurrent under recovered power costs, and Pension benefit assets had balances of $28.6 million, $62.2 million, and $30.0 million respectively in 2021. The increase in Under recovered power costs is due to the additional fuel costs incurred during Winter Storm Uri in 2021 followed by a steady increase in natural gas prices throughout the bulk of 2022. Conversely to 2022, favorable market gains on the investments in pension assets caused GRDA's pension liability to be eliminated, culminating in a pension asset. As an offset to these increased assets for 2021, the Authority's Investments decreased by $77.2 million, or 17%. This reduction was due to the liquidation of certain investments in order to meet the obligations that followed Winter Storm Uri. For the same reason, GRDA's Cash and cash equivalents in 2021 were reduced by $17.5 million, or 50%, from 2020.

Current assets increased by $82.8 million, or 36%, following a 2021 $8.3 million, or 4%, increase. Current cash and investments totaled $144.1 million in 2022, compared to $60.8 million in 2021. This is an increase of $83.4 million, or 137% year over year. The 2022 increase is due to a shift to current cash and investments from noncurrent cash investments due to the maturation of investments not reinvested at year end. This is in contrast to a $61.4 million decrease from 2020 to 2021that was due to the liquidation of investments and the use of cash to meet obligations resulting from Winter Storm Uri. Accounts receivable decreased by $18.8 million, or 26% in 2022, following an increase in 2021 of $36.3 million, or 99%. Both the 2022 decrease and the 2021 increase were driven by Winter Storm Uri. The 2021 receivables contain 1/120th of the PCAx-120 amount and the entire amount of the PCAx-12. For 2022, the PCAx-12 amounts have been recovered, resulting in the decrease from 2021.Under recovered power costs increased in 2022 by $12.4 million, following a 2021 increase of $28.6 million. The explanation for Under recovered power costs can be found above in Total assets. For more information on the PCA, see the Operating revenues section herein or Under/Over Recovered Fuel Costs in the Summary of Significant Accounting Policies in Note 1 to Financial Statements. Fuel stock has grown throughout 2022 to an overall increase of $3.6 million, or 51%, as the Authority has taken efforts to increase coal on hand. Fuel stock decreased by $2.3 million, or 25%, in 2021 as GREC Unit 2 (GREC 2) was utilized more to offset rising natural gas prices. Materials and supplies increased slightly from $48.3 million in 2021 to $50.2 million in 2022, which equates to an increase of 4%. Other current assets decreased by $1 million after an increase of $3.9 million in 2021. This is made up of the Authority's derivative hedges that settle within the next twelve months, increasing or decreasing bases on the position on these hedges.

Noncurrent investments decreased by $51.9 million, or 15%, in 2022, following a $33.3 million, or 9%, in 2021. As mentioned above in Total Assets, the 2022 decrease was due to a shift in investment from noncurrent to current, while the lower amounts for 2021 were due to the liquidation of investments and use of cash to meet obligations resulting from Winter Storm Uri. Additional information about the Restricted Investments, included in Noncurrent investments, is presented in Note 2 to Financial Statements, Deposits and Investments. Restricted Assets are discussed later in more detail in the Significant Assets and Debt Administration section.

Net utility plant fluctuated by less than 1% from 2021 to 2022, increasing by $3.8 million. For 2021, Net utility plant decreased by $14.9 million, or 1%. While Net utility plant, which encompasses the Authority's electric system remains mostly level, the Nonutility Plant of GRDA continues to grow. As mentioned above, this is due to the ongoing construction of the WOKA whitewater park that is anticipated to be in service in 2023. Specific projects are described in the Capital Assets section below, and more information is presented in Note 4 to Financial Statements, Utility Plant.

Other noncurrent assets increased by $5.2 million, or 94%, in 2022, following an increase of $1.7 million, or 45%, in 2021. This balance consists of the Authority's derivative hedges' values for those hedges settling more than 12 months in the future, increasing or decreasing based on the position on these hedges.

Deferred outflows of resources increased by $19.5 million, or 59%, in 2022, after they decreased by $11.9 million, or 26%, in 2021. The variance explanation is described in detail within Deferred Outflows of Resources and Deferred Inflows of Resources below. For more information, see Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits.

Total liabilities decreased by $20.5 million, or 2%, in 2022, after a likewise decrease of $64.1 million, or 6%, in 2021. This decrease is made up of a decrease in Total noncurrent liabilities of $34.4 million, or 4%, and an offsetting increase in Total current liabilities of $13.9 million, or 16%.

Accounts payable and accrued liabilities increased by $12.7 million, or 29%, in 2022, after experiencing a 2021 increase of $8.5 million, or 24%. The 2022 increase was driven almost exclusively by the increase in payables related to natural gas, while the 2021 increase was due to increased trade payables, general coal payables, and general payables for Redbud. The current portion of Bonds payable continued to increase in 2022 as debt service requirements rise, increasing by $1.4 million after also increasing by $2.4 million in 2021.

The noncurrent portion of Bonds payable declined by $52.8 million, or 6%, in 2022, after a decline of $51.9 million, or 5%, in 2021. This is due to bond principal retirements, netted with bond premium amortizations. More detail can be found in the Long-Term Debt section below. The Liabilities related to pension plans increased by $21.1 million in 2022 after a 2021 decrease of $23.0 million. The Authority's pension liability became a pension asset for the Oklahoma Public Employees Retirement System (OPERS) plan in 2021, then reverted to a liability again in 2022. More information is presented on these plans in Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits.

Deferred inflows of resources decreased by $16.8 million, or 12%, following an increase of $52.7 million in 2021. This was a 59% increase. The variance explanation is described in detail within Deferred outflows of resources and deferred inflows of resources below. For more information, see Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits.

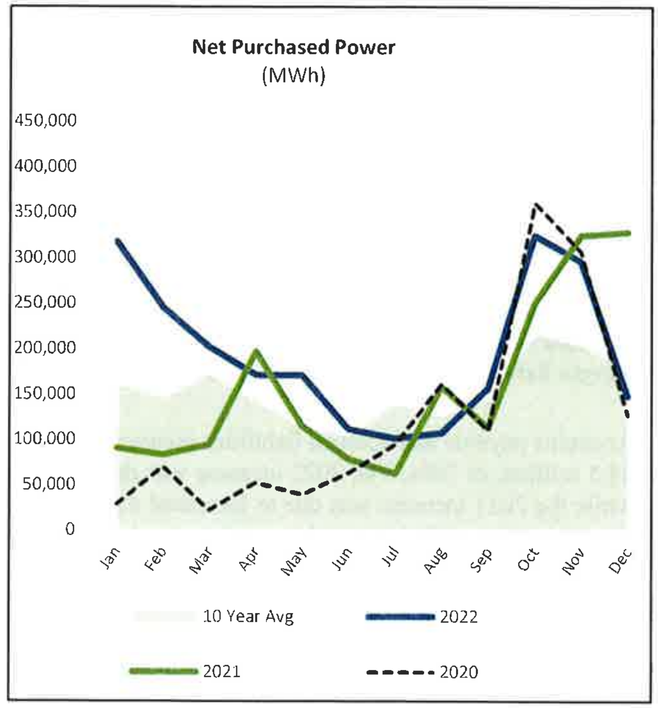
Restricted amounts for net investment in capital assets increased by $28.2 million, or 9%, in 2022, following an increase of $11.6 million, or 4%, in 2021. The Restricted for board designated funds decreased by $2.1 million, or 4%, after they had increased by $19.9 million, or 49%, in 2021. The 2022 decrease was a net decrease in the Capital Reserve Fund. In 2021 contingency funds were increased by $10.0 million and the Capital Reserve Fund was created and funded with $9.9 million. For more information on these funds, see Note 2 to Financial Statements, Deposits and Investments. Prior to 2021, the Authority did not have a pension asset, and zero was restricted as part of Net position. In 2021, $30.0 million is Restricted for pension benefits. As the Net pension position returned to a liability, the restricted portion of Net position returned to zero.

Unrestricted net position represents the part of Net position used to finance day-to-day operations, without constraints established by debt covenants, enabling legislation, including Board designation, or other legal agreements. This amount increased by $68.4 million, or 20%, in 2022, following a $5.8 million, or 2%, increase in 2021.

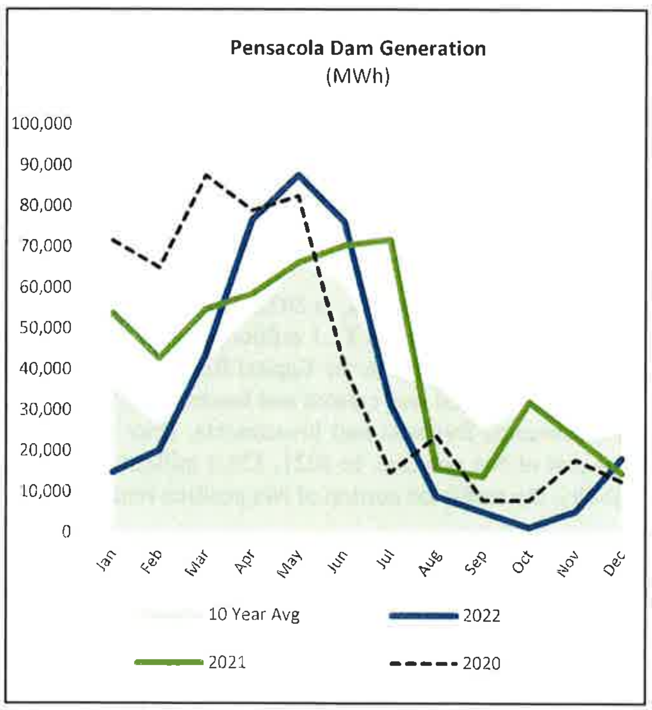
OPERATING RESULTS

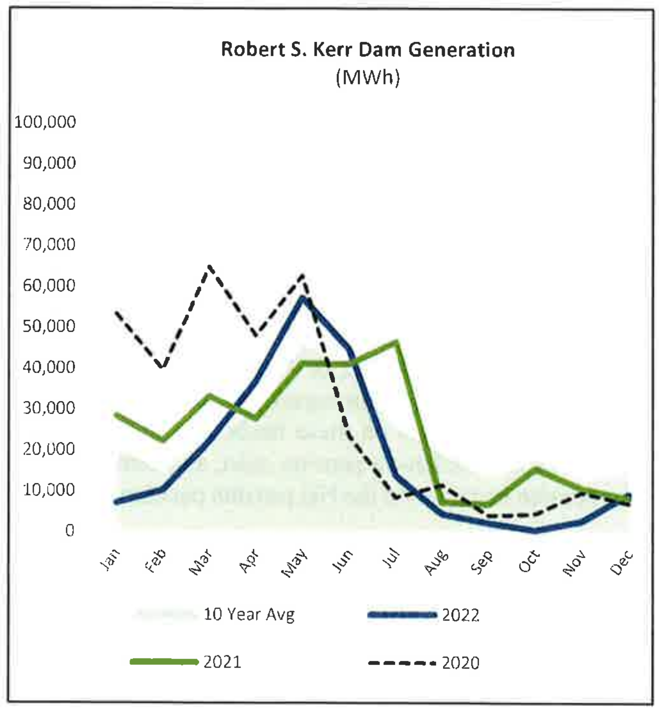
The Authority's 2022 operating results were driven by the increase in Sales of power and Other operating revenues, while the 2021 operating results were largely driven by the financial impact resulting from the Winter Storm Uri.

The graph titled "Net Purchased Power (MWh)" depicts the Authority's hourly net purchases of energy from the Integrated Marketplace. As is evidenced by the comparisons of 2020, 2021, and 2022, versus the ten-year average in the light green shaded area, purchases of power for 2021 remained below the ten-year average for a majority of the year but spiked when Redbud and GREC 2 were in outage in April. The October 2021 GREC 3 fire caused the unit to remain offline the remainder of the year, so Purchased power remained above the ten-year average and continued to be above as 2022 began. It remained above the average for the majority of 2022, spiking in October when GREC 3 was in outage.



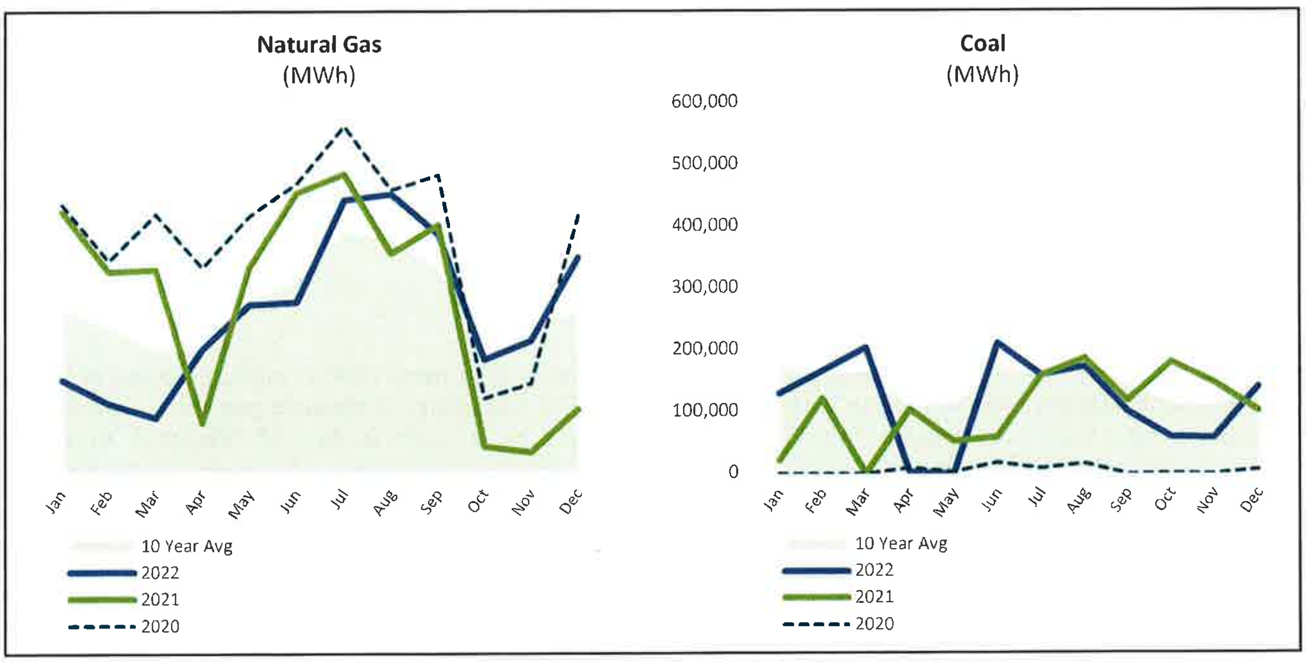
See the graphs titled "Pensacola Dam Generation (MWh)" and "Robert S. Kerr Dam Generation (MWh)" for hydro generation comparisons of 2020, 2021, and 2022, as compared to the ten-year historical average. With little rainfall in the latter half of 2022, production trended significantly below the ten-year average.



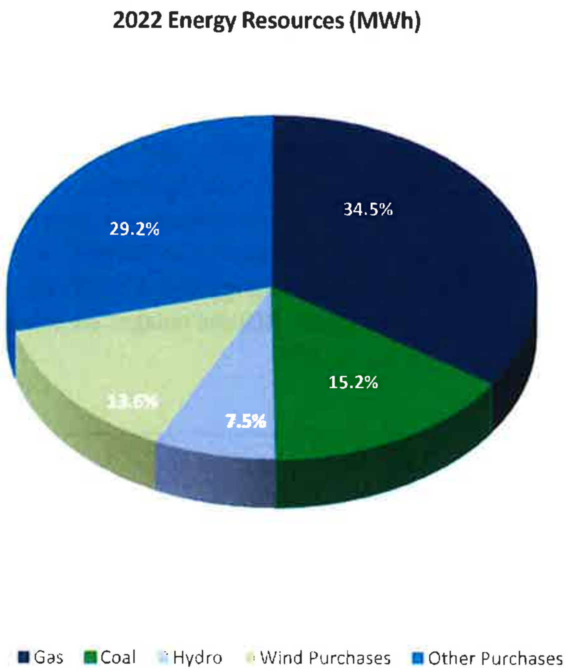


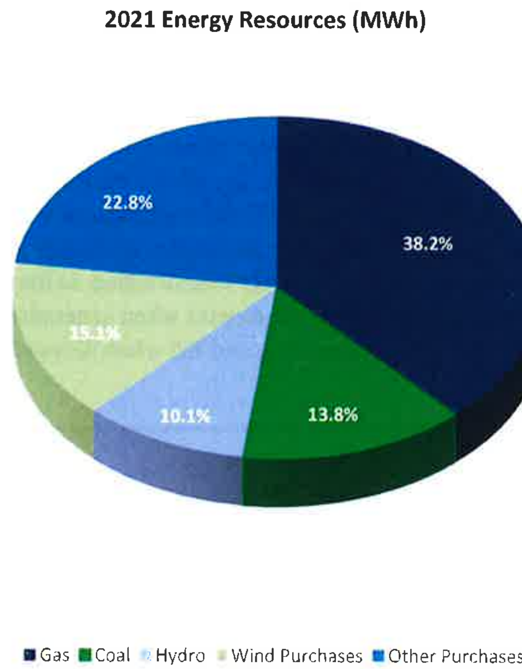
The Authority's energy resources have included wind, through purchased power agreements, since 2013. The energy produced from these projects is recorded as Purchased Power. The wind purchase agreements provide risk mitigation against increases in fuel costs and help expand the Authority's diversified energy portfolio as demand for carbon-free energy grows.

The graphs titled "Natural Gas (MWh)" and "Coal (MWh)" reflect the output of the Authority's thermal generation resources. As demonstrated by the graph titled "Coal (MWh)," the generation for coal through 2020 trended substantially lower than the historical ten-year average, as coal prices were previously uneconomical when compared to both natural gas and the overall available SPP Integrated Marketplace energy. This is in combination with the mechanical outage of GREC 2 in 2019 and the April 2017 discontinuation of GREC 1 as a coal-fired generating unit, which was formally retired from assets as of December 31, 2020. In February of 2021, this trend was interrupted as coal was called upon to meet generation demand during Winter Storm Uri. As natural gas prices rose over the course of 2021, coal continued to be competitive in the SPP market, so, after an outage for mechanical repairs in March 2021, coal generation neared or exceeded the ten-year average for the remainder of the 2021 year. Throughout 2022, with the exception of a maintenance outage in April and May, coal remained a consistent generation source. The graph titled "Natural Gas (MWh)" indicates the competitiveness of both GREC 3 and Redbud, as they are routinely called upon to provide energy into the SPP Integrated Marketplace during the summer months when generation demands are generally the highest. Routine outages are scheduled for shoulder months in the spring and fall when demands for generation are lower across SPP.



Though its impact has remained immaterial to the financial results, the Authority has continued to expand and strengthen its Energy Hedging Program, with the intent of managing market, counterparty, volume, budget, regulatory, model, and operations risks through Risk Management Policies. The Board of Directors of the Authority is responsible for an overall understanding of risks and the internal Risk Oversight Committee is responsible for primary operational risk oversight and the implementation of the Risk Management Policies. The Energy Hedging Program has three essential objectives: (1) to achieve a customer power cost to serve native load and off-system firm load at a cost that is materially close to the budgeted amount; (2) to reduce the Authority's exposure to volatile swings in energy and hedging costs and to limit the uncertainty related to market timing when purchasing fuel-related hedges by purchasing a portion of required hedges on a programmatic basis; and (3) to maintain a degree of flexibility allowing the Authority to benefit from a favorable energy market. As these transactions relate to natural gas, realized gains and losses, as a result of these hedges, are recognized as fuel expense. See Deferred Outflows of Resources and Deferred Inflows of Resources for further discussion.





The graphs titled "2022 Energy Resources (MWh)" and "2021 Energy Resources (MWh)" indicate the energy resource mix upon which GRDA relies to meet its customers' load needs. The availability of adequate generation capacity, along with a reliable transmission system, firm customer contracts, and participation in the SPP Integrated Marketplace, ultimately drive the operating and financial results. Very few differences in the resource mixes were experienced. The hydro units continue to play a vital role in both reliability and available capacity. Their part in the energy resources mix has remained consistent from 2021 to 2022. Likewise, wind purchases remained an equitable share of generation portfolio for the last two years. The Authority has a generation portfolio that provides diversity and employs a team experienced in power marketing that uses those resources, in conjunction with the hedging program, to minimize risks and volatility for the Authority.

OPERATING INCOME

Operating Income		
	2022	2021
Total operating revenues	**668,204,643**	579,783,231
Total operating expenses	**(533,232,102)**	(466,095,415)
Operating Income	**134,972,541**	113,687,816

Operating Income increased in back-to-back years, increasing by $21.3 million, or 19% in 2022 and by $64.7 million, or 132%, in 2021. Operating Revenues increased by $88.4 million, or 15%, in 2022, after a 2021 increase of $182.6 million, or 46%.

Other Operating Revenues include recovery of revenue requirements for transmission plant recovered through the SPP's administration of the transmission tariffs, as well as revenues associated with an Integrated Transmission Agreement (ITA), and revenues from an agreement with The Energy Authority (TEA) related to the management of excess Auction Revenue Rights (ARR's) in the SPP Integrated Marketplace. It also includes revenues from the sales of Renewable Energy Certificates (RECs) and lake-related revenues.

Non-operating Revenues primarily includes investment income, changes in the fair value of investments, and the deferral of revenue associated with third party contributions to the construction of capital assets. Non-operating Revenues have trended down in successive years, decreasing $34.9 million, or 141%, in 2022, and $34.5 million, or 358%, in 2021. Investment Income – Net, which includes changes in the fair value of investments, were $24.0 million less than those in 2021 and $22.9 million less than those in 2020. Non-Operating Revenues were further decreased by deferral of costs to be recovered of $9.7 million more in 2022 than in 2021 and $10.1 million more in 2021 than in 2020.

Operating Expenses in 2021 broke a recent trend of annual decreases, by increasing $117.9 million, or 34%. Operating Expenses further increased by $67.1 million in 2022. For 2022, all classes of expenses were greater than 2021. Purchased Power was $33.9 million more than 2021, and Operation Expenses were $12.6 million more. The other driver of the Operating Expenses increase was an increase in Administrative and General Expenses in the amount of $7.6 million. Increases in Fuel and Purchased Power of $94.5 million and $47.4 million, respectively, offset by decreases in Depreciation of $10.7 million and Administrative and General expenses of $15.3 million, account for the 2021 fluctuation.

Award Revenue - Capital includes customer contributions, grant proceeds, and insurance revenues for capital asset additions. Portions of these revenues were deferred by the Authority in accordance with GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements* (GASB 62), which is discussed in further detail in Deferred Outflows of Resources and Deferred Inflows of Resources.

OPERATING REVENUES

As stated previously, Operating Revenues increased in back-to-back years by $88.4 million, or 15%, and $182.6 million, or 46%. The largest contributor to Operating Revenues is Sales of Power, which increased by $55.7 million, or 10% in 2022, following an increase of $154.1 million, or 41%, in 2021. GRDA's industrial load continues to experience steady increases, year over year, due to growth in the MidAmerica Industrial Park (MAIP), increasing 11% in MWh sales in 2022, after increasing 10% in MWh sales in 2021.

Other Operating Revenues, as mentioned previously, include recovery of revenue requirements for transmission plant recovered through the SPP's administration of the transmission tariffs, as well as revenues associated with an ITA, and revenues from an agreement with TEA related to the management of excess Auction Revenue Rights ARR's in the SPP Integrated Marketplace. Other Operating Revenues increased by $31.7 million, or 72% in 2022, following an increase of $19.0 million, or 77%, in 2021. Both increases were largely driven by the TEA agreement.

The Authority is empowered to set rates, as necessary, to provide for recovery of operating expenses and debt service payments. When deemed necessary and approved by the Board of Directors, rates can be raised by providing at least 60 days' notice to the Authority's customers. By statute, the Authority is a self-regulated entity and its rates do not come under the jurisdiction of the Oklahoma Corporation Commission. The rates charged by the Authority for the sale of electric power and energy are not currently regulated by the Federal Energy Regulatory Commission (FERC) or any other state or federal authority; however, GRDA's transmission tariff is filed and approved by FERC, as part of the SPP open access tariff.

Oklahoma law requires the Authority to maintain rates which are sufficient to produce adequate revenues to fulfill the obligations of the Authority. These obligations include payment of all maintenance and operation expenses, interest, and principal of all bonds, sinking fund and/or reserve fund payments agreed to be made in respect of any such bonds, and any other obligations or agreements made with the holder of such bonds and/or with any person on behalf of such holder. The Authority agreed with its customers to not adopt or charge excess rates and to ensure rates will be applied in a reasonable, and not unduly discriminatory, manner to all customers served under the same rate schedules at the same service level.

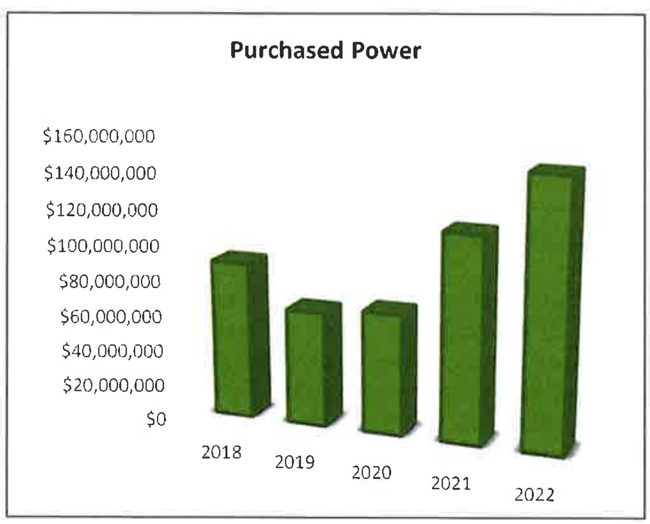
The Authority's rates have three main components: demand, energy, and PCA. The amount of the rate is dependent upon the level of service for which the customer has contracted: generation bus, transmission, primary distribution, or distribution.

The PCA is an adjustment mechanism that allows the Authority to recover Fuel and Purchased Power costs, for contract sales to wholesale and retail customers, over a rolling twelve-month period. Prior to April 1, 2019, the Authority's base energy rates included an estimated power cost (fuel and purchased power) of 23 mills per kWh. Effective April 1, 2019, the 23 mills per kWh of estimated power cost was restructured out of the base rate and into the PCA recovery calculation.

In 2021, the Authority amended the schedule PCA to include a new component, referred to as PCAx, which is designed to recover Extraordinary Power Cost (EPC) events. EPC events are designated by the Board of Directors. The costs associated with an EPC event can be recovered from customers via three options: (1) PCAx-120 – EPC Customer pays its Customer Costs via not more than 120 monthly payments. This method does accrue additional EPC Carrying Costs for financing. (2) PCAx-12 – EPC Customer pays its Customer Costs via not more than 12 monthly payments. This method does not accrue additional carrying costs for financing. (3) PCAx-Base – EPC Customer pays the original 12-month PCA calculation under the PCA in place during the EPC event. This amount varies monthly based upon EPC Customer's energy usage and is assessed on a $/kWh basis. This method does not require EPC Customer to pay additional carrying costs for financing. The Board designated $102.4 million as EPC in connection with the February 2021 Winter Storm Uri. Based on the options provided by the Schedule PCA, approximately one-third of GRDA's customers chose options to repay within the first twelve months, while the remaining two-thirds elected the PCAx-120 option.

The graph titled "Average Customer Rates (Cents per kWh)" reflects the removal of the aforementioned 23 mills per kWh of estimated power cost from the base rate in the dark blue bars. This graph also shows the impact of the PCAx-12 portion of the costs incurred in relation to Winter Storm Uri, as well as the continued rising natural gas and purchased power prices throughout 2021 and 2022.

The PCA revenues also reflect an accrual of any over or under-collected fuel costs. Approximately $90.7 million were under-recovered at the end of 2022, which is similar to the $90.8 million that was under-recovered at the end of 2021. For the first time in 2021, GRDA reported a long-term under-recovered portion of $62.2 million. The 2022 long-term portion was $49.6 million. The long-term portion of the under-recovered costs is directly related to the uncollected balance of Winter Storm Uri EPC charges for those customers that chose the PCAx-120 option.



OPERATING EXPENSES

As mentioned above, Operating Expenses in 2021 broke a recent trend of annual decreases by increasing $117.9 million, or 34%. Operating Expenses further increased by $67.1 million in 2022. See the graph titled "Purchased Power" for the trend in Purchased Power expenses over the last five years, demonstrating the effect of Winter Storm Uri's impact. Purchased Power continued to increase in 2022, driven largely by the price of natural gas, which is the main driver of the SPP Integrated Marketplace prices. Purchased Power increased by $33.9 million, or 29%, in 2022, after increasing $47.4, or 70%, in 2021. Fuel exceeded Purchased

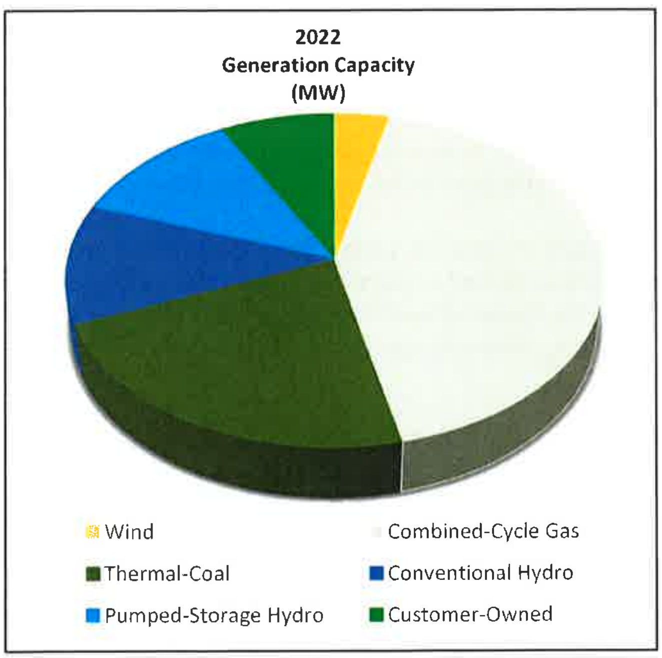
Power in both 2022 and 2021, increasing in successive years by $9.1 million, or 5%, in 2022, and by $94.5 million, or 115%, in 2021. Operating and Maintenance Expenses increased by $15.5 million, or 16%, in 2022, due to $9.7 million of commission expenses related to the aforementioned TEA agreement, as well as $5.7 million in major maintenance projects throughout the Authority. This followed a small increase of $2.0 million in 2021. Administrative and General Expenses increased in 2022 by $7.6 million, or 46%, after a decrease in 2021 of $15.3 million, or 48%. Both fluctuations, both decrease and increase, were largely driven by pension expense recognition required by GASB 68, which is discussed further in Deferred Outflows of Resources and Deferred Inflows of Resources. Historically, Administrative and General Expenses included the settlement of claims, insurance deductibles, employee insurance premiums, and post-retirement benefits. With the implementation of GASB 68, GRDA has experienced some variability of expenses in this area. The Statement requires current year contributions to be recorded as a reduction in the long-term pension liability, rather than a current year expense, and introduced other variables to recognition of current year expense.

Depreciation expense remained relatively consistent in 2022, only increasing by $1.1 million, or 2%, following a 2021 decrease of $10.7 million, or 15%. Depreciation decreased in 2021 due to the retirement of GREC 1 and the original installation of GREC 2 reaching the end of its originally estimated useful life.

SIGNIFICANT ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority added $67.5 million to capital assets, offset by a small retirement of $900 thousand. Capital additions in 2021 totaling $49.8 million were offset by $3.0 million in retirements. For several years, the generation outlays have included a multi-year relicensing effort that will allow the Pensacola Dam to continue producing electricity for another fifty years. Capital projects in 2022 included an upgrade of a switching station at the municipal customer, Collinsville, the completion of construction on the Authority's new Administrative Center, various Transmission and Distribution infrastructure upgrades, and generation reliability investments. Other significant asset additions for 2021 contributed to the continued reliability of GREC 2 and strengthening Redbud infrastructures.



As shown in Note 4 to Financial Statements, Utility Plant, the majority of Net utility plant consists of a diverse mixture of hydroelectric, coal, and natural gas generation resources, supported by a transmission system for the delivery of power and energy. The pie chart labeled "2022 Generation Capacity (MW)" reflects GRDA's generation accredited capacity by fuel source. The Authority has contracts for firm wind purchases from four Oklahoma wind farms. In combination with existing hydroelectric generation, these diverse resources allow the Authority to provide reliable electricity for customers, while also striving to excel in environmental stewardship.

Restricted Assets

The Authority's General Bond Resolution No. 5107 requires Debt Service Reserve Funds to be set aside and that the Debt Service Reserve account be equal to the "Maximum Aggregate Debt Service." Upon issuance of the Series 2017 Bonds, the Debt Service Reserve requirement was calculated to be $86.0 million.

The Authority normally keeps an excess in restricted accounts to compensate for any unforeseen market value fluctuations of investments in the account; however, with the rising interest rate conditions of the financial market throughout 2022, the Authority's balance in the Debt Service Reserve account as of December 31, 2022, was just slightly over $86.0 million. As discussed in Note 2 to Financial Statements, Deposits and Investments, the balance in the Debt Service Reserve account, including any excess, is reflected as a restricted asset, because bond proceeds were used to initially fund the account and carry associated restrictions on how the funds can be used. Excess debt service reserve deposits were used to make bond principal payments in 2021 but not in 2022.

The restricted accounts for other special purposes relate to wildlife mitigation, pursuant to hydro licensing requirements, and riparian lease grant funds. Each of the restrictions is discussed in further detail in Note 2 to Financial Statements, Deposits and Investments.

The Board has designated funds set aside for specific purposes, which are included in the restricted assets. In 2021, the Authority created both a Capital Reserve Fund and a Special Reserve and Contingency Fund, amounting to $9.9 million and $50.4 million respectively. Throughout 2022, GRDA used $4.1 million to fund capital projects. At December 31, 2022, a further $2.0 million was deposited, which brought the year-ending balance to $7.8 million. GRDA continues to maintain a Rate Stabilization Fund, which contained a balance of $31.7 million, as of December 31, 2022. The use of each of these funds is at the discretion of the Board of Directors.

The Authority, through its investment policy, seeks to provide the maximum security along with the best investment return, while meeting the daily cash flow demands, and conforming to all bond policies and state statutes. While these conservative investment requirements hedge against investment losses, the yields earned on the eligible investments reflect the reduced risk. The first priority of the investment policy is the safety of principal, rather than to earn speculative income.

Deferred Outflows of Resources and Deferred Inflows of Resources

The Authority maintains balances of Deferred outflows related to pension plans, other post-employment benefits, and losses on reacquired debt. The Deferred outflows related to pension plans totaled $24.6 million, which represents an increase of $19.2 million over the 2021 balance of $5.4 million. This variability is related to the performance of the pension plan's underlying financial assets, as well as adjustments to actuarial assumptions used in valuation calculations.

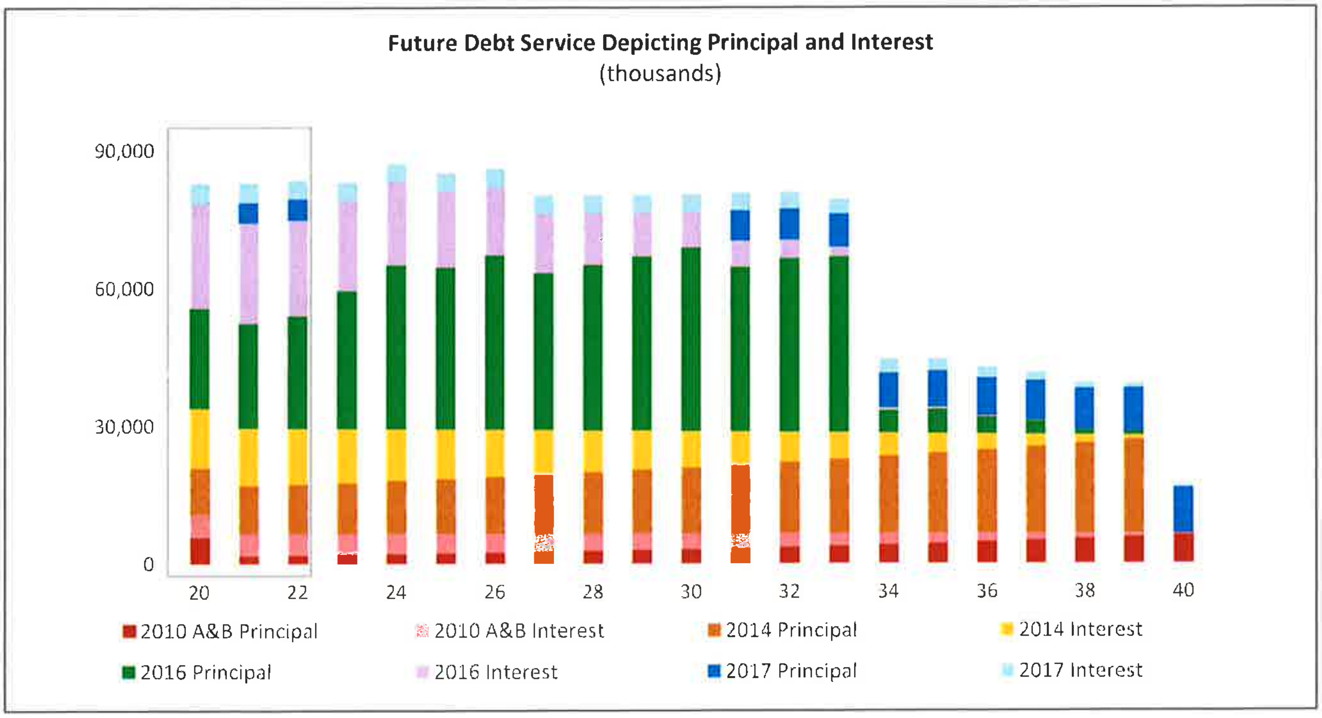
Deferred outflows related to other post-employment benefits was $2.4 million in 2022 compared to $3.1 million in 2021. See Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits for more information.

GRDA amortized $3.0 million in losses on reacquired debt in 2022, to reduce the Deferred outflow balance from $24.7 million in 2021, to $21.7 million in 2022. The balance will be amortized over the life of the corresponding debt.

The Authority maintains balances of Deferred inflows related to pension plans, other post-employment benefits, regulated operations, and derivative hedges. The Deferred inflows related to pension plans decreased by $34.3 million in 2022, following an increase of $35.8 million in 2021. Like the Deferred outflows discussed above, this variability is also related to the performance of the pension plan's underlying financial assets, as well as adjustments to actuarial assumptions used in valuation calculations.

Deferred inflows related to other post-employment benefits was $2.3 million and $0.5 million in 2022 and 2021 respectively. See Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits for more information.

The Authority follows accounting for regulated operations in accordance with GASB 62, which requires approval from the Board of Directors, as they represent the regulatory body for the Authority. Deferred inflows related to regulated operations totaled $121.3 million in 2022 versus $100.7 million in 2021. This increase of $20.6 million is made up of $23.7 million in additional deferred revenues, and recognized revenues of $3.0 million. See Note 5 to Financial Statements, Costs Recovered or to be Recovered from Future Revenues for the detail of authorizations for regulatory treatment.



Long-Term Debt

GRDA's bonds payable were reduced by $51.4 million from 2021 to 2022. The bonds payable current portion increased by $1.4 million, and the noncurrent portion decreased by $52.8 million. The net reduction was made up of $41.7 million in retirements and $9.7 million in premium amortizations. The Authority reported a premium balance at the end of 2022 for the 2014A bonds, the 2016A bonds, and the 2017 bonds totaling $66.9 million.

GRDA makes monthly sinking fund payments to the bond trustee, which are reflected as Current Investments Restricted for Bond Service. The current balance, as of December 31, 2022, is $28.5 million. The bondholders are then paid annual principal payments on June 1 and semi-annual interest payments on June 1 and December 1 of each year. Please see Note 6 to Financial Statements, Bonds Payable for more detailed information. The graph "Future Debt Service Depicting Principal and Interest (thousands)" provides an indication of how much principal and interest are due each year, until all currently outstanding bonds mature in 2040. The graph distinguishes between the matured bonds and the currently outstanding issues.

Public Financial Management (PFM) represents the Authority as financial advisor to ensure it meets current and long-term operations and capital financing needs and to render assistance with respect to debt transactions. PFM is acting as the Authority's Independent Municipal Advisor, as defined by the U.S. Securities and Exchange Commission in connection with all general capital markets activity.

CHANGE IN FINANCIAL POSITION

The Authority's financial position continues to improve, year over year. The Authority's cash reserve levels, in conjunction with a formalized Cash Reserve Policy that was amended by the Board of Directors in 2021, has positioned the Authority to continue with its capital improvement plan, while holding base rates steady, as well as be prepared for events such as Winter Storm Uri, previously discussed. GRDA's Board of Directors approved the creation of a new Board-designated fund for system capital improvements in 2021, that will further strengthen the Authority's cash position. Debt service coverage has remained excellent, far exceeding the one-time's coverage required by debt covenants. The Authority's Board of Directors is comprised of persons with experienced, diverse backgrounds. Their oversight and perpetual insistence for excellence and efficiency ensures that GRDA's history of success continues.

Wholesale customers provide financial security with long-term contracts. The Authority has been humbled by, and is motivated by, the active support of its wholesale customers and is actively working with this customer group to continue to face and conquer the onslaught of changes perpetually facing the utility industry. While prior to 2021, the wholesale load was experiencing slight declines, the sales increased year over year, and the Authority's long-term revenue projections are more stable due to these long-standing contracts. Many of the all-requirements contracts with the wholesale customers run two years longer than any of GRDA's outstanding debt.

Continued industrial expansion in the Mid America Industrial Park has led to increasing sales within the Industrial and Commercial customer classes, offsetting the slight declines of the wholesale load, and providing for forecasted growth in sales.

The 2021 "#1GRDA" was the foundation of company culture that carried the Authority through the challenges presented by the events of the year and allowed for focus on "New Horizons" in 2022. This teamwork allowed for the Authority to pass the fiscal year 2023 budget with no planned base rate increase. This represented the seventh consecutive budget with no base rate increases.

ECONOMIC OUTLOOK

GRDA has a positive economic outlook, due to sound financial and operational fundamentals and solid, mutually beneficial, long-term customer relationships. The Authority remains agile in its ability to facilitate expanding customer relationships.

Capital improvement plans for the Authority include infrastructure build out to serve several new prospective customers. The retail customers served by GRDA are diverse and service-oriented, with forecasted growth throughout the upcoming years, while GRDA continues to be instrumental in attracting new customers to the Authority's service territory.

GRDA's 2021 financial and cash positions were such that the Authority was able to finance the Winter Storm Uri event without issuing new debt and allowing customers the option to repay over 120 months. As the Authority evaluates options to expand generation, the strategic leverage of the Rate Stabilization Fund will help to offset increases in debt service requirements in the base rate.

The Authority and its customers continue to work together to educate end users regarding the connection between efficiency, demand, and affordability. This will aid in managing end users' expectations of their electricity providers, as the impact of the Integrated Marketplace and technology, such as distributed generation, introduce new and varying aspects to the utility industry. These efforts include research efforts to institute Automated Metering Infrastructure (AMI) in municipalities.

The Authority protects the waters of the Grand River and the environments associated with it and utilizes Oklahoma's natural gas, water, and wind resources to generate electricity. The Authority meets customers' needs and environmental mandates with diversified resources and generation. The diversity in GRDA's generation portfolio provides a hedge to risks, such as fuel supply, Integrated Marketplace competition, and environmental legislation. The generation assets are supported by a robust and reliable transmission grid. The Authority has a favorable economic outlook because its electric system profile has low-debt costs, strong customer support, and coordinated resource planning.

MANAGEMENT'S DISCUSSION AND ANALYSIS

This report is intended to provide our customers, bondholders, citizens of the state of Oklahoma, and other interested parties with a general overview of GRDA's financial position, results of operations, and to demonstrate accountability for the revenues GRDA receives.

Questions about this report, or requests for additional financial information, should be directed to the Authority at: Grand River Dam Authority, PO Box 669, Chouteau, OK 74337.

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

STATEMENTS OF NET POSITION
AS OF DECEMBER 31, 2022, and 2021

ASSETS:	2022	2021
Current assets:		
Cash and cash equivalents:		
General operating accounts	$74,606,681	$17,340,610
Restricted accounts	8,265,422	173,880
Investments:		
General operating accounts	31,039,483	3,518,841
Restricted accounts	30,206,686	39,729,540
Accounts receivable – net	54,346,327	73,108,515
Accrued interest receivable	2,172,296	1,818,392
Fuel stock	10,547,531	6,992,092
Materials and supplies – net	50,214,125	48,333,979
Under recovered power costs	41,093,472	28,646,075
Prepaid assets	5,807,257	4,838,164
Hedging derivative instruments	2,986,350	3,942,271
Total current assets	311,285,630	228,442,359
Noncurrent assets:		
Investments:		
General operating accounts	125,227,491	173,834,438
Restricted accounts	168,091,230	171,393,535
Net utility plant:		
Nondepreciable – at original cost	99,373,190	89,029,501
Depreciable – at original cost, less depreciation	1,117,724,399	1,124,253,731
Under recovered power costs	49,610,150	62,197,807
Nonutility plant – at original cost, less depreciation	34,237,907	23,251,235
Assets related to pension plans - restricted	-	30,042,207
Other noncurrent assets	10,766,703	5,543,071
Total noncurrent assets	1,605,031,070	1,679,545,525
Total assets	1,916,316,700	1,907,987,884
DEFERRED OUTFLOWS OF RESOURCES:		
Related to pension plans	24,558,350	5,375,121
Related to post employment benefits	2,369,786	3,110,655
Related to loss on advanced refunding	21,654,847	24,650,250
Related to derivative hedges	4,026,920	-
Total deferred outflows of resources	52,609,903	33,136,026

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

STATEMENTS OF NET POSITION
AS OF DECEMBER 31, 2022, and 2021

	2022	2021
LIABILITIES:		
Current liabilities:		
Accounts payable and accrued liabilities	$56,330,790	$43,653,773
Accrued interest payable	3,341,065	3,494,212
Bonds payable – current portion	43,080,000	41,675,000
Total current liabilities	102,751,855	88,822,985
Noncurrent liabilities:		
Bonds payable – net	846,812,103	899,569,299
Liabilities related to pension plans	21,295,647	210,956
Liabilities related to post employment benefits	18,445,087	20,714,763
Other noncurrent liabilities	9,987,885	10,487,591
Total noncurrent liabilities	896,540,722	930,982,609
Total liabilities	999,292,577	1,019,805,594
DEFERRED INFLOWS OF RESOURCES:		
Related to pension plans	2,111,281	36,383,164
Related to post employment benefits	2,305,327	494,229
Related to costs recovered or to be recovered	121,300,297	100,674,199
Related to derivative hedges	-	5,001,140
Total deferred inflows of resources	125,716,905	142,552,732
NET POSITION:		
Net investment in capital assets	345,268,266	317,117,339
Restricted for:		
Board designated	58,189,994	60,304,898
Debt service	25,129,999	24,310,417
Other special purposes	2,086,139	2,106,229
Pension benefits	-	30,042,207
Unrestricted	413,242,723	344,884,494
TOTAL NET POSITION	$843,917,121	$778,765,584

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION
FOR THE YEARS ENDED DECEMBER 31, 2022, and 2021

	2022	2021
OPERATING REVENUES:		
Sales of power	$589,878,953	$534,202,694
Other operating revenues	75,348,353	43,686,459
Regulatory asset revenues	2,977,337	1,894,078
Total operating revenues	668,204,643	579,783,231
OPERATING EXPENSES:		
Fuel	(186,042,989)	(176,955,635)
Purchased power – net	(149,404,112)	(115,552,213)
Operations	(84,078,173)	(71,525,025)
Depreciation	(62,844,949)	(61,722,410)
Maintenance	(26,966,147)	(24,000,269)
Administrative and general	(23,895,732)	(16,339,863)
Total operating expenses	(533,232,102)	(466,095,415)
OPERATING INCOME	134,972,541	113,687,816
NONOPERATING REVENUES (EXPENSES):		
Investment income – net	(29,107,670)	(5,071,429)
Award revenue – operating	59,951	14,197
Income (loss) -- non-operating	(5,207,691)	-
Income (loss) -- non-utility operations	(1,852,356)	(5,782,860)
Interest expense	(43,853,908)	(45,821,069)
Costs recovered or to be recovered	(23,657,987)	(13,987,866)
Amortization of debt discount	(106,750)	-
Amortization of bond premium	9,677,196	10,187,106
Total nonoperating expenses	(94,049,215)	(60,461,921)
CAPITAL CONTRIBUTIONS:		
Award revenue– capital	24,228,211	15,529,534
NET INCREASE IN NET POSITION	65,151,537	68,755,429
NET POSITION– Beginning of year	778,765,584	710,010,155
NET POSITION– End of year	$843,917,121	$778,765,584

See notes to financial statements.

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2022, and 2021

	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES:		
Received from customers	$634,739,021	$577,659,854
Received from award revenues– operating	277,320	164,031
Payments to employees for services	(51,590,864)	(49,701,422)
Payments to suppliers for goods and services	(390,870,615)	(484,618,938)
Net cash provided by operating activities	192,554,862	43,503,525
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Additions to utility plant	(77,034,982)	(61,160,271)
Payments for retirements of utility plant	(547,319)	(1,155,670)
Received from sales of retirements of utility plant	259,861	300,036
Received from award revenues– capital	24,812,412	13,558,701
Repayment of principal	(41,675,000)	(39,240,000)
Interest paid	(41,011,652)	(42,806,643)
Net cash used in capital and related financing activities	(135,196,680)	(130,503,847)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Interest received	7,050,027	6,883,476
Purchases of securities	(263,791,172)	(598,455,219)
Proceeds from sales and maturities of securities	264,740,576	661,087,592
Net cash provided by (used in) investing activities	7,999,431	69,515,849
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	65,357,613	(17,484,473)
CASH AND CASH EQUIVALENTS– Beginning of year	17,514,490	34,998,963
CASH AND CASH EQUIVALENTS– End of year	$82,872,103	$17,514,490

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2022, and 2021

	2022	2021
NONCASH ITEMS FROM CAPITAL AND RELATED ACTIVITIES:		
Noncash purchases of utility plant included in accounts payable	$323,538	($120,515)
Noncash award revenues– capital	($584,201)	$1,970,834
NONCASH ITEMS FROM INVESTING ACTIVITIES:		
Change in unrealized gain (loss) on investments	($17,892,443)	($7,520,419)
Amortization of premiums and discounts	($1,188,356)	($1,836,716)
RECONCILITATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES:		
Operating income	$134,972,541	$113,687,816
Noncash items included in net operating income:		
Income from nonutility operations	(31,591,329)	(18,445,789)
Depreciation	62,844,949	61,722,410
Changes in assets and liabilities:		
Receivables:		
Customers	17,228,018	(35,811,838)
Other	23,013,664	(28,922,521)
Fuel stock	(3,555,439)	2,349,853
Materials and supplies	(1,880,146)	(3,367,616)
Other	(123,010)	(4,051,594)
Deferred outflows related to pension plans	(19,183,229)	8,109,573
Deferred outflows related to post employment benefits	740,869	298,175
Deferred outflows related to derivative hedges	(4,026,920)	333,110
Accounts payable and accrued liabilities	12,353,479	8,643,921
Over (under) recovered fuel costs	140,261	(91,770,856)
Other noncurrent liabilities	18,456,981	(21,951,300)
Deferred inflows related to pension plans	(32,460,785)	35,639,805
Deferred inflows related to deferred revenues	20,626,098	12,039,236
Deferred inflows related to derivative hedges	(5,001,140)	5,001,140
NET CASH PROVIDED BY OPERATING ACTIVITIES	$192,554,862	$43,503,525

See notes to financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business—The Grand River Dam Authority (the "Authority" or "GRDA"), a non-appropriated state agency, was created by the State of Oklahoma in 1935 as a conservation and reclamation district. The Authority has the power to control, store, preserve, and distribute the waters of the Grand River and its tributaries for any useful purpose and to develop and generate water power, electric power, and electric energy within the boundaries of the Authority and to buy, sell, resell, interchange, and distribute electric power and energy. The Grand River lies entirely within Oklahoma, but its drainage basin also extends over the states of Arkansas, Kansas, and Missouri. As part of the Authority's licensing agreements, the Authority also has lake area responsibilities. The costs of those activities are funded primarily through electricity sales. The Authority's financial statements are included in the State of Oklahoma Annual Comprehensive Financial Report as a discretely presented component unit.

Basis of Accounting—The Authority is licensed to operate under the Federal Power Act, which requires the use of the uniform system of accounts, prescribed for public utilities and licensees. The Authority is a cost-of-service organization and establishes its rates to provide revenues sufficient to pay all expenses necessary for the operation and maintenance of the system, all payments, transfers, and deposits related to outstanding debt, and all other charges or obligations imposed by law or contract.

Basis of Presentation—The Authority's basic financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues, expenses, gains, losses, assets, deferred outflows of resources, liabilities, and deferred inflows of resources resulting from exchange and exchange-like transactions are recognized when the exchange takes place.

The Authority's basic financial statements conform to the provisions of standards issued by the Governmental Accounting Standards Board (GASB). GASB establishes standards for external financial reporting for all state and local governmental entities, which include Statements of Net Position, Statements of Revenues, Expenses, and Changes in Net Position, and Statements of Cash Flows. It requires the classification of net position into three components—net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

Net Investment in Capital Assets—This component of net position consists of capital assets, net of accumulated depreciation and costs recovered or to be recovered from future revenues reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

Restricted—This component of net position consists of funds subject to constraints placed on net position use through external constraints imposed by creditors (such as through debt covenants), contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation. When both restricted and unrestricted resources are available for use for the same purpose, it is the Authority's practice to use unrestricted resources first, then restricted resources as they are needed, unless directed by the Board of Directors, as enabled by legislation.

Unrestricted Net Position—This component of net position consists of any remaining net position that does not meet the definition of "restricted" or "net investment in capital assets."

Estimates—The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents—Cash and cash equivalents include unrestricted cash in banks, unrestricted money market funds, and unrestricted certificates of deposit with original maturities of three months or less. Balances are presented on a net basis to the extent such balances are subject to the right of offset. Unrestricted cash and cash equivalents are shown as General Operating Accounts and restricted cash and cash equivalent are shown as Restricted Accounts on the Statements of Net Position.

Investments—Investments principally comprise U.S. government securities, U.S. government agencies, U.S. government-sponsored enterprises, state government obligations, money market funds, certificates of deposit and Certificates of Deposit Account Registry Service. The Authority reports investments at fair value, which is the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date. Unrestricted investments are shown as General Operating Accounts and restricted investments are shown as Restricted Accounts on the Statements of Net Position.

Fuel Stock—Fuel stock is valued using the lower of the average cost method or fair market value. The delivered commodity is expensed monthly based on fuel burned, and undistributed costs, which includes costs of coal handling and railcar and railroad track maintenance, are expensed monthly independent of fuel burned.

Materials and Supplies—Materials and supplies inventory is valued using the average cost and specific identification methods and is subject to write-off when deemed obsolete. A reserve was established in 2022 for obsolete inventory that is intended to adjust the net realizable value of inventory that may not be usable. The balance in this reserve as of December 31, 2022, was $3,300,000.

Under/Over Recovered Fuel Costs— The Authority's rate structure, as approved by the Board of Directors, allows the Authority to increase or decrease monthly charges from wholesale and retail customers to recover actual fuel costs incurred by the Authority. This monthly charge, referred to as the Ordinary Power Cost Adjustment (PCAo), is calculated monthly based on an estimated 12-month average of future fuel costs. The cumulative difference between the actual fuel costs and the revenue collected by the PCAo is reflected as either an asset ("under recovery") or liability ("over recovery") in the Authority's accompanying Statements of Net Position, as these amounts will be included in the PCA Factor and either collected from or refunded to customers of the Authority in subsequent periods.

Effective for reporting period ending December 31, 2021, the Authority amended the schedule PCA to include a new component, referred to as PCAx, which is designed to recover Extraordinary Power Cost (EPC) events. EPC events are designated by the Board of Directors. The costs associated with an EPC event can be recovered from customers via three options:

PCAx-120 – EPC Customer pays its Customer Costs via not more than 120 monthly payments. This method does accrue additional EPC Carrying Costs for financing.

PCAx-12 – EPC Customer pays its Customer Costs via not more than 12 monthly payments. This method does not accrue additional carrying costs for financing.

PCAx-Base – EPC Customer pays the original 12-month PCA calculation under the PCA in place during the EPC event. This amount varies monthly based upon EPC Customer's energy usage and is assessed on a $/kWh basis. This method does not require EPC Customer to pay additional carrying costs for financing.

Joint Ownership—On October 1, 2008, the Authority purchased certain assets and assumed certain liabilities in the Redbud combined-cycle gas plant near Luther, Oklahoma. The Authority's undivided interest in the assets and liabilities of the facility is 36%, while Oklahoma Gas & Electric's (OG&E) interest is 51%, and Oklahoma Municipal Power Authority's (OMPA) interest is 13%.

OG&E operates the Redbud facility under an operating agreement with the Authority and OMPA and allocates certain costs and expenses attributable to Redbud to the Authority and to OMPA, in accordance with their undivided ownership interests (36% and 13%, respectively). The Redbud facility has long-term service agreements with a large industrial manufacturer for the maintenance of the gas and steam turbines. These amounts have been included in the contractual commitments in Note 9 to Financial Statements, Commitments and Contingencies.

Utility Plant and Depreciation— The cost of utility plant includes direct costs, such as material, labor, and payments to contractors, as well as indirect costs, such as engineering, supervision, and administrative and general expenses. Generally, assets which have a cost of $500 or more at the date of acquisition and have an expected useful life of more than one year, and are not consumable, are capitalized. The cost of maintenance and repairs to property is expensed. Certain costs of the long-term service agreement payments for both the GREC 3 and Redbud plants are capitalized. Gain or loss is recognized on retirements and dispositions.

Depreciation is computed on the straight-line basis at rates based upon the estimated useful lives of assets. Depreciation expense, calculated as a percentage of depreciable plant, averaged approximately 5.6% and 5.5% for each of the years ended December 31, 2022, and 2021.

The utility depreciable property classes range from 3 to 87 years. The depreciable lives for the Redbud plant generally align with the majority owner.

Other Noncurrent Assets—Other noncurrent assets are made up mostly of long-term deposits, long-term accounts receivable, and long-term hedging derivatives. The Authority maintains deposits with the Southwest Power Pool and StoneX Financial Inc. The receivable is attributed to a customer's portion of the closure and post-closure costs, as well as receivables from a FEMA claim.

Other Noncurrent Liabilities—Other noncurrent liabilities include the accumulated provision for the closure and post-closure costs for the solid waste landfill, the accrued liability for annual leave of more than one year, and long-term deferred credits. For more information on the closure and post-closure costs, see Note 10 to Financial Statements, Landfill Closure and Post-closure Costs.

Costs Recovered or to be Recovered—Certain items included in operating costs are recovered by the Authority through rates set by the Board of Directors. The Authority, as a self-regulated utility, is subject to the requirements of GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989, FASB and AICPA Pronouncements*. GASB Statement No. 62 provides that certain costs that would otherwise be charged to revenue and expense can be deferred as regulatory liabilities and assets, based on the expected recovery from customers in future rates. Recognition of these costs is deferred to the extent that such costs are later included in rates charged by the Authority in future years.

Management continuously monitors the future recoverability of regulatory items, and when, in management's judgment, any future recovery becomes impaired, the amount of the deferred inflow is written off, as appropriate. For additional information about the costs recovered or to be recovered, see Note 5 to Financial Statements, Costs Recovered or to be Recovered.

Bonds Payable—The Authority is operating under its Board's General Bond Resolution No. 5107 ("Resolution No. 5107"), which provides for the issuance of revenue bonds and defines eligible investment securities.

Unamortized Debt Discount or Premium—Debt discount or premium are amortized using the bonds outstanding method over the periods of the applicable issues.

Unamortized Gains and Losses on Advance Refunding of Long-Term Debt—Gains and losses realized on advance refunding of long-term debt are deferred and amortized over the shorter of the life of the new bonds or the related refunding issues using the bonds outstanding method.

Deferred Outflows—In addition to assets, the Statements of Net Position reports a separate section for the deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to a future period and so will not be recognized as an outflow of resources (expense) until then. The deferred outflows of resources relate to deferrals required by GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* (GASB 68) related to pension obligations, deferrals required by GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions* (GASB 75), related to other postemployment benefits (OPEB), and deferred losses on reacquired debt. For additional information about the pension plans and OPEB, see Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits. For additional information about the loss on reacquired debt, see Note 6 to Financial Statements, Bonds Payable.

Deferred Inflows—In addition to liabilities, the Statements of Net Position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period and so will not be recognized as an inflow of resources (revenue) until that time. The deferred inflows of resources relate to deferrals required by GASB 68 deferrals required by GASB 75 regulated operations, which includes deferred revenues from third-party contributions to capital projects and contributions to a rate stabilization account, and derivative hedges. For additional information about the pension plans and OPEB, see Note 7 to Financial Statements, Retirement Plans, Postretirement, and Other Employee Benefits. For additional information about regulated operations, see Note 5 to Financial Statements, Costs Recovered or to be Recovered. Refer to Note 11 to Financial Statements, Risk Management, for additional information related to derivative hedges.

Operating and Nonoperating Revenues and Expenses— Operating revenues include the sales of power, other operating revenues, and regulatory asset revenues. Other operating revenues consist of the sale of SPP Auction Revenue Rights and Transmission Congestion Rights, transmission revenues, sales of water, lake permitting fees, and renewable energy certificates. Regulatory asset revenues are the recognition of deferred revenues. Operating expenses include costs to operate and maintain the Authority's generation and transmission assets, and include fuel, purchased power, depreciation, and administrative and general expenses. Nonoperating revenues include investment income, net increase in the fair value of investments, amortization of bond premiums, and income from nonutility operations, which includes Scenic Rivers operations fees. Nonoperating expenses include interest expense, costs recovered or to be recovered from future revenues, bond-related expenses, and expenses from nonutility operations, which include Scenic Rivers operating expenses.

Purchased Power—Purchased power includes the cost of energy and power purchased for resale to customers. Included are the settlements for the hourly net exchange of electricity in the SPP Integrated Marketplace and bilateral purchases, primarily from long-term wind and customer generation purchase agreements.

Energy Hedging— The Authority has a formalized Risk Management Policy and Energy Hedging Program. Accordingly, the Authority evaluates transactions under GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments.* For additional information about the hedging program, see Note 11 to Financial Statements, Risk Management.

Capital Contributions—Cash and capital assets are contributed to the Authority from customers, municipalities, or external parties. The value of property contributed to the Authority is reported as award revenues on the accompanying Statements of Revenues, Expenses, and Changes in Net Position.

Income Taxes—The Authority is a governmental agency organized under the laws of the State of Oklahoma and is not subject to federal or Oklahoma state income taxes.

Comparative Data—Certain amounts presented in the prior year data may have been reclassified to be consistent with the current year's presentation.

Adoption of New Accounting Standards—During the year, the Authority adopted the following accounting standards:

GASB Statement No. 87, *Leases.* The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. The requirements of this Statement are effective for fiscal years ending after June 15, 2021. This statement did not have an impact on the Authority's financial statements.

GASB Statement No. 92, *Omnibus 2020.* The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics and includes specific provisions about (1) the effective date of Statement No. 87, *Leases,* and Implementation Guide No. 2019-3, *Leases,* for interim financial reports; (2) reporting of intra-entity transfers of assets between a primary government employer and a component unit defined benefit pension plan or defined benefit other postemployment benefit (OPEB) plan; (3) the applicability of Statements No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68,* as amended, and No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,* as amended, to reporting assets accumulated for postemployment benefits; (4) the applicability of certain requirements of Statement No. 84, *Fiduciary Activities,* to postemployment benefit arrangements; (5) measurement of liabilities (and assets, if any) related to asset retirement obligations (AROs) in a government acquisition; (6) reporting by public entity risk pools for amounts that are recoverable from reinsurers or excess insurers; (7) reference to nonrecurring fair value measurements of assets or liabilities in authoritative literature; and (8) terminology used to refer to derivative instruments. The requirements of this Statement are effective for fiscal years ending after June 15, 2021. This statement did not have an impact on the Authority's financial statements.

Recently Issued Accounting Standards—The following accounting standards will be adopted as applicable in future periods: GASB Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements,* GASB Statement No. 96, *Subscription-Based Information Technology Arrangements,* GASB Statement No. 99, *Omnibus 2022,* GASB Statement No. 100, *Accounting Changes and Error Corrections – an amendment of GASB Statement No. 62,* and GASB Statement No. 101, *Compensated Absences.* When they become effective, application of these standards may restate portions of these financial statements.

2. DEPOSITS AND INVESTMENTS

The Authority's Resolution No. 5107 provides for the issuance of revenue bonds and defines eligible investment securities as investments allowed pursuant to the Authority's investment policy. The Authority's Board Policy 5-2 defines the following categories of investments (1) bonds or other obligations, which are direct obligations of the United States of America, (2) bonds or other specifically named obligations, which are indirectly guaranteed by the United States of America, (3) direct and general obligations of any state which are rated in the two highest major categories of Moody's, Standard & Poor's (S&P), or Fitch, (4) certificates of deposit issued by a savings and loan association or a bank and trust company which are collateralized by the securities described in (1) and (2) or which are fully insured by the Federal Deposit Insurance Corporation (FDIC), (5) repurchase agreements with banks or government bond dealers which are secured by securities described in (1) and (2), (6) investment agreements with companies or banks whose senior debt obligations are rated no lower than the second highest category of Moody's, S&P, or Fitch, (7) short-term obligations of any state or political subdivision which are rated in the highest short-term category by Moody's or S&P, and (8) any cash swap or similar arrangement of the Bond Fund Trustee, the investments of which are limited to securities described in (1) and (2).

The Authority carries its investments at fair value. Fair value of a financial instrument is the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date. The Authority and trustees monitor collateral pledged to secure deposits in financial institutions for compliance with rules and regulations promulgated by the Oklahoma State Treasurer.

Interest-Rate Risk—Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Resolution No. 5107 requires that investments not mature later than such times as the funds shall be necessary to provide monies when needed for payments to be made from the Debt Service Account, and in the case of the Debt Service Reserve Account, unless otherwise provided in a Supplemental Resolution, not later than ten (10) years from the date of investment. The Authority's Board Policy 5-2 provides that general fund investments shall also not mature later than ten (10) years from the date of investment and requires specific diversification percentages by security type to reduce overall portfolio risk. The Authority attempts to hold the investments to maturity, which minimizes the exposure to rising interest rates and the investments are classified using a weighted average maturity.

As of December 31, 2022, and 2021, the Authority had the following investments (classified as either General Operating investments or Restricted investments on the Statements of Net Position) and corresponding maturities:

	2022			
		Investment Maturities (in Years)		
Investment Type	**Fair Value**	**Less than 1**	**1-5**	**6-10**
U.S. government securities				
U.S. Treasury Bills	$30,437,164	$30,437,164	$ -	$ -
U.S. Treasury Notes	153,268,182	25,220,682	120,536,022	7,511,478
U.S. government sponsored enterprises				
FFCB	15,656,041	-	9,438,403	6,217,638
FHLB	52,833,994	-	25,955,504	26,878,490
FHLMC	58,124,831	204,485	39,951,345	17,969,001
FNMA	18,684,854	532,292	15,360,607	2,791,955
GNMA	10,308,427	-	2,904,166	7,404,261
State government obligations	926,225	-	926,225	-
Total	$340,239,718	$56,394,623	$215,072,272	$68,772,823

	2021			
		Investment Maturities (in Years)		
Investment Type	**Fair Value**	**Less than 1**	**1-5**	**6-10**
U.S. government securities				
U.S. Treasury Bills	$29,823,724	$29,823,724	$ -	$ -
U.S. Treasury Notes	155,381,602	-	146,192,596	9,189,006
U.S. government sponsored enterprises				
FFCB	16,377,458	-	10,413,678	5,963,780
FHLB	58,613,567	-	50,645,739	7,967,828
FHLMC	73,337,561	1,088,846	40,738,784	31,509,931
FNMA	27,013,789	251,074	26,762,715	-
GNMA	12,931,347	352,413	12,199,078	379,856
State government obligations	987,100	-	987,100	-
Total	$374,466,148	$31,516,057	$287,939,690	$55,010,401

The above investment types exclude certificates of deposits.

Credit Risk—Credit risk is the risk that the insurer or other counterparty to an investment will not fulfill his obligation. Mortgage-backed securities (MBS) are not rated, because the agencies that issue such securities did not apply to any of the nationally recognized statistical rating organizations (NRSRO), such as Moody's Investors Service and S&P for ratings on their MBS. However, the agencies and the Government Sponsored Enterprises (GSE) carry "Aaa/AA+" ratings from Moody's and S&P for their debentures, and the MBS which carry their label (e.g., Federal National Mortgage Association—"FNR"; Federal Home Loan Mortgage Corporation—"FHR") are direct obligations of the agencies. Except for Federal National Mortgage Association ("Fannie Mae") and the Federal Home Loan Mortgage Corporation ("Freddie Mac"), which are government-sponsored quasi-governmental agencies, the agencies have the backing of the U.S. Government; therefore, the "Aaa/AA+/AAA" rating by Moody's, Standard & Poor's, and Fitch is implied. MBS issued by the Government National Mortgage Association, with the label GNR, carry the explicit full faith and credit of the U.S. Government. Securities issued by the Federal Farm Credit Bank (FFCB) and the Federal Home Loan Bank (FHLB) are rated "Aaa/AA+/AAA" by Moody's, S&P, and Fitch credit rating agencies. Fannie Mae and Freddie Mac are rated "Aaa/AA+/AAA" by Moody's, S&P, and Fitch credit rating agencies. The MBS are senior in the credit structure to the debentures for the FNMA and FHLMC. The certificates of deposit are held by various banks and are subject to the FDIC guarantees up to $250,000. The Authority addresses credit risk of investments through the Authority's Board Policy 5-2 which states that investments must be backed by the U.S. government, collateralized, fully insured by the FDIC or be rated no lower than the second highest category of Moody's "Aa", S&P "AA", or Fitch "AA". The Authority addresses concentration of credit risk of investments through the Authority's Board Policy 5-2 which outlines the diversification desired in order to reduce overall portfolio risk from an over-concentration of assets.

As of December 31, 2022, and 2021, the Authority's investments had the following ratings:

Investment Ratings	**Moody's/S&P/Fitch**	**2022**	**2021**
U.S government securities	"Aaa/AA+/AAA"	$183,705,347	$185,205,326
U.S. government sponsored enterprises	"Aaa/AA+/AAA"	155,608,146	188,273,722
State government obligations	"Aa1/AA/AA" or higher	926,225	987,100

As of December 31, 2022, and 2021, the Authority had the following portfolio of investments with credit exposure by investment type as a percentage of total investments:

Concentration of Credit Risk

	2022	2021
U.S. government securities		
U.S. Treasury Bills	8.9%	8.0%
U.S. Treasury Notes	45.7	41.5
U.S. government sponsored enterprises		
FFCB	4.6	4.4
FHLB	15.5	15.6
FHLMC	17.1	19.6
FNMA	5.5	7.2
GNMA	2.4	3.4
State government obligations	0.3	0.3

Custodial Credit Risk—Custodial credit risk is the risk that, in the event of the failure of the counterparty, the Authority will not be able to recover the value of its investment for collateral securities that are in the possession of an outside party. All money to be held by the Authority under Resolution No. 5107 is required to be deposited in one or more depositories in the name of the Authority. All money deposited under the provisions of Resolution No. 5107 with the Bond Fund Trustee and the Construction Fund Trustee is required to be held in trust and applied only in accordance with the provisions of Resolution No. 5107; money held by the Authority and deposited in any depository is required to be held and secured in the manner provided by Oklahoma law.

Restricted noncurrent investment funds in the bond service reserve account, and certain funds in the construction account are included in Investments in Noncurrent assets on the Statements of Net Position. Restricted current investment funds in the bond service account and certain deposits in the construction account are included in Investments in Current assets on the Statements of Net Position. Restricted investments (noncurrent and current) are not available for general operations.

Unrestricted cash deposits, certificates of deposits, and money market funds are fully collateralized or covered by FDIC.

Fair Value Measurements—According to GASB Statement No. 72, *Fair Value Measurement and Application*, the Authority is required to disclose the valuation technique and level of inputs for all investments. The Authority's investments fall into input Level 1 and Level 2.

Level 1 inputs are quoted (unadjusted) prices in active markets for identical assets or liabilities that the government can access at the measurement date. Observable markets include exchange markets, dealer markets, brokered markets and principal-to-principal markets.

Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These inputs are derived from or corroborated by observable market data through correlation or by other means, e.g., "market-corroborated" inputs. Level 2 inputs include:

- Quoted prices for similar assets or liabilities in active markets
- Quoted prices for identical or similar assets or liabilities in inactive markets
- Inputs other than quoted prices that are observable for the asset or liability
- Market-corroborated inputs

Level 3 inputs are unobservable inputs for the asset or liability; they should be used only when relevant Level 1 and Level 2 inputs are unavailable. Governments may use their own data to develop unobservable inputs if there is no information available without undue cost and effort. The Authority has no investments that fall into Level 3.

Money Market Funds and Certificates of Deposit are not subject to classification.

The valuation methods for each investment listed in the following fair value of investments table include interactive data from Government/Agency Sector (GV/AGENCY) and Collateralized Mortgage Obligation Sector) pricing sources.

2022

Fair Value				
	Level 1	**Level 2**	**Level 3**	**Total**
U.S. government securities	$183,705,347	$-	$-	$183,705,347
U.S. government sponsored enterprises	104,074,911	51,533,235	-	155,608,146
State government obligations	-	926,225	-	926,225
Derivative instruments	-	(4,026,920)	-	(4,026,920)

2021				
Fair Value				
	Level 1	Level 2	Level 3	Total
U.S. government securities	$185,205,326	$ -	$ -	$185,205,326
U.S. government sponsored enterprises	116,040,712	72,233,010	-	188,273,722
State government obligations	-	987,100	-	987,100
Derivative instruments	-	5,001,140	-	5,001,140

Carrying Values—Cash and cash equivalents and current and noncurrent investments on December 31, 2022, and 2021, follows:

2022							
	General Operations	Board Designated (Restricted)	Rate Stabilization (Restricted)	Bond Service (Restricted)	Bond Service Reserve (Restricted)	Special Purposes (Restricted)	Total
Current:							
Cash deposits—net	$918,202	$-	$-	$-	$-	$-	$918,202
Money market funds—cash and investments	73,688,479	7,806,994	-	319,036	-	139,393	81,953,902
U.S. government securities, agencies, sponsored enterprises & state government obligations	18,913,780	-	-	28,152,027	-	2,054,658	49,120,465
Certificates of Deposit Account Registry Service	10,689,782	-	-	-	-	-	10,689,782
Certificates of deposits—maturity <12 months	1,435,921	-	-	-	-	-	1,435,921
Total current	105,646,164	7,806,994	-	28,471,063	-	2,194,051	144,118,272
Noncurrent:							
U.S. government securities, agencies, sponsored enterprises & state government obligations	125,227,491	50,383,000	31,703,098	-	83,805,664	-	291,119,253
Money market funds	-	-	-	-	2,199,468	-	2,199,468
Total noncurrent	125,227,491	50,383,000	31,703,098	-	86,005,132	-	293,318,721
Total cash and investments	$230,873,655	$58,189,994	$31,703,098	$28,471,063	$86,005,132	$2,194,051	$437,436,993

2021							
	General Operations	Board Designated (Restricted)	Rate Stabilization (Restricted)	Bond Service (Restricted)	Bond Service Reserve (Restricted)	Special Purposes (Restricted)	Total
Current:							
Cash deposits—net	$628,270	$ -	$ -	$ -	$ -	$ -	$628.270
Money market funds—cash and investments	16,712,340	-	-	75,424	-	98,456	16,886,220
U.S. government securities, agencies, sponsored enterprises & state government obligations	1,374,826	-	-	27,729,204	-	2,078,438	31,182,468
Certificates of Deposit Account Registry Service	717,187	9,921,898	-	-	-	-	10,639,085
Certificates of deposits—maturity <12 months	1,426,828	-	-	-	-	-	1,426,828
Total current	20,859,451	9,921,898	-	27,804,628	-	2,176,894	60,762,871
Noncurrent:							
U.S. government securities, agencies, sponsored enterprises & state government obligations	173,834,438	50,383,000	31,703,098	-	87,363,143	-	343,283,679
Money market funds	-	-	-	-	1,944,294	-	1,944,294
Total noncurrent	173,834,438	50,383,000	31,703,098	-	89,307,437	-	345,227,973
Total cash and investments	$194,693,889	$60,304,898	$31,703,098	$27,804,628	$89,307,437	$2,176,894	$405,990,844

Additional information relating to cash and investment restrictions follows:

Rate Stabilization—Customer contracts contain requirements for the establishment and funding of a Rate Stabilization Account. Board Resolution No. 5107 and No. 5358 contain further guidelines for the establishment, maintenance, and allocation of the fund. For the year ended December 31, 2016, the Authority established and deposited $21.0 million into the Rate Stabilization Account (RSA I). In 2020, $1.3 million was used to credit wholesale full requirements customers, at a rate of $0.00055 per kWh. In October 2020, Board Resolution No. 5381 was approved to give the CEO the discretion to defer certain revenues and authorized the creation of Rate Stabilization Account II (RSA II). For the year ended December 31, 2020, $19.7 million in deferred revenues from RSA I was recognized, while $31.7 million of operating revenues was deferred and deposited into RSA II.

Bond Service—On December 31, the bond service fund in the accompanying Statements of Net Position reflects the restricted amount sufficient to pay seven months of principal and one month of interest due the following June 1.

Capital Reserve Fund—These designated, restricted funds were established in December 2021 as Board-designated funds for system capital improvements. This account is funded annually, up to a maximum of $100 million, by the unspent portion of the annual base rate recovery for capital improvements. Contributions to this account in excess of $100 million shall be at the discretion and direction of the Board. This fund may be used for any Board-approved capital projects.

Bond Service Reserve—The restricted amount in the accompanying Statements of Net Position reflects, at a minimum, the maximum aggregate debt service requirement for one year for all bonds outstanding per General Bond Resolution No. 5107.

Restricted for Special Purposes: FERC—Due to agreements with FERC, the Authority has restricted money for two purposes. The first restriction is for the Fish and Wildlife Mitigation Fund, established in June 2003 as required by FERC. The Authority funded an initial deposit of $260,000 in 2003 and was required to make $100,000 annual contributions (adjusted for inflation) each year the Pensacola Dam license is in effect. In December 2015, the Authority funded the balance of $1.45 million, which represented the estimated annual contributions through the year 2022. Generally, the purpose of this fund is to support projects to protect and enhance fish and wildlife resources at the direction of various groups external to the Authority. Expenditures of approximately $37,123 and $71,200 were made from the fund in 2022 and 2021, respectively. The second restriction is for the Nature Conservancy Fund, established in May 2008 as required by FERC. The Authority funded an initial deposit of $27,000 in 2008. The Authority is required to replenish the fund to $27,000 on the first working day in January of each year. Generally, the purpose of this fund is to maintain bat cave protection on Grand Lake. No expenditures were made from the fund in 2022 or 2021.

Restricted for Special Purposes: Other—The Authority also has restricted money for riparian easements under the Oklahoma Conservation Commission and Grand River Dam Authority Cooperative Agreement, the Authority either acquired or secured and paid for deeds of conservation easements. Enrollees that wish to terminate and/or are removed due to breech of agreement from the Riparian Protection Easement Program are required to pay back a pro-rated amount of the remaining years of the lump-sum payment received to the Authority as outlined in the agreement, the balance of which was $107,912 and $70,655 as of December 31, 2022 and 2021, respectively, with the obligation to use the funds to secure additional easements within the Illinois River Watershed.

The Reserve and Contingency Fund I and II—These designated, restricted funds were established in December 2004 as Board-designated funds for future use. The intended use of these funds will be for extraordinary items such as maintenance, operational and environmental expenses, or for expenses related to unforeseen risks, such as unscheduled outages, unexpected purchased power, or other extraordinary expenses not covered by insurance proceeds. These funds were eliminated in 2021 by the Board of Directors.

The Special Reserve and Contingency Fund—This Board designated, restricted fund was established in December 2021 as Board-designated funds for future use. The fund will be used at the discretion of the Board for extraordinary maintenance, operations, environmental expenses, or expenses related to unforeseen risks, including, but not limited to, unscheduled unit outages, unexpected purchase power expenses, and other extraordinary expenses not covered by insurance proceeds. In December 2021, the Board approved the transfer of $383,000 from the Supplemental Reserve and Contingency Fund II to this fund and to contribute an additional $50 million to this fund.

Letter of Credit—In 2015, the Authority established an unsecured letter of credit with Bank of Oklahoma to meet the requirements for participating in the SPP Integrated Marketplace. On December 31, 2022, and 2021, the line of credit was $8.0 million. The letter of credit expires May 31, 2023, but has an auto-renewal clause. The Authority did not utilize any portion of the letter of credit in 2022.

Line of Credit—In 2022, The Authority entered into a revolving credit agreement as an unsecured line of credit not to exceed $100,000,000 with Wells Fargo Bank. This line of credit was established as part of a mitigation plan developed following the 2021 Winter Storm Uri to have more flexibility to quickly access cash in such an event. This line of credit is available to be used to support the normal operations and short-term capital requirements for the Authority. Per General Bond Resolution No. 5107, this line of credit is a subordinate lien to the revenue bonds. The Authority did not utilize this line of credit in 2022.

Realized Gains and Realized Losses—For purposes of computing gross realized gains and gross realized losses, cost is determined by specific identification. The calculation of realized gains is independent of the calculation of the net increase in the fair value of investments. Realized gains and losses on any investments that had been held for more than the current year may have been recognized as an increase or decrease in the fair value of investments reported in prior years.

Gross realized gains and gross realized losses on sales of investment securities for the years ended December 31, 2022, and 2021, were as follows:

	2022	2021
Gross realized gains	$261,239	$23,927,951
Gross realized losses	(15,923,031)	(26,507,102)

Gross realized gains and losses are included in Investment income-net in the accompanying Statements of Revenues, Expenses, and Changes in Net Position.

3. RECEIVABLES

Accounts receivable is comprised on December 31, 2022, and 2021 of the following amounts:

	2022	2021
Customers	$50,882,505	$68,070,522
Less allowance for doubtful accounts	(140,000)	(100,000)
Other	3,603,822	5,137,993
Total Current Accounts Receivable	54,346,327	73,108,515
Other Noncurrent Accounts Receivable	793,043	809,381
Total Accounts Receivable	$55,139,370	$73,917,896

On December 31, 2022, and 2021, the Authority's Other current accounts receivable, from the table above, includes reimbursable amounts from grants, mutual aid events, and deeds of conservation, as well as lake-related billings. Other noncurrent accounts receivable includes a customer's portion of closure and post closure costs, as well as receivables from a FEMA claim.

4. UTILITY PLANT

A summary of changes in utility plant for the years ended December 31, 2022, and 2021, follows:

	2022			
	Balance December 31, 2021	**Additions/ Transfers**	**Retirements**	**Balance December 31, 2022**
Capital assets– nondepreciable:				
Land	$39,593,273	$-	$-	$39,593,273
Construction work in progress	49,436,228	10,343,689	-	59,779,917
Total capital assets– nondepreciable	89,029,501	10,343,689	-	99,373,190
Capital assets– depreciable:				
GREC 2 coal-fired plant	634,517,657	4,291,615	(73,284)	638,735,988
GREC 3 combined-cycle gas plant	455,841,694	2,420,589	-	458,262,283
Redbud combined-cycle gas plant	387,504,244	2,935,692	(1,523,374)	388,916,562
Hydraulic production plants	188,720,670	1,791,390	(37,790)	190,474,270
Transmission and distribution system	485,806,194	6,836,865	(834,052)	491,809,007
Other properties and production plant	140,676,426	38,918,381	(1,236,178)	178,358,629
	2,293,066,885	57,194,532	(3,704,678)	2,346,556,739
Less accumulated depreciation:				
GREC 2 coal-fired plant	(530,123,818)	(11,551,676)	114,835	(541,560,659)
GREC 3 combined-cycle plant	(62,254,243)	(12,894,031)	-	(75,148,274)
Redbud combined-cycle gas plant	(231,263,797)	(16,919,965)	882,542	(247,301,220)
Hydraulic production plants	(48,154,043)	(3,035,536)	89,780	(51,099,799)
Transmission and distribution system	(200,676,155)	(11,244,889)	786,902	(211,134,142)
Other properties and production plant	(96,341,098)	(7,198,852)	951,704	(102,588,246)
	(1,168,813,154)	(62,844,949)	2,825,763	(1,228,832,340)
Total capital assets– depreciable	1,124,253,731	(5,650,417)	(878,915)	1,117,724,399
Net utility plant	$1,213,283,232	$4,693,272	($878,915)	$1,217,097,589

2021	Balance December 31, 2020	Additions/ Transfers	Retirements	Balance December 31, 2021
Capital assets– nondepreciable:				
Land	$39,176,917	$416,356	$ -	$39,593,273
Construction work in progress	35,472,390	13,963,838	-	49,436,228
Total capital assets– nondepreciable	74,649,307	14,380,194	-	89,029,501
Capital assets– depreciable:				
GREC 2 coal-fired plant	632,239,296	2,324,180	(45,819)	634,517,657
GREC 3 combined-cycle gas plant	454,825,627	1,016,067	-	455,841,694
Redbud combined-cycle gas plant	385,088,734	5,374,190	(2,958,680)	387,504,244
Hydraulic production plants	187,459,743	3,396,480	(2,135,553)	188,720,670
Transmission and distribution system	472,939,267	13,888,229	(1,021,302)	485,806,194
Other properties and production plant	132,161,423	9,429,926	(914,923)	140,676,426
	2,264,714,090	35,429,072	(7,076,277)	2,293,066,885
Less accumulated depreciation:				
GREC 2 coal-fired plant	(518,914,263)	(11,255,787)	46,232	(530,123,818)
GREC 3 combined-cycle plant	(48,877,121)	(13,377,122)	-	(62,254,243)
Redbud combined-cycle gas plant	(216,039,878)	(16,858,224)	1,634,305	(231,263,797)
Hydraulic production plants	(45,899,317)	(2,971,011)	716,285	(48,154,043)
Transmission and distribution system	(191,256,603)	(10,501,044)	1,081,492	(200,676,155)
Other properties and production plant	(90,170,271)	(6,759,222)	588,395	(96,341,098)
	(1,111,157,453)	(61,722,410)	4,066,709	(1,168,813,154)
Total capital assets– depreciable	1,153,556,637	(26,293,338)	(3,009,568)	1,124,253,731
Net utility plant	$1,228,205,944	($11,913,144)	($3,009,568)	$1,213,283,232

The change in construction work in progress during 2022 and 2021 is presented on a net basis to avoid a duplication of additions and retirements in the preceding tables. The Authority had depreciation and amortization expense of $62,844,949 and $61,722,410 for 2022 and 2021, respectively.

On October 26, 2021, a GREC 3 failure of a flange gasket caused a fire that damaged mechanical, electrical, civil/structural, and various control systems, which resulted in the unit being taken offline for repair. While repairs are ongoing, the total damage is estimated not to exceed $10 million. The Authority's financial impact will be limited to the insurance deductible that's estimated to be between $1 million and $5 million. The unit was returned to service March 25, 2022.

In 2017, the Authority entered a Riparian Conservation Easement program with the Oklahoma Conservation Commission (OCC). The Authority secures 30-year minimum easement agreements with landowners. A lump sum is paid upfront for each easement. The costs are amortized on a straight-line basis, and the residual values are the difference between the total amortization and the amortization to date. For each easement, a corresponding liability is recorded, and relieved for the same life. Riparian Conservation Easements were not included in the scope of GASB Statement No. 87 as the agreements do not convey control of the right to use the underlying asset to the Authority.

Riparian Conservation Easements

	Initial Cost	Depreciation	Carrying Cost
2021	$1,659,252	($100,537)	$1,558,715
2022	1,730,802	(155,027)	1,575,775

5. COSTS RECOVERED OR TO BE RECOVERED

In 2017, the Authority determined that it should defer the capital asset portion of the revenue proceeds from insurance recoveries resulting from a July 2016 GREC fire restoration per GASB Statement No. 62. Deferral of revenue in accordance with this Statement requires Board Resolution. Board Resolution No. 5307 pertaining to this matter was passed and adopted by the Board of Directors on March 8, 2017.

Board Resolution 5325 was then passed and adopted by the Board of Directors on December 13, 2017. This Board Resolution further grants the Chief Financial Officer the discretion to record certain revenues as regulatory assets regarding revenues related to certain third-party reimbursement for capital assets procured or constructed and recognize those revenues proportionately as said assets are depreciated.

The deferred inflow of resources consists of recognized revenues associated with certain third-party reimbursement on capital assets, as approved by one of the two resolutions described above. This amount is a portion of deferred inflows related to regulated operations on the Statements of Net Position. A roll forward of costs recovered or to be recovered from future revenues follows:

	Balance 12/31/2021	Increase	Decrease	Balance 12/31/2022
Third Party Reimbursement (Capital Assets)	$68,971,101	$23,657,987	$3,031,889	$89,597,199
Rate Stabilization Fund	31,703,098	-	-	31,703,098
Total	$100,674,199	$23,657,987	$3,031,889	$121,300,297

	Balance 12/31/2020	Increase	Decrease	Balance 12/31/2021
Third Party Reimbursement (Capital Assets)	$56,931,865	$13,987,865	$1,948,629	$68,971,101
Rate Stabilization Fund	31,703,098	-	-	31,703,098
Total	$88,634,963	$13,987,865	$1,948,629	$100,674,199

In 2020, the Authority passed Board Resolution 5388, which granted the Chief Financial Officer the discretion to adopt regulatory accounting for the deferral of certain expenses, in accordance with GASB 62. Additionally in 2020, the Authority expanded the policy for regulatory assets. This created a threshold for the treatment and recognition of revenues, with a minimum of $1.0 million for individual projects, or $100,000 in annual amortization amounts.

6. BONDS PAYABLE

A summary of changes in bonds payable for the years ended December 31, 2022, and 2021, follows:

2022	December 31, 2021	Bonds Issued	Retirements	December 31, 2022
Revenue Bonds, 2010 Series B: 3.71% to 7.155% Series 2010B (fully taxable)—maturing 2015 through 2040	$66,955,000	$-	($1,790,000)	$65,165,000
Revenue Bonds, 2014 Series A & B: 3% to 5% Series 2014A—maturing in 2018 through 2039	196,260,000	-	(7,930,000)	188,330,000
1.804% to 3.961% Series 2014B (fully taxable)—maturing 2018 through 2039	74,475,000	-	(2,845,000)	71,630,000
Total Series 2014 A & B	270,735,000	-	(10,775,000)	259,960,000
Revenue Bonds, 2016 Series A & B: 3% to 5% Series 2016A—maturing in 2019 through 2039	420,975,000	-	(22,880,000)	398,095,000
1.828% to 3.503% Series 2016B (fully taxable)—maturing 2020 through 2033	19,900,000	-	(1,630,000)	18,270,000
Total Series 2016 A & B	440,875,000	-	(24,510,000)	416,365,000
Revenue Bonds, 2017 Series: 3% to 5% Series 2017—maturing in 2021 through 2040	86,055,000	-	(4,600,000)	81,455,000
Total bonds payable	$864,620,000	$-	($41,675,000)	$822,945,000
Less current portion	($41,675,000)	$-	$-	($43,080,000)
Long-term portion	822,945,000	-	-	779,865,000
Add (deduct): Unamortized debt premium	76,624,299	-	(9,677,196)	66,947,103
Long-term bonds payable	$899,569,299	$-	($9,677,196)	$846,812,103

2021	December 31, 2020	Bonds Issued	Retirements	December 31, 2021
Revenue Bonds, 2010 Series B: 3.71% to 7.155% Series 2010B (fully taxable)—maturing 2015 through 2040	$68,630,000	$ -	($1,675,000)	$66,955,000
Revenue Bonds, 2014 Series A & B: 3% to 5% Series 2014A—maturing in 2018 through 2039	203,945,000	-	(7,685,000)	196,260,000
1.804% to 3.961% Series 2014B (fully taxable)—maturing 2018 through 2039	77,215,000	-	(2,740,000)	74,475,000
Total Series 2014 A & B	281,160,000	-	(10,425,000)	270,735,000
Revenue Bonds, 2016 Series A & B: 3% to 5% Series 2016A—maturing in 2019 through 2039	443,075,000	-	(22,100,000)	420,975,000
1.828% to 3.503% Series 2016B (fully taxable)—maturing 2020 through 2033	20,540,000	-	(640,000)	19,900,000
Total Series 2016 A & B	463,615,000	-	(22,740,000)	440,875,000
Revenue Bonds, 2017 Series: 3% to 5% Series 2017—maturing in 2021 through 2040	90,455,000	-	(4,400,000)	86,055,000
Total bonds payable	$903,860,000	$ -	($39,240,000)	$864,620,000
Less current portion	($39,240,000)	$ -	$ -	($41,675,000)
Long-term portion	864,620,000	-	-	822,945,000
Add (deduct): Unamortized debt premium	86,811,405	-	(10,187,106)	76,624,299
Long-term bonds payable	$951,431,405	$ -	($10,187,106)	$899,569,299

Oklahoma state statutes have authorized the Authority to issue revenue bonds from time to time with the aggregate outstanding indebtedness not to exceed $1,410,000,000.

The scheduled maturities of bonds payable on December 31, 2022, are as follows and reflect the scheduled payments to be remitted by the trustee to the bondholders:

Due to Bond Holders			
Year Ended December 31	**Annual Principal**	**Semiannual Interest**	**Calendar Year Bond Payments**
2023	$43,080,000	$20,046,383	
		19,004,104	82,130,487
2024	49,225,000	19,004,104	
		17,851,468	86,080,572
2025	49,425,000	17,851,468	
		16,657,622	83,934,090
2026	52,650,000	16,657,622	
		15,365,776	84,673,398
2027	49,535,000	15,365,776	
		14,152,885	79,053,661
2028-2032	288,190,000	107,885,147	396,075,147
2033-2037	203,440,000	44,646,405	248,086,405
2038-2040	87,400,000	5,971,045	93,371,045
	$822,945,000	$330,459,805	$1,153,404,805

To secure the bonds, the Authority has pledged all revenues of the Authority. General Bond Resolution No. 5107 and supplemental bond resolutions specify multiple covenants made by the Authority to the Bond Fund Trustee and bondholders. Among the more significant requirements, the Authority has covenanted to charge adequate rates, operate and maintain the facilities, and make any necessary repairs, renewals, replacements, and improvements. System properties are not to be encumbered, sold, or disposed of, and additional parity bonds are not to be issued unless certain conditions are met. As of December 31, 2022, the Authority complied with bond covenants.

In general, federal tax laws require the Authority to rebate to the US Treasury any profit from investments that yield a higher rate than the tax-exempt revenue bond proceeds. The Authority has no liability for arbitrage rebate on December 31, 2022, and 2021, respectively.

All of the Authority's outstanding bonds fall under General Bond Resolution No. 5107, which contains a provision that if one or more Events of Default shall happen, then either the Bond Trustee or the Holders may declare the principal of all Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately.

7. RETIREMENT PLANS, POSTRETIREMENT, AND OTHER EMPLOYEE BENEFITS

The Authority participated in five retirement plans during 2022 and 2021. The plans currently available to the Authority personnel include three defined benefit plans and two defined contribution plans. The defined benefit plans include the Oklahoma Public Employees Retirement System (OPERS) plan, the Oklahoma Law Enforcement Retirement System (OLERS) plan, and the Authority's postemployment Healthcare Plan. The defined contribution plans include the Oklahoma State Employees Deferred Compensation Plan (the "State Plan") and the OPERS Pathfinder plan. A summary of significant data for each of the retirement plans and discussion of postemployment and other employee benefits follows:

The Authority is a participant in two multiple employer defined benefit pension plans, the Oklahoma Public Employees Retirement Plan (the "OPERS Plan") and the Oklahoma Law Enforcement Retirement Plan (the "OLERS Plan"). The table below shows both pensions as reported in the basic financial statements.

For the year ended December 31, 2022:

	OPERS	OLERS	Total
Deferred outflows of resources	$22,988,455	$1,569,895	$24,558,350
Deferred inflows of resources	1,802,246	309,035	2,111,281
Pension liability (asset)	18,277,656	3,017,991	21,295,647
Pension expense recognized	3,372,008	591,214	3,963,222

For the year ended December 31, 2021:

	OPERS	OLERS	Total
Deferred outflows of resources	$5,012,888	$362,233	$5,375,121
Deferred inflows of resources	34,534,698	1,848,466	36,383,164
Pension liability (asset)	(30,042,207)	210,956	(29,831,251)
Pension expense recognized	(3,101,096)	116,302	(2,984,794)

The Authority's proportionate share of plan assets for OPERS as of December 31, 2022, is $227,068,183, while proportionate share of plan liabilities is $246,178,651. The Authority's proportionate share of plan assets for OPERS as of December 31, 2021, were $270,117,824, while proportionate share of plan liabilities was $240,075,617.

The Authority's proportionate share of plan assets for OLERS as of December 31, 2022, is $16,484,597, while proportionate share of plan liabilities is $19,502,588. The Authority's proportionate share of plan assets for OLERS as of December 31, 2021, were $19,535,348, while proportionate share of plan liabilities was $19,746,305.

Oklahoma Public Employees Defined Benefit Retirement Plan

General Information about the Pension Plan

Plan Description. The Authority contributes to the OPERS Plan, a cost-sharing multiple-employer public employee defined benefit retirement plan administered by the OPERS, a component unit of the State of Oklahoma (the "State"). The OPERS Plan provides retirement, disability and death benefits to its members and beneficiaries, primarily state, county, and local agency employees. The benefits provided are established by and may be amended by the legislature of the State. Title 74 of the Oklahoma Statutes, Sections 901 through 943, assigns the authority for management and operation of the OPERS Plan to the OPERS Board of Trustees.

In 2014, the Oklahoma Legislature enacted legislation effective November 1, 2015, requiring a defined contribution system be established by the OPERS for most state employees first employed by a participating State employer on or after November 1, 2015, and ceasing the acceptance of any new participants to the defined benefit retirement plan.

OPERS issues a publicly available financial report that includes financial statements and required supplementary information for OPERS. That annual report may be obtained online at www.opers.ok.gov, by writing to OPERS, PO Box 53007, Oklahoma City, OK 73152-3007, or by calling 1-800-733-9008.

Vesting. OPERS requires eight years of credited service (including six full years of full-time equivalent employment) to be eligible to vest.

Benefits Provided. Employees who became a member of OPERS before November 1, 2011, can begin receiving full, unreduced retirement benefits at the age of 62 with six full years of full-time equivalent employment; or when the sum of the member's age and years of service equals 80 when membership began before July 1, 1992; or when the sum of the member's age and years of service equals 90 when membership began on or after July 1, 1992.

Employees who became a member of OPERS on or after November 1, 2011, can begin receiving full, unreduced retirement benefits at the age of 65 with six full years of full-time equivalent employment; or when the member is at least 60 years of age and the sum of the member's age and years of service equals 90.

Employees may retire at age 60 (55 when membership began before November 1, 2011) and receive reduced benefits with at least 10 years of participating service. Members who choose early retirement will receive a permanent actuarial reduction in benefit based on the age at retirement.

The benefit on or after normal retirement, payable monthly for life, is 2% of final average compensation, multiplied by years of credited service. For members who have elected the Step-Up Option, a 2.5% multiplier is applied to the "stepped-up" full years.

Contributions. OPERS members and the Authority are required to contribute to the OPERS Plan at a rate set by statute. Contribution rates are established and may be amended by the State. Each member participates based on gross salary earned (excluding overtime). As state employees, the Authority employees contribute 3.5% on salary. The Authority contributed 16.5%, on all salary for the Plan's fiscal years-ended June 30, 2022, and 2021.

OPERS members have the option to elect to increase the benefit computation factor for all future service from 2.0% to 2.5%. The election is irrevocable, binding for all future employment under OPERS, and applies only to full years of service. Those who make the election pay the standard contribution rate plus an additional contribution rate of 2.91% which is actuarially determined. The election is available for all state, county, and local government employees, except for elected officials and hazardous duty members.

During the reporting period for 2022 and 2021, the OPERS recognized $5,725,382 and $5,696,252, respectively, in contributions from the Authority.

Contribution rates as of December 31, 2022 and 2021, are as follows:

Employee Category	Employee	Employer
General	3.50%	16.50%
Elected Officials	3.50%	16.50%

OPERS Hazardous Duty Employees. On July 1, 2016, SB 1388 became effective, which required the Authority's public safety officers to participate in OPERS as Hazardous Duty Employees. This group of employees contributes 8% of allowable compensation as defined in 74 O.S. § 902(9) for a maximum of 20 years of hazardous duty participating service, while the Authority contributes 16.5%, on allowable compensation. After the employee has contributed at the higher rate for 20 years, the employee will contribute at the nonhazardous duty rate. Employees vest when they have eight years of credited service (including six full years of full-time-equivalent employment). Because all Authority employees will have become members of the plan after November 1, 2011, the employee can begin receiving full, unreduced retirement benefits when he or she is at least age 65 with six full years of full-time-equivalent employment or is at least 60 years of age and the sum of age and years of service equals 90.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pension, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms, investments are reported at fair value.

On December 31, 2022, the Authority reported a liability of $18,277,656 for its cumulative proportionate share of the net pension liability (asset). The net pension liability (asset) was measured as of June 30, 2022, and the total pension liability used to calculate the net pension liability (asset) was determined by an actuarial valuation as of July 1, 2022. The Authority's proportion of the net pension liability (asset) was based on the Authority's share of contributions to the pension plan relative to the contributions of all participating employers. On June 30, 2022, the Authority's proportion was 2.2735% which is a 1.57% increase from the prior year. For the year ended December 31, 2022, the Authority recognized pension expense of $3,372,008.

On December 31, 2021, the Authority reported a liability (asset) of ($30,042,207) for its cumulative proportionate share of the net pension liability (asset). The net pension liability (asset) was measured as of June 30, 2021, and the total pension liability used to calculate the net pension liability (asset) was determined by an actuarial valuation as of July 1, 2021. The Authority's proportion of the net pension liability (asset) was based on the Authority's share of contributions to the pension plan relative to the contributions of all participating employers. On June 30, 2021, the Authority's proportion was 2.2383%, which is a 0.48% increase from the prior year. For the year ended December 31, 2021, the Authority recognized pension expense of ($3,101,096).

As of December 31, 2022, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	OPERS Plan 2022	
	Deferred Outflows of Resources	**Deferred Inflows of Resources**
Differences between expected and actual experience	$-	$876,190
Changes in assumptions	-	-
Net differences between projected and actual earnings on pension plan investments	20,120,351	-
Employer contributions subsequent to the measurement date	2,868,104	-
Change in proportion	-	926,056
Total	$22,988,455	$1,802,246

As of December 31, 2021, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	OPERS Plan 2021	
	Deferred Outflows of Resources	**Deferred Inflows of Resources**
Differences between expected and actual experience	$ -	$755,379
Changes in assumptions	2,179,565	-
Net differences between projected and actual earnings on pension plan investments	-	33,454,472
Employer contributions subsequent to the measurement date	2,833,323	-
Change in proportion	-	324,847
Total	$5,012,888	$34,534,698

The amounts reported as deferred outflows related to employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the subsequent year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year Ended December 31	OPERS Plan Net Pension Expense
2023	$2,149,296
2024	2,709,808
2025	2,045,769
2026	11,412,232
	$18,318,105

Actuarial Assumptions. The total pension liability in the July 1, 2022, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

	2022	2021
Actuarial valuation date:	July 1, 2022	July 1, 2021
Measurement date of net pension liability:	June 30, 2022	June 30, 2021
Actuarial cost method:	Entry age	Entry age
Asset valuation method for contributions:	Five-year moving average	Five-year moving average
Asset valuation method for assets under GASB 68:	Fair value of assets	Fair value of assets
Long-term expected rate of return:	6.5%	6.5%
Discount rate:	6.5%	6.5%
Inflation	2.5%	2.5%
Salary increases, including inflation:	3.5% to 9.25%	3.5% to 9.25%
Mortality:	Pub-2010 Below Median, General membership Active/ Retiree Healthy Mortality table	Pub-2010 Below Median, General membership Active/ Retiree Healthy Mortality table

Actuarial assumptions are based upon the most recent experience study, which covered the three-year period ending June 30, 2019. The experience study report is dated May 13, 2020.

Long-Term Expected Return on Plan Assets. The long-term expected rate of return on pension plan investments was determined using a lognormal distribution analysis in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of geometric real rates of return for each major asset class used in the June 30, 2019, experience study, are summarized in the following table:

Asset Class	Real Rate of Return	Target Allocation
U.S. Large Cap Equity	4.7%	34.0%
U.S. Small Cap Equity	5.8	6.0
Int's Developed Equity	6.5	23.0
Emerging Market Equity	8.5	5.0
Core Fixed Income	0.5	25.0
Long Term Treasuries	0.0	3.5
US TIPS	0.3	3.5
Total		100.0%

Single Discount Rate. The discount rate used to measure the total pension liability is 6.5% for 2022 and 6.5% for 2021. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and the employees will be made at the current contribution rate as set out in state statute. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The discount rate determined does not use a municipal bond rate.

Sensitivity of the Authority's Proportionate Share of the Net Pension Liability (Asset) to Changes in the Discount Rate. The following presents the Authority's proportionate share of the net pension liability (asset) calculated using the discount rate of 6.5%, as well as what the Authority's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower 5.5%) or 1-percentage-point higher (7.5%) than the current rate:

2022	1% Decrease to discount Rate (5.5%)	Current Discount Rate (6.5%)	1% Increase to Discount Rate (7.5%)
Proportionate share of the net pension liability (asset)	$44,798,622	$18,277,656	($4,151,396)

2021	1% Decrease to Discount Rate (5.5%)	Current Discount Rate (6.5%)	1% Increase to discount Rate (7.5%)
Proportionate share of the net pension liability (asset)	($2,789,054)	($30,042,207)	($53,077,605)

Pension Plan Fiduciary Net Position. Detailed information about the pension plan's fiduciary net position is available in separately issued financial statements available at www.opers.ok.gov.

Payables to the Pension Plan

On December 31, 2022, and 2021, the Authority has outstanding payables to OPERS of $555,186 and $567,114, respectively, related to December 2022 and 2021 employer, employee, and voluntary contributions, which are payable in the following month. These amounts are included in accounts payable on the Statements of Net Position.

Oklahoma Law Enforcement Retirement Plan

General Information about the Pension Plan

Plan Description. Legislation passed during 2003 mandated that any lake patrolmen and dispatchers hired on or after July 1, 2003, shall participate as members of the OLERS Plan, a cost-sharing multiple-employer public employee-defined benefit retirement plan administered by the Oklahoma Law Enforcement Retirement System (OLERS), a component unit of the State. The OLERS Plan provides retirement, disability, and death benefits to its members and beneficiaries, primarily state employees providing law enforcement. The benefits provided are established and may be amended by the legislature of the State. Three of the Authority's patrolmen elected to transfer from the OPERS Plan to the OLERS Plan under Oklahoma Statues, Title 47, Section 2-315, which provided for Authority lake patrolmen and dispatchers as of June 30, 2003, to make an irrevocable written election by January 1, 2004, to either pay the difference between the amount transferred between the plans or receive eligible prorated service credit as defined in statute. Oklahoma Statutes, Title 47, Sections 2-300, *et seq.,* established the Oklahoma Law Enforcement Retirement Board to administer this retirement system.

SB 1388, as codified in Oklahoma Statutes, Title 47, Sections 902, et seq., placed all of the Authority's public safety officers hired after July 1, 2016, under the OPERS plan as hazardous duty employees.

The System issues a publicly available annual financial report that includes financial and required supplementary information for OLERS. That annual report may be obtained online at www.olers.state.ok.us, by writing to OLERS, 421 NW 13th St, Suite 100, Oklahoma City, OK 73103 or by calling 1-877-213-0856.

Vesting. OLERS requires ten years of credited service to be eligible to vest.

Benefits Provided. Employees can begin receiving full, unreduced retirement benefits after twenty years of service or at the age of 62 with ten full years of full-time equivalent employment.

The benefit on or after normal retirement is 2.5% of the greater of final average salary or the salary paid to active employees as described under "salary considered" multiplied by the years and completed months of credited service. There is no maximum service.

Contributions. System members and the Authority are required to contribute to the OLERS Plan at a rate set by statute. These contributions are established and may be amended by the legislature of the State. Each member participates based on gross salary earned (excluding overtime). The Authority's patrolmen and dispatchers participating in the OLERS Plan contributed 8.0%, and the Authority contributed 10% of total base salary through October 2012. Beginning November 2012, the Authority contribution rates increased to 11% of total base salary. Additional funds are also provided by the State of Oklahoma as summarized in the table below. Non-employer contributions are recorded as non-operating revenue in the Statements of Revenues, Expenses, and Changes in Net Position.

During the reporting period for 2022 and 2021, the OLERS recognized $146,781 and $156,832 in contributions from the Authority, respectively.

Contribution rates as of December 31, 2022, and 2021, are as follows:

Category	Contribution Rate
State	License Agency Fees equals to 1.2% of Driver's License taxes, plus 5% of Insurance Premium Tax
Agency	10% of actual base salary until October 31, 2012, and 11% of actual base salary as of November 1, 2012
Member	8% of paid salary. Accumulated contributions after tax up to December 31, 1989, and before-tax after December 31, 1989

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pension, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms, investments are reported at fair value.

On December 31, 2022, the Authority reported a liability of $3,017,991 for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2022, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of July 1, 2022. The Authority's proportion of the net pension liability was based on the Authority's share of contributions to the pension plan relative to the contributions of all participating employers. On June 30, 2022, the Authority's proportion was 1.534% which is an 2.22% decrease from the prior year. For the year ended December 31, 2022, the Authority recognized pension expense of $591,214.

On June 30, 2021, the Authority's proportion was 1.5688%, which is a 2.2% increase over prior year. For the year ended December 31, 2021, the Authority reported a liability of $210,956 and recognized pension expense of $116,302.

On December 31, 2022, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

OLERS Plan 2022

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$124,127	$103,018
Changes in assumption	-	125,554
Net differences between projected and actual earnings on pension plan investments	1,318,503	-
Employer contributions subsequent to the measure date	69,197	-
Change in proportion	58,068	80,463
Total	$1,569,895	$309,035

On December 31, 2021, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

OLERS Plan 2021

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$198,323	$30,024
Changes in assumption	1,492	-
Net differences between projected and actual earnings on pension plan investments	-	1,782,995
Employer contributions subsequent to the measure date	74,453	-
Change in proportion	87,966	35,447
Total	$362,234	$1,848,466

The amounts reported as deferred outflows related to employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the subsequent year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

OLERS Plan

Year Ended December 31	Net Pension Expenses
2023	$347,477
2024	233,281
2025	3,390
2026	610,165
2027	(2,650)
	$1,191,663

Actuarial Assumptions. The total pension liability in the July 1, 2022, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

	2022	**2021**
Actuarial valuation date:	July 1, 2022	July 1, 2021
Measurement date of net pension liability:	June 30, 2022	June 30, 2021
Actuarial cost method:	Entry age	Entry age
Asset valuation method for contributions:	Five-year moving average of expected and actual market values	Five-year moving average of expected and actual market values
Asset valuation method for assets under GASB 68:	Fair value of assets	Fair value of assets
Long-term expected rate of return:	7.5%	7.5%
Discount rate:	7.5%	7.5%
Salary increases:		
Inflation:	2.75%	2.75%
Seniority/Merit:	3.5% - 10.0%, including inflation	3.5% - 9.75%, including inflation
Mortality:	Pub-2010 Public Safety Retirees Amount-Weighted Mortality Table with rates set forward two years, projected generationally using Scaled MP-2021	RP-2014 Blue Collar Healthy Employees with Generational Projection using Scale MP-2016

Actuarial assumptions used in the July 1, 2022, valuation are based upon an experience study conducted using experience from the five-year period ending June 30, 2021.

Long-Term Expected Return on Plan Assets. The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) were developed for each major class. These ranges were combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentages and adding expected inflation.

The assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

The target asset allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by the System's investment consultant, are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocation
Core Bonds	5.33%	5%
Core Plus	5.63	10
Multi-Sector	6.28	5
U.S. Large Capacity	9.88	20
U.S. Small Capacity	11.28	10
International Developed Equity	10.74	15
Emerging Market Equity	11.98	5
Long/Short Equity	8.43	5
Private Equity	13.22	10
Core Real Estate	9.35	10
Value Added Real Estate	10.85	5
Total		100 %

Single Discount Rate. A single discount rate of 7.5% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.5% for both the June 30, 2022, and June 30, 2021, measurement dates. A municipal bond rate was not used in determining the discount rate.

The projection of cash flows used to determine the discount rate assumed that plan contributions from members, state agencies, insurance premium taxes, and other state sources would be made at the current contribution rates set out in state statue.

Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Authority's Proportionate Share of the Net Pension Liability (Asset) to Changes in the Discount Rate. The following presents the Authority's proportionate share of the net pension liability (asset) calculated using the discount rate of 7.5%, as well as what the Authority's proportionate share of the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5%) or 1-percentage-point higher (8.5%) than the current rate:

2022

	1% Decrease to discount Rate (6.5%)	Current Discount Rate (7.5%)	1% Increase to Discount Rate (8.5%)
Proportionate share of the net pension liability (asset)	$5,222,408	$3,017,991	$1,119,250

2021

	1% Decrease to Discount Rate (6.5%)	Current Discount Rate (7.5%)	1% Increase to discount Rate (8.5%)

Proportionate share of the net pension liability (asset)	$2,546,962	$210,956	($1,708,500)

Pension Plan Fiduciary Net Position. Detailed information about the pension plan's fiduciary net position is available in separately issued financial statements available at www.olers.state.ok.us.

Payables to the Pension Plan

On December 31, 2022, and 2021, the Authority has outstanding payables to OLERS of $19,283 and $21,391, respectively, related to December 2022 and 2021, employer, employee, and voluntary contributions, which are payable in the following month. These amounts are included in accounts payable on the Statements of Net Position.

Oklahoma Public Employees Retirement Defined Contribution Plan

In 2014, the Oklahoma Legislature enacted legislation in HB 2630 requiring a Defined Contribution System be established by the OPERS for most state employees first employed by a participating State employer on or after November 1, 2015. This bill is codified in Oklahoma Statutes as Title 74, Section 935.1, *et seq*. Employees of the Authority who first became employees on or after November 1, 2015, and have no prior participation in OPERS must participate in the mandatory Defined Contribution Plan created in accordance with Internal Revenue Code Section 401(a) and 457(b) and Title 590, Chapter 40 of the Oklahoma Administrative Code. The Defined Contribution Plan is known as Pathfinder. Pathfinder and its related Trust(s) are intended to meet the requirements of the Internal Revenue Code. Pathfinder is administered by the OPERS.

Contribution rates are established by Oklahoma Statute and may be amended by the Oklahoma Legislature. For 2015, the initial period of implementation, employees must make mandatory employee contributions of 4.5% of pretax salary to the 401(a) plan and may make additional voluntary contributions to the 457(b) plan, subject to the maximum deferral limit allowed under the Internal Revenue Code. Employees are vested 100% for all employee contributions. The Authority must make mandatory contributions of 6% of the employee's pretax salary and 7% if the employee elects to participate in the 457(b) plan. Employees become vested for the employer contributions based on an established vesting schedule. The amount of the Authority's contributions for Pathfinder for the year ended December 31, 2022, and 2021, was approximately $869,433 and $671,675, respectively.

Additionally, in order to reduce the liabilities of the defined contribution plan, the Authority is required to contribute the difference between the established 16.5% defined benefit employer contribution rate and the amount required to match the participating employees' contribution in the defined contribution plan. The amount contributed by the Authority for the year ended December 31, 2022, and 2021, to meet this requirement is $1,232,573 and $951,403, respectively. The Authority had outstanding payables to OPERS for the defined benefit plan for the year ended December 31, 2022, and 2021, of $143,479 and $119,431, respectively, which were payable in the following month.

Oklahoma State Employees Deferred Compensation Plan

Plan Description. Employees of the Authority may also participate in the Oklahoma State Employees Deferred Compensation Plan (the "State Plan"), a voluntary deferred compensation plan administered by OPERS. The State Plan is a defined contribution plan available to all Authority employees, which permits participants to defer receipt of a portion of their salary until future years as authorized by Section 457 of the Internal Revenue Code and in accordance with the provisions of Oklahoma Statutes, Title 74, Sections 1701, *et seq*. The State Plan is established by and may be amended by the Legislature of the State. Oklahoma Statutes assign the authority for management and operation of the State Plan to the Board of Trustees of the OPERS. The minimum amount allowable to be deferred under the State Plan is $25 per month. Under state law, each employee is eligible to receive a $25 monthly matching contribution from the Authority to be deposited in a 401(a) retirement account. Employee contributions to the Plan totaled $965,056 and $960,156 for the years ended December 31, 2022, and 2021, respectively. The Authority paid matching contributions and administrative fees of $114,045 and $127,698 for the years ended December 31, 2022, and 2021, respectively.

GRDA Postemployment Healthcare Plan

Plan Description. GRDA Postemployment Healthcare Plan is a single-employer defined benefit healthcare plan administered by the Authority. GRDA Postemployment Healthcare Plan provides medical and dental insurance benefits to eligible retirees. In November 2007, the Authority's Board of Directors authorized the Authority to subsidize $200 per month for eligible retirees, effective January 1, 2008. This stipend is provided for life to employees hired prior to November 1, 2015. No assets are accumulated in a trust that meets the criteria in paragraph 4 of GASB 75. The Plan does not issue a stand-alone financial report.

Benefits Provided. The OPEB plan provides for employee and dependent healthcare coverage from the date of retirement to age 65, provided the participant was covered by the plan before retiring. The participant can elect to enroll in spousal coverage. Surviving spouses may continue in the plan until age 65. Spouses do not receive the $200 per month subsidy.

Employees Covered by the Plan: The following table details the Authority's number of employees covered by the benefit terms:

Participant Data	**December 31, 2022**	**December 31, 2021**
Active participants:		
Employees hired prior to 11/01/2015 and eligible for $200 subsidy	322	425
Employees hired 11/01/2015 or later and not eligible for $200 subsidy	165	123
Total active participants	487	548
Inactive participants entitled to but not yet receiving benefits	-	-
Inactive participants receiving benefits:		
Retirees	297	274
Covered spouses (below age 65)	27	18
Total inactive participants receiving benefits	324	292
Total Participants	811	840

Funding Policy. The contributions of plan members and the Authority are established and may be amended by the Board of Directors within the limits of Oklahoma statutes. The contribution is based on estimated pay-as-you-go financing requirements. For the years ended December 31, 2022, and 2021, the Authority contributed $697,705 and $679,460, respectively, to the plan, which consisted entirely of current premiums and included no additional contribution to prefund benefits.

Actuarial Methods and Assumption. Projections of benefits for financial reporting purposes are based on the benefits provided under the terms of the substantive plan (the plan as understood by the employer and the plan members) at the time of each valuation and the historical pattern of sharing the benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. The total OPEB liability in the January 1, 2022, actuarial valuation was determined using the following assumptions:

	2022	2021
Actuarial valuation date	January 1, 2022	January 1, 2021
Inflation	2.3%	2.30%
Discount rate (from the Bond Buyer GO-20 Index)	2.06%	2.12%
Salary Increases	Variable from 9.75% to 2.50% based on age and service group	Variable from 9.50% to 3.50% based on age and service group
Healthcare cost trend rates	2022-2023 at 5.90% decreasing 0.2% to 2024, then decreasing by 0.3% to 2025, then decreasing by 0.2% to 2026, then decreasing by 0.3% to 2027 to an ultimate rate of 4.8% for 2027 and beyond	2020-2021 at 5.80% increasing 0.5% to 2022, then decreasing by 0.1% each year to 2024, then decreasing by 0.3 to 2025 to an ultimate rate of 5.3% for 2026 and beyond
Actuarial cost method	Entry Age Normal	Entry Age Normal
Mortality	Pub-2010 Public Retirement Plans General Mortality Table weighted by Headcount projected by MP-2021 as of January 1, 2022	Pub-2010 Public Retirement Plans General Mortality Table weighted by Headcount projected by MP-2020 as of January 1, 2021

Changes in the Total OPEB Liability. Changes of assumptions and other inputs reflect a change in discount rate from 2.12% in 2021 to 2.06% in 2022. Changes in the Total OPEB Liability for the year ended December 31, 2022:

Changes in the Total OPEB Liability	**Total OPEB Liability**	**Plan Fiduciary Net Position**	**Net OPEB Liability**
Balance at December 31, 2021	$20,714,763	$ -	$20,714,763
Changes for the year			
Service Cost	870,855	-	870,855
Interest on Total OPEB Liability	446,029	-	446,029
Difference between expected and actual experience	(1,414,472)	-	(1,414,472)
Changes in assumptions	(1,073,317)	-	(1,073,317)
Employer contributions	-	1,098,771	(1,098,771)
Benefit payments, including employee refunds	(1,098,771)	(1,098,771)	-
Net changes	(2,269,676)	-	(2,269,676)
Balance at December 31, 2022	$18,445,087	$ -	$18,445,087

For the year ended December 31, 2021:

Changes in the Total OPEB Liability	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balance at December 31, 2020	$19,461,886	$ -	$19,461,886
Changes for the year			
Service Cost	733,886	-	733,886
Interest on Total OPEB Liability	538,912	-	538,912
Difference between expected and actual experience	(70,134)	-	(70,134)
Changes in assumptions	1,112,285	-	1,112,285
Employer contributions	-	1,062,072	(1,062,072)
Benefit payments, including employee refunds	(1,062,072)	(1,062,072)	-
Net changes	1,252,877	-	1,252,877
Balance at December 31, 2021	$20,714,763	$ -	$20,714,763

Sensitivity of the Total OPEB liability to changes in the discount rate. The following presents the Authority's total OPEB liability calculated using the 2022 discount rate of 2.06%, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (1.06%) or 1-percentage-point higher (3.06%) than the current rate:

	2022		
	1% Decrease to Discount Rate (1.06%)	**Current Discount Rate (2.06%)**	**1% Increase to Discount Rate (3.06%)**
Total OPEB liability	$22,372,685	$18,445,087	$16,788,900

The following presents the Authority's total OPEB liability calculated using the 2021 discount rate of 2.12%, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (1.12%) or 1-percentage-point higher (3.12%) than the current rate:

	2021		
	1% Decrease to Discount Rate (1.12%)	**Current Discount Rate (2.12%)**	**1% Increase to Discount Rate (3.12%)**
Total OPEB liability	$22,940,526	$20,714,763	$18,808,397

Sensitivity of the Total OPEB liability to changes in the healthcare cost trend rate. The following presents the Authority's total OPEB liability calculated using the 2022 healthcare cost trend rate of 5.90%, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.9% decreasing to 4.7%) or 1-percentage-point higher (6.9% decreasing to 6.7%) than the current rate:

	2022		
	1% Decrease to Healthcare Cost Trend Rate (4.9% decreasing to 4.7%)	**Current Healthcare Cost Trend Rate (5.9% decreasing to 5.7%)**	**1% Increase to Healthcare Cost Trend Rate (6.9% decreasing to 6.7%)**
Total OPEB liability	$18,073,427	$18,445,087	$18,878,606

The following presents the Authority's total OPEB liability calculated using the 2021 healthcare cost trend rate of 5.80%, as well as what the Authority's total OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.80% decreasing to 4.30%) or 1-percentage-point higher (6.80% decreasing to 6.30%) than the current rate:

	2021		
	1% Decrease to Healthcare Cost Trend Rate (4.8% decreasing to 4.3%)	**Current Healthcare Cost Trend Rate (5.8% decreasing to 5.3%)**	**1% Increase to Healthcare Cost Trend Rate (6.8% decreasing to 6.3%)**
Total OPEB liability	$20,090,333	$20,714,763	$21,454,779

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources related to OPEB. For the year ended December 31, 2022, the Authority recognized OPEB expense of $1,399,273. For the year ended December 31, 2021, the Authority recognized OPEB expense of $1,821,939. The following table indicates the components of the recognized OPEB expense:

Components of OPEB Expense	**2022**	**2021**
Service Cost	$870,855	$733,886
Interest on Total OPEB Liability -over measurement	446,029	538,912
Recognition of Experience Changes	(182,019)	83,360
Recognition of Assumption Changes	264,408	465,781
Total OPEB Expenses recognized	$1,399,273	$1,821,939

As of December 31, 2022, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	OPEB Plan — 2022	
Summary of deferred outflows and inflows	**Deferred Outflows of Resources**	**Deferred Inflows of Resources**
Difference between projected and actual experiences	$198,385	$1,192,096
Changes of actuarial assumptions	1,473,696	1,113,231
Employer contributions – subsequent to measurement date	697,705	-
Total	$2,369,786	$2,305,327

As of December 31, 2021, the Authority reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

OPEB Plan — 2021

Summary of deferred outflows and inflows	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between projected and actual experiences	$295,325	$56,568
Changes of actuarial assumptions	2,135,645	437,661
Employer contributions – subsequent to measurement date	679,685	-
Total	$3,110,655	$494,229

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

OPEB Plan — 2022

Year ended December 31	Net OPEB Expense
2023	$22,092
2024	123,159
2025	(191,985)
2026	(432,484)
2027	(154,028)
	($633,246)

8. OTHER RELATED-PARTY TRANSACTIONS

The primary organizations considered related parties are those municipal, industrial, electric cooperative, tribal, and other governmental organizations or lake area organizations that have representatives serving on the Authority's Board of Directors. The primary transactions in the ordinary course of business with these related parties include sales of electrical power and transmission and memberships in related trade associations or organizations, or tourism and economic development activities associated with the management of the lakes, including commercial and private dock permit fees.

OG&E operates the Redbud facility under an operating agreement with the Authority and OMPA and allocates certain costs and expenses attributable to Redbud to the Authority and OMPA, in accordance with their undivided ownership interests—see further discussion of Redbud facility in "Joint Ownership" in Note 1 to Financial Statements, Summary of Significant Accounting Policies.

9. COMMITMENTS AND CONTINGENCIES

In the normal course of business, the Authority makes and receives commitments for purchases of coal, natural gas, wind power, and long-term service agreements. In addition, in the normal course of business, the Authority enters into agreements, which commit the Authority to provide varying amounts of electric power to its customers. Management of the Authority does not believe the honoring of these commitments will have any material adverse effect on the Authority.

The Authority had construction contractual commitments on December 31, 2022, of approximately $30,744,000 for equipment and construction contracts. Major projects include the construction of transmission lines and substations for approximately $15,763,000; construction of the WOKA water park for approximately $5,977,000; purchase of fleet and mobile equipment for approximately $2,542,000; refurbishment of the Pensacola flood gates for approximately $1,469,000; and miscellaneous hydro projects for approximately $2,671,000.

The Authority had contractual commitments as of December 31, 2022, for long-term service agreements at the Redbud facility for the maintenance of the gas and steam turbines of approximately $51.2 million through the year 2028. The Authority had contractual commitments as of December 31, 2022, for natural gas at the Redbud facility of approximately $8.3 million through January 2023, as well as for transportation of natural gas to the Redbud facility of approximately $4.5 million through March 31, 2024.

The Authority had contractual commitments as of December 31, 2022, for long-term service agreements at the GREC 3 facility for the maintenance of the gas and steam turbines of approximately $43.4 million through the year 2030. The Authority had contractual commitments as of December 31, 2022, for natural gas at the GREC 3 facility of approximately $7.4 million through March 2023, as well as for transportation of natural gas to the GREC 3 facility of approximately $141.8 million through March 31, 2047.

The Authority had contractual commitments as of December 31, 2022, for long-term wind power purchase agreements of approximately $467.9 million through the year 2037 and for customer generation capacity agreements of approximately $186.4 million through the year 2042.

The Authority is a defendant in a class action lawsuit in Ottawa County, Oklahoma, arising from a flood event in 2007. There are approximately 400 potential class members. Discovery is ongoing. Potential exposure related to this case cannot be projected by management of the Authority.

10. LANDFILL CLOSURE AND POSTCLOSURE COSTS

The Authority maintains a coal combustion residuals (CCR) landfill in Chouteau, Oklahoma. The Authority accounts for this CCR landfill in accordance with GASB Statement No. 18, *Accounting for Municipal Solid Waste Landfill Closure and Post closure Care Costs*. State and federal regulations will require the Authority to place a final cover on the CCR site when it discontinues depositing of CCR and to perform certain maintenance and monitoring functions at the site for thirty years after closure. Although closure and post closure costs will only be paid near or after the date of discontinuance of use of the landfill, GASB Statement No. 18 requires proprietary funds to report a portion of these costs as an operating expense in each period based on landfill capacity and utilization.

This CCR landfill has a total capacity of 5,131,024 cubic yards, of which an estimated 4,435,899 cubic yards have been used through December 31, 2022. The remaining useful life at December 31, 2022, was approximately 21 years.

The amount recorded as a liability for the closure and post closure costs, included in Other Noncurrent Liabilities at December 31, 2022, and 2021, was $7,062,218 and $7,488,510, respectively. These amounts are based on 91% and 90% landfill utilization as of December 31, 2022, and 2021, respectively. The Authority will recognize the remaining estimated cost of closure and post closure care, of approximately $578,140, as the remaining estimated capacity is filled. Amounts are estimated using what it would cost to perform all closure and post closure care in 2022. Actual costs are subject to change resulting from inflation or deflation, changes in technology, or changes in applicable laws or regulations.

The Oklahoma Department of Environmental Quality (ODEQ) has certain closure and post closure care financial assurance requirements. Each year, an auditor performs procedures to ensure that the Authority meets these requirements.

11. RISK MANAGEMENT

General Bond Resolution No. 5107 requires the Authority to, in each case where it is obtainable at a reasonable rate and on reasonable terms, insure its facilities, maintain liability insurance, and bond certain officers and employees. In general, all insurance coverage, including property (all risk coverage, including earthquake and flood), equipment, aircraft, employment practices liability, directors and officers liability, excess liability (including an endorsement for certified "acts of terrorism" as defined in the Federal Terrorism Risk Insurance Act), is purchased from private insurance carriers through the State of Oklahoma Risk Management Department (State Risk Management) of the Office of Management and Enterprise Services. State Risk Management contracts with a third-party insurance broker for brokerage services and advice. The Authority also participates in the State of Oklahoma's Consolidated Workers' Compensation Program, a self-insured program operated by States Risk Management. A private insurance carrier provides excess insurance coverage for the Consolidated Workers' Compensation Program and a private company provides claims administration services. Settled claims have not exceeded commercial insurance coverage in any of the past three years.

Concentration of revenues from a single external customer increases credit and market concentration risks. The Authority had one customer that accounted for 31% of total operating revenues in 2022 and 21% in 2021.

In addition, the Authority is subject to generation supply and market price risks, which are continually evaluated as to level of risk and how to best mitigate exposure to loss. The Authority continued its hedging program throughout 2022, to hedge price and volatility risk relative to future natural gas commodity prices.

As of December 31, 2022, and 2021, the Authority had the following fair value balances and notional amounts of derivative instruments and the changes in fair value of such derivative instruments:

		Fair Value at December 31, 2022		
Business-Type Activities	**Changes in Fair Value**	**Classification**	**Amount**	**Notional Amount (MMBTUs)**
Cash flow hedges: Commodity forward (swap)	$9,028,060	Derivative instruments	($4,026,920)	7,642,500

		Fair Value at December 31, 2021		
Business-Type Activities	**Changes in Fair Value**	**Classification**	**Amount**	**Notional Amount (MMBTUs)**
Cash flow hedges: Commodity forward (swap)	$5,334,250	Derivative instruments	$5,001,140	6,245,000

The following table displays the objective and terms of the Authority's hedging derivative instruments outstanding on December 31, 2022, along with the credit rating of the associated counterparty.

Item	Type	Objective	Notional Amount (MMTBU's)	Effective Date	Maturity Date	Terms	Counterparty/ Credit Rating
A	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	1,825,000	12/28/22	11/28/23	Pay $2.520/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/day and Henry Hub pricing point at settlement date	BOKF "A-"
B	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	140,000	01/27/23	01/27/23	Pay $6.785/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
C	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	140,000	01/27/23	01/27/23	Pay $6.035/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
D	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	01/27/23	01/27/23	Pay $7.250/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
E	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	77,500	02/24/23	02/24/23	Pay $6.250/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
F	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	01/27/23	01/27/23	Pay $6.850/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
G	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	155,000	02/24/23	02/24/23	Pay $6.000/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
H	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	912,500	12/28/22	11/28/23	Pay $5.270/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"

Item	Type	Objective	Notional Amount (MMTBU's)	Effective Date	Maturity Date	Terms	Counterparty/ Credit Rating
I	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	912,500	12/28/22	11/28/23	Pay $4.840/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	BOKF "A-"
J	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	09/28/22	01/27/23	Pay $7.925/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
K	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	140,000	09/28/22	01/27/23	Pay $7.800/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
L	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	09/28/22	01/27/23	Pay $7.480/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
M	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	77,500	09/28/22	02/24/23	Pay $6.600/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
N	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	155,000	09/28/22	02/24/23	Pay $6.620/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
O	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	912,500	10/27/22	11/28/23	Pay $5.270/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
P	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	10/27/22	01/27/23	Pay $6.740/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
Q	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	10/27/22	01/27/23	Pay $6.765/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"

R	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	10/27/22	01/27/23	Pay $6.400/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
S	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	155,000	10/27/22	02/24/23	Pay $5.800/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
T	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	150,000	10/27/22	03/29/23	Pay $4.910/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
U	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	912,500	10/27/22	11/28/23	Pay $5.240/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
V	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	75,000	10/27/22	03/29/23	Pay $4.750/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
W	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	77,500	10/27/22	02/24/23	Pay $5.520/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
X	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	70,000	10/27/22	01/27/23	Pay $5.530/MMBTU; scheduled monthly settlements based on 2,500 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
Y	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	140,000	12/28/22	01/27/23	Pay $4.650/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
Z	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	155,000	12/28/22	02/24/23	Pay $4.150/MMBTU; scheduled monthly settlements based on 5,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"
AA	Commodity forward contract (swap)	Hedge of changes in cash flows due to market price fluctuations related to expected purchase of natural gas	280,000	12/28/22	01/27/23	Pay $4.765/MMBTU; scheduled monthly settlements based on 10,000 MMBTUs/ day and Henry Hub pricing point at settlement date	StoneX Financial Inc "BB-"

Contracts are accounted for in accordance with GASB Statement No. 53, which addresses recognition, measurement, and disclosure related to derivative instruments with reporting required in the Statements of Net Position or recognized on the Statements of Revenues, Expenses, and Changes in Net Position, depending on effectiveness. Contracts are evaluated to determine whether they meet the definition of derivative instruments and, if so, whether they effectively hedge the expected change in cash flow associated with natural gas prices.

Effectiveness testing is performed at the end of each month using the consistent critical terms method and, as of December 31, 2022, the tests concluded that all of the Authority's derivative instruments are effective. If the derivative instrument(s) passes effectiveness testing, the change in fair value of the instrument(s) is deferred in the Statements of Net Position and then recorded as fuel expense in the Statements of Revenues, Expenses, and Changes in Net Position during the production cycle. If deemed to be ineffective, the change in fair value of the instrument(s) is immediately recognized in the Statements of Revenues, Expenses, and Changes in Net Position.

Credit Risk: The Authority is exposed to credit risk on hedging derivative instruments that are in asset positions. The aggregate fair value of hedging derivate instruments in asset positions, as of December 31, 2022, is $2,986,350. This represents the maximum loss that would be recognized at the reporting date if the counterparty failed to perform as contracted. This maximum exposure is reduced by $7,013,270 of liabilities included in netting arrangements with the Authority's counterparty. All of the Authority's hedging derivative instruments are held with two counterparties, which have S&P Long Term Issuer Credit Ratings of "A-" and "BB-". Credit risk is mitigated using credit thresholds based on each party's credit rating. If either party exceeds their threshold, collateral can be demanded, net of the effect of applicable netting arrangements. Collateral can be posted in the form of cash or letters of credit. A monthly credit report is prepared by the Authority's Middle Office and is provided to the Authority's Risk Oversight Committee for monitoring of credit risk related to hedging derivatives.

Basis Risk: The Authority is exposed to basis risk on its commodity forward contracts because the expected commodity purchase will price based on a pricing point (Enable Gas or OneOK) that is different than the pricing point at which the forward contract is expected to settle (Henry Hub). The Authority is hedging the Henry Hub portion of the gas price only, not the basis for the individual pipeline(s).

Termination Risk: The Authority or its counterparty may terminate a derivate instrument if the other party fails to perform under the terms of the contract. Termination may also occur in the event of the following, as defined in the contract: illegality, force majeure event, tax event, tax event upon merger, or additional termination event. Additional termination event is defined in the contract as the Authority engaging in any transaction that does not have as its sole purpose to hedge against price risk for its use in its business of natural gas or is in any way intended to speculate on any commodity price. Termination risk is associated with all of the Authority's derivatives up to the fair value amounts.

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REQUIRED SUPPLEMENTARY INFORMATION
(UNAUDITED)

GRAND RIVER DAM AUTHORITY

(A Component Unit of the State of Oklahoma)

SCHEDULE OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY (UNAUDITED) OKLAHOMA PUBLIC EMPLOYEES RETIREMENT PLAN

Fiscal Year Ending	Proportionate of the Net Pension Liability/ (Asset)	Proportionate Share of the Net Pension Liability/ (Asset)	Covered Payroll	Proportionate Share of the Net Pension Liability/ (Asset) as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability/ (Asset)
December 31, 2022	2.2735%	$18,277,656	$33,611,964	54.38%	92.24%
December 31, 2021	2.2383	(30,042,207)	33,666,081	(89.24)	112.51
December 31, 2020	2.2776	19,874,205	34,801,153	57.11	91.59
December 31, 2019	2.3778	3,166,970	35,942,188	8.81	98.63
December 31, 2018	2.4118	5,138,160	37,965,024	13.53	97.96
December 31, 2017	2.3117	12,498,665	38,404,273	32.54	94.28
December 31, 2016	2.2462	21,890,211	38,995,445	56.14	89.48

Fiscal Year Ending	Contractually Required Contributions	Contributions in relation to the Contractually required contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
December 31, 2022	$6,424,350	$7,166,639	($742,289)	$33,204,556	21.58%
December 31, 2021	6,150,504	5,696,252	454,252	33,598,122	16.95
December 31, 2020	6,109,333	5,838,606	270,727	34,266,124	17.04
December 31, 2019	6,258,254	6,243,328	14,926	35,239,125	17.72
December 31, 2018	6,309,340	6,485,378	(176,038)	37,001,348	17.53
December 31, 2017	6,218,254	6,516,168	(297,914)	38,300,232	17.01
December 31, 2016	6,641,675	6,615,357	26,318	38,811,001	17.05

The amounts determined for each fiscal year were determined as of June 30 in the calendar year.

The Authority is required to present the last ten fiscal years of data; however, until a full ten-year trend of data is compiled, GASB 68 allows the presentation for those years for which information is available.

Changes in Benefit Terms

House Bill 3350 provided a one-time benefit increase as of July 1, 2020. Members who retired on or prior to July 1, 2015, received a 4.0% benefit increase. Members who retired between July 1, 2015, and July 1, 2018, received a 2.0% benefit increase. Members who retired after July 1, 2018, did not receive a benefit increase.

Changes in Assumptions are as follows:

	2022	2021	2020	2019	2018	2017	2016
Long-term expected rate of return	6.50%	6.50%	6.50%	7.00%	7.00%	7.00%	7.25%
Discount rate	6.50	6.50	6.50	7.00	7.00	7.00	7.25
Price inflation	2.50	2.50	2.50	2.75	2.75	2.75	3.00
Real wage growth	0.75	0.75	0.75	0.75	0.75	0.75	1.00
There were no other changes in assumptions.							

GRAND RIVER DAM AUTHORITY

(A Component Unit of the State of Oklahoma)

SCHEDULE OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY (UNAUDITED) OKLAHOMA LAW ENFORCEMENT RETIREMENT PLAN

Fiscal Year Ending	Proportion of the Net Pension Liability	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
December 31, 2022	1.5340%	$3,017,991	$1,351,371	223.33%	84.53%
December 31, 2021	1.5688	210,956	1,331,109	14.60	98.93
December 31, 2020	1.5344	3,314,998	1,342,159	246.99	82.29
December 31, 2019	1.5814	2,296,870	1,298,190	176.93	87.50
December 31, 2018	1.4701	1,574,732	1,222,118	128.85	90.31
December 31, 2017	1.4556	1,891,434	1,225,700	154.31	87.85
December 31, 2016	1.3370	1,631,598	1,234,942	132.12	81.88

Fiscal Year Ending	Contractually Required Contributions	Contributions in Relation to the Contractually Required Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
December 31, 2022	$146,781	$148,651	($1,870)	$1,303,594	11.40%
December 31, 2021	154,966	156,832	(1,866)	1,348,232	11.63
December 31, 2020	145,820	147,637	(1,817)	1,351,889	10.92
December 31, 2019	141,092	142,911	(1,819)	1,308,269	10.92
December 31, 2018	133,523	134,432	(909)	1,268,728	10.60
December 31, 2017	134,827	134,826	1.00	1,209,093	11.15
December 31, 2016	136,630	136,630	-	1,241,483	11.01

The amounts determined for each fiscal year were determined as of June 30 in the calendar year.
The Authority is required to present the last ten fiscal years of data; however, until a full ten-year trend of data is compiled, GASB 68 allows the presentation for those years for which information is available.

Changes in Benefit Terms.

House Bill 3350 provided a one-time benefit increase as of July 1, 2020. Member show retired on or prior to July 1, 2015, received a 4.0% benefit increase. Members who retired between July 1, 2015, and July 1, 2018, received a 2.0% benefit increase. Members who retired after July 1, 2018, did not receive a benefit increase.

Changes in Assumptions: There were six Changes in Assumption made for the valuation as of July 1, 2022. There was a change in mortality assumption to the new Pub-2010 tables, and the percent of members electing retroactive DOP was increased to 80% for a period of four years, and the percent of members electing an immediate annuity was set to 20%. Retirement rates, withdrawal rates, and disability rates were also revised.

Other Changes in Assumptions are as follows:

	2022	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**
Price inflation	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	3.00%
Salary Increases	3.5% - 10.0%, including inflation	3.5% - 9.75%, including inflation	3.5% - 9.75%, including inflation	3.5% - 9.75%, including inflation	3.5% - 9.75%, including inflation	3.5% - 9.75%, including inflation	3.5% - 9.75%, including inflation

GRAND RIVER DAM AUTHORITY
(A Component Unit of the State of Oklahoma)

SCHEDULE OF CHANGES IN TOTAL OPEB LIABILITY AND RELATED RATIOS (UNAUDITED) OTHER POSTEMPLOYMENT BENEFITS PLAN

	2022	2021	2020	2019
Beginning Balance	$20,714,763	$19,461,886	$16,980,723	$17,668,568
Service Cost	870,855	733,886	564,096	548,426
Interest on Total OPEB Liability	446,029	538,912	685,406	611,515
Difference between expected and actual experience	(1,414,472)	(70,134)	435,412	66,460
Changes in assumptions	(1,073,317)	1,112,285	1,790,433	(1,025,961)
Benefits payments, including employee refunds	(1,098,771)	(1,062,072)	(994,184)	(888,285)
Net Changes	(2,269,676)	1,252,877	2,481,163	(687,845)
Ending Balance	$18,445,087	$20,714,763	$19,461,886	$16,980,723
Schedule of Changes in the Total OPEB Liability and Related Ratios				
Covered-employee payroll	$33,204,556	$33,598,122	$34,266,124	$35,239,125
Total OPEB Liability as a percentage of covered-employee payroll	55.55%	61.65%	56.80%	48.19%

The Authority is required to present the last ten fiscal years of data; however, until a full ten-year trend of data is compiled, GASB 75 allows the presentation for those years for which information is available.

Changes in Benefit Terms. There were no changes of benefit terms in the Plan.

Changes in Assumptions: Two assumption changes were made for this valuation. The discount rate on the Bond Buyer GO 20-Bond Municipal Bond Index as of the newest Measurement date of January 1, 2022, is 2.06%. The January 1, 2021, discount rate was 2.12%. The January 1, 2020, discount rate was 2.74%. The January 1, 2019, discount rate was 4.10%. The mortality table was also updated to a new public sector mortality table (Pub 2010) using the MP-2020 projection scale as of January 1, 2022. The January 1, 2021, mortality table used the MP-2020 projection scale. The January 1, 2020, mortality table used the MP-2019 projection scale. The January 1, 2019, mortality table used the MP-2018 projection scale.

Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

Independent Auditors' Report

To the Board of Directors of
Grand River Dam Authority

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*), the financial statements of Grand River Dam Authority (GRDA), which comprise GRDA's statement of financial position as of December 31, 2022, and the related statement of changes in financial position, and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated March 31, 2023.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered GRDA's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of GRDA's internal control. Accordingly, we do not express an opinion on the effectiveness of GRDA's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether GRDA's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards.*

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Baker Tilly US, LLP

Madison, Wisconsin
March 31, 2023

2023 Worksheet for Calculating Closure and Post-closure Cost Estimates

All site data necessary to calculate estimates of closure and post-closure costs can be gathered by completing Table E.1. Data from Table E.1 should be inserted into Tables E.2 and F.1 to complete calculations.

Table E.1 Site Data

Facility Name: Grand River Dam Authority

Permit Number: 3549012

Description	Quantity	Units
Total Permitted Area	67	acres
Active Portion		
Composite Lined	-	acres
Soil Lined	47	acres
Area of Largest Cell/Phase Requiring Final Cap		
Composite Lined	-	acres
Soil Lined	47	acres
Perimeter Fencing	-	linear feet
Groundwater Monitoring Wells	93	VLF
Methane Gas Probes	NA	VLF
Terraces	NA	linear feet
Letdown channels	NA	linear feet
Perimeter drainage ditches	NA	linear feet
Average Daily Flow	170.91	tons/day
Landfill Disposal Cost	-	$/ton

VLF = Vertical linear feet. The sum of the depths of all monitoring wells.

Table E.2 Closure Cost Estimate

Facility Name: Grand River Dam Authority

Permit Number: 3549012

	Task/Service	Quantity	Units	Multiplier[a]	Unit Cost[b]	Subtotal
1	**Preliminary Site Work**					
1.1	Conduct Site Evaluation	1	Lump sum	1	$4,222.39	$4,222.39
1.2	Dispose Final Wastes					
	Average Daily Flow	170.91	tons/day			
	Disposal Cost	0.74	tons/day	5 (5 days waste)	NA	NA
1.3	Remove Temporary Building(s)	1	lump sum	1	$3,871.95	NA
1.4	Remove	1	lump	1	$3,160.64	$3,160.64

	Equipment		sum			
1.5	Repair/Replace Perimeter Fencing		linear feet	0.25	$4.14	NA
1.6	Clean Leachate Line(s)	1	lump sum	1	$1,912.44	NA
2	**Monitoring Equipment**					
2.1	Rework/Replace Monitoring Well(s)	93	VLF	0.25	$88.78	$2,064.14
2.2	Plug Abandoned Monitoring Well(s)	93	VLF	0.25	$35.54	$826.31
2.3	Rework/Replace Methane Probe(s)		VLF	0.25	$76.68	NA
2.4	Plug Abandoned Methane Probe(s)		VLF	0.25	$28.02	NA
2.5	Rework/Replace Remediation and/or Gas Control Equipment	1	lump sum	0.05	NA	NA
3	**Construction**					
3.1	Complete Site Grading to include on- and off-site borrow areas	67	acres	1	$1,674.07	$112,162.69
3.2	Construct Final Cap					
	Compacted On-site Clay Cap or	151,653	cubic yards	1	$6.01	$911,436.53
	Compacted Off-site Clay Cap or	-	cubic yards	1	$9.77	NA
	Install Geosynthetic Clay Liner Cap	-	square feet	1	$0.63	NA
3.3	Construct Landfill Gas Venting Layer					

	Place Sand or		acres	1	$44,762.88	NA
	Install Net and Geotextile		square feet	1	$0.44	NA
3.4	Install Passive Landfill Gas Vents		acres	1	$1,072.36	NA
3.5	Install Flexible Membrane		square feet	1	$0.49	NA
3.6	Drainage Layer					
	Place Sand or		acres	1	$44,762.88	NA
	Install Net and Geonet		square feet	1	$0.44	NA
3.7	Place On-site Topsoil	75,827	cubic yards	1	$2.59	$196,391.07
	Place Off-site Topsoil	-	cubic yards	1	$20.69	NA
3.8	Establish vegetative cover, including on- and off-site borrow areas	67	acres	1	$1,193.06	$79,935.02
4	**Drainage/erosion control**					
4.1	Construct Terraces		linear feet	1	$10.84	NA
4.2	Construct Letdown Channels		linear feet	1	$118.51	NA
4.3	Clean Perimeter Drainage Ditches		linear feet	0.50	$8.26	NA
5	**Tasks Not Identified**					-
5.1	Close Temporary Piezometers	335	VLF	1	$28.83	$9,658.42
6	**Subtotal**					$1,319,857.20
7	**Administrative Services**	1	lump sum	0.10		$131,985.72
8	**Technical and Professional Services**	1	lump sum	0.12		$158,382.86
9	**Closure Contingency**	1	lump sum	0.10		$131,985.72
10	**Total Final Closure**					**$1,742,211.51**

a. Multipliers are determined from the *Solid Waste Financial Assurance Program Report,* December 22, 2000.

b. Unit costs include a 6.98% inflationary adjustment for 2023.

c. New facilities: Insert the value for "W" in OAC 252:517-17-8(2). Existing facilities: Insert reported annual tonnage for the previous year, divided by 312 operating days per year (52 weeks per year x 6 operating days per week).

d. Insert number of tons/day from above.

e. Insert landfill disposal cost per ton of waste ($/ton).

f. Input capital cost for gas control/remediation equipment, if installed at the site.

g. Input subtotal from line 6.

h. Add rows 6 through 9.

Table F.1 Post-closure Cost Estimate

Facility Name: Grand River Dam Authority

Permit Number: 3549012

	Task/Service	Quantity	Units	Multiplier[a]	Unit Cost[b]	Subtotal
1	**Site maintenance**					
1.1	Site Inspections	4	per year	30	$768.10	$92,172.00
1.2	General Maintenance	1	per year	30	$2,302.81	$69,084.30
1.3	Remediation and/or Gas Control Equipment	1	lump sum	0.3[c]	NA	NA
2	**Monitoring equipment**					
2.1	Rework/Replace Monitoring Well(s)	93	VLF	0.25	$88.78	$2,064.14
2.2	Plug Abandoned Monitoring Well(s)	93	VLF	0.25	$35.54	$826.31
2.3	Final Plugging of Monitoring Wells	93	VLF	1	$35.54	$3,305.22
2.4	Rework/Replace Methane Probe(s)		VLF	0.25	$76.68	NA
2.5	Plug Abandoned Probe(s)		VLF	0.25	$28.02	NA
2.6	Final Plugging of Methane Probes		VLF	1	$28.02	NA
2.7	Final Plugging of Piezometer(s)		VLF	1	$28.02	NA
3	**Sampling and analysis**					
3.1	Groundwater Monitoring Wells	5	wells	60	$828.23	$248,469.00
3.2	Methane Gas Probes		probes	60	$53.75	NA
3.3	Surface Water Monitoring Points		points	60	$99.81	NA

3.4	Leachate		sample	60	$160.84	NA
4	**Final cover maintenance**					
4.1	Mow and Fertilize Vegetative Cover	47	acres	30 yrs	$254.10	$358,281.00
4.2	Repair Erosion, Settlement, and Subsidence for On-site Soils	47	acres	60 yrs	$3.69	$10,405.80
	Repair Erosion, Settlement, and Subsidence for Off-site Soils		acres	30 yrs	$22.04	NA
4.3	Reseed Vegetative Cover	47	acres	0.20	$1,193.06	$11,214.76
5	**Leachate management**					
5.1	Clean Leachate Line(s)	1	per year	30 (30 yrs)	$1,969.62	NA
5.2	Maintain Leachate Collection System and Equipment	1	per year	30 (30 yrs)	$3,059.88	NA
5.3	Collect, Treat, Transport, and Dispose of Leachate		gal/yr	30	$0.39	NA
6	**Tasks not identified**					-
7	**Subtotal**					$795,822.52
8	**Administrative Services**	1	lump sum	0.06		$47,749.35
9	**Technical and Professional Services**	1	lump sum	0.07		$55,707.58
10	**Post-closure Contingency**	1	lump sum	0.10		$79,582.25
11	**Total Post-closure**					**$978,861.70**

a. Multipliers are determined from the *Solid Waste Financial Assurance Program Report,* Dec. 22, 2000.

b. Unit costs include a 6.98% inflationary adjustment for 2023.

c. 5% of equipment capital cost, maintenance performed once per 5 yrs for 30 years (6 x 0.05 = 0.30)

d. Input capital cost for gas control/remediation equipment, if installed at the site.

e If the approved groundwater monitoring plan requires monitoring for alternative constituents, unit costs shall be calculated in accordance with OAC 252:517-17-52(b) or (c).

f. Input subtotal from line 7.

g. Add lines 7 through 10.